Neurotech^{EU}

The European University of Brain and Technology

NeurotechEU Best Practices Survey Results

University of Debrecen

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EXECUTIVE SUMMARY

The NeurotechEU Best Practices survey aims **to gather comprehensive feedback and experiences related to various aspects of the project**, including expectations, motivations, collaborations, responsibilities, achievements, skills gained, challenges faced, and future aspirations. Additionally, it explores the project's alignment with institutional priorities, contributions to the larger scientific community, and the vision for its long-term success. The main topics examined during the interviews include **expectations and motivations**, **collaborations and partnerships**, the **project's contribution to neuroscience and neurotechnology research**, **alignment with institutional priorities** and the scientific community, **program success and impact evaluation**, milestones, achievements, and personal development, future vision and long-term goals, **best practices**, and dissemination of insights and advice.

The methodological description provides an overview of **in-depth interviews** conducted at all participating universities to gather insights from students, researchers, and staff members involved in the NeurotechEU project. The interviews followed a semi-structured format, allowing for flexibility while covering different topics. The interviews aimed to capture participants' perspectives and experiences, with the interviewer actively listening and asking open-ended questions. Confidentiality and informed consent were ensured. The findings contribute to a holistic understanding of the project and inform future intentions within the NeurotechEU alliance.

The **interviewees' expectations** for international collaborations, particularly within initiatives like NeurotechEU, revolve around expanding their horizons, overcoming geographical limitations, securing funding, and valuing mobility opportunities. They are eager to engage with like-minded individuals, embrace transdisciplinary research, and work at a European level to create networks and facilities for research projects. Additionally, joint degree programs and innovative pedagogies hold promise, as these collaborations are viewed as catalysts for institutional transformation and addressing societal challenges. In summary, the interviewees have ambitious expectations rooted in realism and a strong belief in the positive potential of international collaborations, both in neurotechnology and beyond.
The NeurotechEU project's diverse **participant motivations** underscore the multifaceted appeal of international collaborations. From academic endorsements and the promise of European academic collaboration to a passion for education and curiosity for interdisciplinary work, the participants brought a rich array of perspectives and skills to the project. This collective synergy enriched the experience and potential impact of NeurotechEU, highlighting the potent effects of collaboration and knowledge sharing in the field of neurotechnology.

The NeurotechEU project's journey was marked by a transition from virtual communication to in-person meetings, overcoming initial challenges to create a robust collaborative environment. Participants utilized a variety of digital tools for communication, emphasizing the importance of maintaining continuous interaction. The project's lingua franca was English, allowing for effective communication among a culturally diverse group. Face-to-face interactions played a pivotal role in strengthening relationships and fostering personal connections. While there were challenges in virtual collaboration, the interviewees expressed overall satisfaction with the communication methods employed in the project. The varying experiences and perspectives on communication highlighted the adaptability and harmonious nature of the NeurotechEU project, with language proficiency and personal relationships playing key roles in successful collaboration.

Participants within the NeurotechEU project assumed **diverse roles and responsibilities**, contributing to the project's success. These roles spanned areas such as project management, communication and student affairs, student council involvement, and initiatives to enhance inclusion and diversity. The flexibility and adaptability of the participants allowed them to engage in various facets of the project's activities, showcasing the collaborative and multi-dimensional nature of the NeurotechEU initiative.

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Participants in the NeurotechEU project faced a **multifaceted challenge of balancing their project-related responsibilities with existing academic and administrative roles**. Effective time management was key to managing these demands. While they encountered scheduling conflicts due to project meetings and administrative commitments, they appreciated the delegation of responsibilities within the project. The alignment of project roles with academic interests and financial support for participation added to their satisfaction. Institutional support varied among universities, and delegation and involving students were crucial strategies for success. Overall, the participants demonstrated their dedication, adaptability, and strategic thinking in managing diverse commitments within the NeurotechEU project.

Participants in the NeurotechEU project highlighted the **positive impact on their academic growth**, emphasizing the potential for publishing articles and gaining valuable research experience. They also **developed strong interpersonal skills**, particularly in cross-cultural communication. Additionally, their contributions to the project's quality plan and assurance activities were significant achievements. Overall, the project enriched their academic and personal development while enhancing their understanding of cultural diversity and interdisciplinary connections.

The interviewees from the NeurotechEU project have shared valuable insights into local practices that can significantly enhance international university collaborations. These elements include **prioritizing efficient communication**, active engagement of administrative staff, **promoting cross-disciplinary collaboration**, fostering teamwork among academics, administrators, and students, offering a diverse curriculum, and **organizing engaging events** for knowledge exchange. Adopting these practices can enrich the academic experience and create a sense of community in global collaborations, transcending the immediate project's context.

The NeurotechEU project has the **potential to transform the field of neurotechnology** by fostering collaboration among multiple European universities and partners. Its emphasis on graduate programs, events, and interdisciplinary collaboration is expected to drive innovation and redefine the scope of neurotechnology. The project's impact extends beyond academia, leading to industry collaborations and applications that could improve human well-being and contribute to societal goals. NeurotechEU is poised to shape a more interconnected and innovative future in the field of neurotechnology.

Researchers, professors, staff, and students involved in the NeurotechEU project are considering **various dimensions for measuring** its **success**. Key factors include mobility, education, innovative initiatives, interdisciplinary programs, timely project deliverables, and the creation of a joint graduate program. They acknowledge the challenge of quantifying success and emphasize a qualitative approach, focusing on collaboration, research publications, and continuous evaluation at various timescales. The participants recognize the evolving nature of the project's objectives and emphasize the need for professional analysis and participant feedback to measure success accurately.

The NeurotechEU project participants have encountered **various challenges and surprises** throughout the initiative. These included issues related to communication, leadership changes, the multidisciplinary nature of neurotechnology, cultural differences, unforeseen delays, diverse expertise levels, management transitions, and decision-making complexities. Despite these challenges, their dedication and adaptability drive the project forward, demonstrating resilience in the face of unexpected obstacles.

The participants in the NeurotechEU project held a visionary and multifaceted perspective. Their collective aspirations included transforming the project into a European University, achieving significant milestones, fostering student mobility, delivering innovative education, ensuring long-term impact, facilitating seamless enrollment, sustaining collaboration, and expanding global partnerships in the field of Neurotech. Their vision encompassed a collaborative, innovative, and impactful future for European higher education in this dynamic field.

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Interviewees in the Neurotech initiative have identified several areas for improvement within the project. These include clarifying pathways for participating institutions, enhancing internal communication, building trust, addressing administrative challenges, promoting exchange between work packages, improving financial management, and involving students in project development. These recommendations aim to enhance collaboration, communication, and efficiency in the project's multifaceted environment.

Neurotech project participants stress the **importance of adaptability, preparation, clear communication, administrative support, patience, and trust** for project success and long-term development, providing crucial guidance for similar collaborative initiatives.

Interviewees from the Neurotech project recommend a multi-faceted communication strategy that includes regular meetings, student engagement, university management support, dedicated communication personnel, accessible explanations, and proactive outreach. They stress the importance of adapting communication to different audiences and using various channels, including social media, personal interviews, newsletters, and blogs, to engage stakeholders effectively. The interviewees emphasize the need for shared information platforms, collaboration across universities, and the promotion of NeurotechEU to attract students. They also highlight the importance of an attitude change to encourage participants to embrace project changes and innovations. These insights offer a comprehensive guide to effective communication strategies for the project's results and its continued success.

The advice from NeurotechEU project participants highlights the exceptional and transformative nature of the project, emphasizing the importance of adaptability, language proficiency, proactivity, technical skills, belief in the project's goals, and long-term commitment. These insights provide valuable guidance for prospective participants, enabling them to fully embrace the unique opportunities and challenges presented by the project.

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1. INTRODUCTION, GOALS

The European University Alliance of Brain and Technology (NeurotechEU) is a central network of higher education institutions that will train the future generation of researchers, innovators, and entrepreneurs that will implement the potential of neurotechnology into a reality for European society and beyond. The survey aims to gather comprehensive feedback and experiences related to various aspects of the project, including expectations, motivations, collaborations, responsibilities, achievements, skills gained, challenges faced, and future aspirations. Additionally, the survey explores the project's alignment with institutional priorities, contributions to the larger scientific community, and the vision for its long-term success. During the interviews, the following main topics were examined:

Expectations and Motivations:
Participants are asked to share their personal expectations from international cooperation, particularly European Universities initiative, as well as their motivations for joining the NeurotechEU project. This topic focuses on individual perspectives and reasons for engagement.

Collaborations and Partnerships:
This topic explores the interdisciplinary collaborations and partnerships that have emerged from the NeurotechEU project. Participants are encouraged to describe these collaborations and explain how they have enriched their research or teaching activities.

Project's Contribution to Neuroscience and Neurotechnology Research:
Participants are invited to share their views on how the NeurotechEU project contributes to the future of neuroscience or neurotechnology research. This topic explores the project's potential impact and its role in advancing the field.

Alignment with Institutional Priorities and Scientific Community:
This topic examines how the NeurotechEU project aligns with participants' institutions' strategic priorities or research agendas. Participants are asked to discuss the project's relevance to their institutions and its contributions to the larger scientific community.

Program Success and Impact Evaluation:
Participants are asked to reflect on how they measure the success of the NeurotechEU program and what metrics they use to evaluate its impact. This topic focuses on assessing the effectiveness and outcomes of the project.

Milestones, Achievements, and Personal Development:
Participants are invited to provide examples of milestones or achievements they are particularly proud of and explain why. They are also asked to share how the project has impacted their personal and professional development, including skills gained or improved.

Future Vision and Long-Term Goals:
Participants are encouraged to envision the future of neuroscience or neurotechnology research and discuss the role they see the NeurotechEU project playing in shaping that future. This topic focuses on participants' aspirations and desired outcomes for the project's long-term success.

Best Practices:
Participants are asked to share lessons learned and best practices identified during their involvement in the project.

Dissemination of Insights and Advice:

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Participants are asked to suggest how the project's insights and lessons learned can be effectively shared or disseminated within their institutions or beyond. They are also encouraged to provide advice to future students, researchers, or stakeholders considering joining or supporting the project.

2. METHODS

In this methodological description, we provide an overview of the process and key elements involved in conducting overall **64 in-depth interviews** to gather valuable insights from three target groups: **students, researchers, and staff members**, regarding the NeurotechEU partner universities (in alphabetical order, please find the fieldwork details in the Appendix):

- Boğaziçi University
- “Iuliu Hatieganu” University of Medicine and Pharmacy
- Karolinska Institutet
- Miguel Hernández University of Elche
- Radboud University
- Reykjavik University
- University of Bonn
- University of Debrecen
- University of Lille

The interviews took place in person at the Karolinska Institutet in Stockholm and at the University of Debrecen. All the remiaining interviews were conducted online (using Webex software) providing a conducive environment for open and engaging discussions.

In-depth interviews are a **qualitative research method** (please find the background of the research method in the Appendix) used to gather detailed and in-depth information about participants' perspectives, experiences, and opinions. These interviews provide a rich and nuanced understanding of a specific topic or phenomenon. A semi-structured or unstructured interview format is often used, providing a flexible framework that allows for both planned questions and spontaneous follow-up inquiries. This approach encourages participants to elaborate on their responses and share personal anecdotes or examples.

The interviewer plays a crucial role in actively listening, probing, and asking open-ended questions to delve into the participants' experiences and uncover underlying motivations, perceptions, and emotions. This technique helps to capture the richness and complexity of the participants' narratives.

In-depth interviews typically have a specific set of themes or topics to explore. These themes are carefully chosen to address the research objectives and provide a comprehensive understanding of the phenomenon under investigation. However, the interviewer also has the flexibility to adapt the interview flow based on the participants' responses and new insights that emerge during the conversation.

To ensure confidentiality and encourage honest responses, participants' identities are kept anonymous, and their responses are treated with utmost respect and privacy. Informed consent is obtained from participants prior to the interview, and they have the right to withdraw at any point during the process.

The findings from in-depth interviews contribute to the development of rich descriptions, detailed case studies, or thematic narratives that provide deep insights into the research topic. They offer a holistic understanding of the phenomenon from the participants' subjective perspectives.
The **primary aim of the interviews** was to explore participants' expectations, motivations, collaborations, responsibilities, achievements, skills gained, challenges faced, and future aspirations in relation to their involvement in the NeurotechEU project. These topics were chosen to comprehensively understand the multifaceted dimensions of their experiences and perspectives.

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The interviews followed a **semi-structured format**, allowing for **flexibility in the conversation** while ensuring that key topics were covered. The interviewer employed active listening techniques to encourage participants to share their thoughts and reflections freely. The discussions delved into participants' initial expectations of the project, their personal motivations for joining, and the extent to which these expectations were met.

Collaborations emerged as a prominent theme, exploring the ways in which participants engaged with fellow students, researchers, and staff members within the NeurotechEU project. The interviews sought to uncover the nature of these collaborations, their effectiveness, and the benefits derived from working together towards shared goals.

Responsibilities within the project were also explored, shedding light on the various roles and tasks participants undertook and the level of autonomy they experienced. Additionally, participants were invited to reflect on their achievements and the skills they acquired during their involvement in the project.

Challenges faced during the course of the project were a crucial aspect of the interviews. Participants were encouraged to discuss any obstacles encountered, whether they were related to communication, resources, or other project-specific factors. The interviews aimed to capture the participants' perspectives on how these challenges were addressed and overcome.
Finally, the interviews provided an opportunity for participants to share their future aspirations in relation to the NeurotechEU project. This included their hopes for continued collaboration, personal growth, and the impact they envisioned the project having on their academic and professional trajectories.

Overall, **the in-depth interviews conducted offered a rich and comprehensive exploration of participants' experiences** within the NeurotechEU project. The insights gathered through these interviews provide valuable qualitative data for understanding the multifaceted dimensions of the project and inform future endeavors within the NeurotechEU alliance.

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3. RESULTS

The following chapter summarizes the answers given during the interviews regarding the individual topics.

3.1. International cooperation/collaboration

The interviewees' expectations regarding international collaborations, particularly within the framework of initiatives like NeurotechEU, reveal a common theme centered around a **strong desire to expand their horizons and benefit from a diverse array of colleagues and institutions**. They view international collaboration as an **exceptional opportunity to broaden their knowledge**, gain exposure to various perspectives and approaches, and contribute to their academic and research growth.

This **desire for international collaboration** is particularly pronounced in every university. They acknowledge the existing limitations in independently accessing information and believe that collaborating with European universities can significantly enrich their academic and research experiences. For them, it's an opportunity to overcome these limitations and engage in a knowledge-sharing experience that extends beyond their geographical boundaries. One common theme among their expectations is the desire to broaden their horizons and learn from a diverse range of colleagues and institutions. They see international collaboration as a **unique opportunity to expand their knowledge and gain exposure to different perspectives** and approaches.

Moreover, the interviewees emphasize the critical role of funding for their projects, **mobility opportunities**, and the **introduction to new techniques and methodologies**. They recognize that financial support is essential to realizing their collaborative ambitions and enabling meaningful research and educational exchanges. Mobility is also highly valued, as it presents students and researchers with the invaluable opportunity to gain diverse educational experiences and insights into new fields of study and research.

The interviewees are eager to participate in discussions with like-minded individuals who can appreciate their work and offer valuable insights. The open exchange of ideas and collaborative problem-solving are seen as the driving forces behind successful international collaborations.

Additionally, they look forward to exploring the potential benefits of smaller, more focused courses. These courses are perceived as an ideal way to deepen their knowledge in specific areas and are expected to play a more significant role in their academic journey in the future.

From a research and academic perspective, the interviewees are motivated to address gaps in their fields and access established methods and knowledge. Keeping up with the latest advancements in their respective areas is crucial to maintaining academic relevance, and international collaborations are perceived as a means to achieve this.

Collaborative environments and events are also seen as opportunities to stay updated on industry trends, explore different approaches to shared research questions, and engage in cross-cultural knowledge exchange.

The interviewees place significant importance on **collaboration at a European level**. They foresee the establishment of networks and facilities for their research projects, promoting student engagement in international initiatives, and enhancing their research and education through exposure to a broader range of viewpoints and international researchers. The European level of collaboration is seen as a pathway to expanding horizons and fostering mutual growth and development.

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Furthermore, the interviewees highlight the significance of transdisciplinary research, breaking free from traditional disciplinary boundaries, and finding a common language for working together. They recognize the complexity of contemporary issues and understand that diverse collaboration is essential for effectively tackling these challenges.

One of the interviewees, in particular, highlights their involvement in the project from an administrative and university perspective, with a focus on student exchange programs and potential graduate programs. Their emphasis is on involving more students and establishing joint programs with European universities, promoting a cross-cultural educational experience.

The interviewees stress the **significance of working together to overcome challenges**. They highlight the importance of shared projects, infrastructure development, and a common will to transcend borders. The ultimate goal is to ensure equal educational support and mobility for all participants in the collaboration. The anticipation of creating a novel, intense level of cooperation is met with enthusiasm.

From a broader institutional perspective, there is hope for increased collaboration and learning from best practices within the partner universities. Interviewees anticipate the possibility of securing funding for larger research projects, a particularly crucial aspect for institutions with limited access to resources.

Moreover, the interviewees view international partnerships as **a catalyst for transformation and innovation within their universities**. They foresee cross-border learning, **mutual inspiration**, and an increased level of cooperation and collaboration.

Joint degree programs are highly appealing to interviewees, signifying successful cooperation in teaching and offering a desirable outcome from their collaborative efforts. International collaborations are expected to raise awareness about various programs and opportunities, such as PhD studies, which might not be well-known within their institutions.

They acknowledge the need for change and evolution in European higher education to keep up with universities in the United States and Asia. However, there may be concerns about political aspects and the imposition of standards from the European Commission. Collaboration within the European University initiatives is seen as a means to strive for excellence and discover new competitive advantages. While participants acknowledge the challenges in finding common ground and defining the path forward, they remain optimistic about the future with sufficient time and effort.

Ultimately, the interviewees view international cooperation as a means to address societal challenges and shape the universities of the future. They aim to introduce innovative pedagogies and research approaches, paving the way for a more connected and forward-thinking academic landscape.

In conclusion, the interviewees have varied and ambitious expectations for international collaborations within the context of projects like NeurotechEU. They look forward to academic and research enhancements, personal and cultural enrichment, fostering administrative and institutional improvements, and addressing societal challenges. Their expectations are grounded in realism and a strong belief in the potential of these collaborations to contribute positively to the field of neurotechnology and beyond.

Table 1: The most important takeaway messages formulated by each stakeholder group related to international cooperation/collaboration

PROFESSORS, RESEARCHERS	STAFF MEMBERS	STUDENTS
• **Opportunity for Research Collaboration:** In the context	• **Personal and Cultural Enrichment:** One participant	• **Expansion of Knowledge and Experience**:

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of NeurotechEU, participants see international collaborations as a way to meet researchers with different exp ertise and techniques. These collaborations can lead to knowledge sharing, resource sharing, and the initiation of collaborative research projects in the future. • Overcoming Administrative Barriers: They hope to establish common projects that can address and overcome administrative differences between countries. These differences, often related to laws and administrative procedures, pose a significant challenge when attempting to undertake official initiatives spanning multiple nations. • Teaching and Student Exchange: Their highest expectation is to create teaching and student exchange programs at the European level, primarily focused on fields such as neuroscience and associated technologies. They acknowledge the existence of challenges but consider this a critical goal. • Developing a Roadmap: In the absence of achieving the top-level expectation, they aim to create a roadmap outlining the necessary steps, limitations, and challenges to realizing their collaborative goals. This roadmap serves as a strategic plan to communicate the advantages of collaboration to policymakers and institutions. • Showcasing Success Examples: They plan to produce tangible examples of successful collaboration, such	values international collaborations as a means to meet people from different countries and cultures, gaining personal growth and learning from different ways of doing things and diverse perspectives. They see it as an opportunity for personal development beyond just work-related objectives. • **Customized Education:** Another participant emphasizes the importance of European University initiatives in providing students with the flexibility to tailor their own educational programs. They believe that students should have the freedom to design their curriculum, allowing for unique and specialized profiles in the field of science. • Transformative Opportunity: They view international collaborations, as opportunities for transformation. They believe that every aspect of international relations work offers a chance to transform their universities, redefining how they operate. This transformation extends to finding innovative ways to engage with international partners and learn from each other. • Vision for the Future: They express a strong belief in the future potential of such collaborations. • Realistic Dreams: They describe their enthusiasm as a "realistic dream," indicating that their expectations are grounded in attainable goals. They see international collaborations as dreams that are not only achievable but also beneficial. They emphasize that these dreams	Interviewees view international collaboration as an opportunity to broaden their knowledge and gain insights from colleagues at European universities. They see it as a means to enhance their professional expertise. • **Funding**: Securing funding for their projects is a crucial aspect of their expectations from international cooperation. They consider it essential for the success of their endeavors. • **Mobility and New Techniques**: Interviewees expect opportunities for mobility and the chance to acquire new techniques and methodologies. They hope to gain exposure to cutting-edge technological developments. • Provide a platform for people from different fields to communicate and share knowledge that they can't get elsewhere • Build a sense of community • Grow professionally • They expect the NeurotechEU project to enhance connectivity and competitiveness in neuroscience research and education in Europe. • They believe it would be beneficial for students to have access to experts from various universities and receive comprehensive education. • Short-term expectation: Increase mobility opportunities, enabling students to learn in different places and fields. • Long-term aspiration: The dream of offering joint degrees, starting with PhD and master's programs, and eventually expanding to

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as specialized courses that bring participants from different universities together to gain expertise. They intend to demonstrate the benefits of collaboration and its positive impact on the quality of PhD work. • Creating Joint Degrees: A significant desired outcome is the establishment of joint degree programs, particularly related to the field of neuroscience. This initiative would represent a substantial achievement, given the lack of collaboration in teaching programs across universities. • **Scientific Dialogue**: Interviewees value the chance to engage in scientific discussions with colleagues who understand their work and can introduce them to new research opportunities. • **Community Opportunities**: They are curious about the communal benefits of international collaboration, such as small courses and events, and plan to participate in them. • **Scientific Advancement**: International collaboration is seen as a means to enhance their scientific progress. They expect that new perspectives and viewpoints from different regions will improve the quality of their research. Broad collaboration • View international collaboration as a way to see the processes developed at top European universities and learn from experienced partners. • Future vision of a concept where European universities allow students to study different topics in various parts of Europe for a more	are not unattainable or out of reach. • High Standards: They acknowledge that the projects they are involved in are of very high standards, which further heightens their expectations. The collaborative projects are seen as opportunities to achieve excellence and make significant advancements. • Collaborative efforts aim to enhance the university's educational and research potential. • The focus includes improving opportunities and quality. • The desired outcome is scientific collaborations, shared articles, and joint innovations. • Mobility programs for students, faculty, and administrative staff are vital. The participant is primarily involved in financial administration, not deeper professional connections • **Importance of Collaboration:** The interviewee stresses the importance of working together to address challenges, highlighting the significance of shared projects, shared infrastructure, and shared willpower. • **Overcoming Borders:** There is a strong emphasis on transcending borders to ensure that everyone receives the best educational support. The goal is to make diplomas universally valid, regardless of the country. • **Expectation of Novel Cooperation:** The interviewee anticipates the creation of entirely new, intensely collaborative efforts	bachelor's degrees as part of the European universities concept. • **Academic Interaction**: They anticipate cooperation between students and professors from various European countries.

comprehensive and global education.	within the international alliance. • **Intercultural Competencies:** Given the diversity within the Alliance, there is an expectation of gaining a wealth of intercultural competencies, which goes beyond the academic domain and includes understanding how partners manage international projects and handling intercultural differences effectively. • **Institutional Growth:** On an institutional level, there was an expectation of increased collaboration and learning from best practices among partner universities. Additionally, there was hope for securing funding for larger research projects. The geographical isolation of their university made them believe that NeurotechEU could stimulate researchers to engage with partners from the network, promoting extensive collaboration and research opportunities. • They support the goal of making Europe more attractive for education but express concerns about fund allocation and ethical considerations. • They discuss the interests of students, researchers, and staff, emphasizing mobility, access to diverse perspectives, networking, and best practice exchange. • **Strengthening Research**: Expectations include the development of research projects that enhance neurosciences and neurotechnology, especially in thematic projects like Neurotech EU.	

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	• **Visibility and Funding**: Participation in European University Projects provides increased visibility and access to additional funding, and in some cases, special privileges and meetings. • **Global Visibility**: The projects contribute to universities' global visibility, although understanding outside of Europe may still be developing.	

Source: Own editing (2023)

3.2. Personal motivations joining NeurotechEU

The inception of the NeurotechEU project introduced a wide spectrum of individuals to its vision and mission, with diverse journeys reflecting the depth and breadth of international collaborations in the realm of neurotechnology.

Presentations at the Boğaziçi University Institute of Biomedical Engineering provided an inaugural insight for several interviewees. These sessions offered a compelling introduction to the NeurotechEU project, igniting their curiosity and interest in this ambitious endeavor. It's important to highlight that these presentations played a pivotal role in engaging individuals who would later become deeply involved.

For some, like a participant who had relocated from Turkey to Finland, the allure of NeurotechEU lay in its promise of **fostering European academic collaboration**. For them, it represented an essential step in their academic journey, providing the means to meet colleagues from different corners of Europe. This **multicultural exchange** was seen as a critical factor in charting the course of their academic career, establishing clear direction and long-term aspirations.

The **guidance and influence of academic mentors and professors** also emerged as a recurring theme in the project's recruitment process. One interviewee was introduced to NeurotechEU by their professor during their master's degree pursuit. This academic endorsement bore substantial weight, leading the participant to become a committed contributor to the project. It demonstrates the profound impact of academic guidance in steering individuals towards international collaborations.

The emphasis on practical applications in neurotechnology attracted other participants. NeurotechEU's mission was not limited to understanding neuroscience but extended to the translation of this knowledge into tangible technological solutions. This approach resonated deeply with participants who had prior experience in technical projects that often remained theoretical with limited real-world applications. The project's focus on addressing neurobiology-related diseases was seen as a pathway to crafting more practical and impactful solutions in the field.

Moreover, the **interdisciplinarity** at the heart of NeurotechEU was a compelling aspect for many. The project's diversity in terms of participating fields, professors, and students offered a dynamic and vibrant atmosphere. The appeal of collaborating with experts from varied backgrounds and the opportunity to apply diverse methods and techniques rendered participation in NeurotechEU an attractive and enriching prospect. This multidisciplinary nature not only enriched the project's ecosystem but also nourished the growth of its participants.

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The **recognition of European universities' potential to compete on a global scale**, despite budget limitations in comparison to their American counterparts, was an underlying motivational force. The belief in the power of collaboration, where institutions could complement each other's strengths and weaknesses, breathed life into the idea of creating a network that added substantial value to their respective institutions. This aspect highlighted the collaborative ethos and the overarching mission of European unity and progress.

The significance of **personal connections and networks** should not be underestimated. Colleagues and collaborators, often from the same academic institutions or labs, served as influential figures who initially introduced participants to NeurotechEU. The trust and respect participants had for these colleagues played a profound role as a catalyst for deeper engagement, emphasizing the pivotal role of community and personal networks.

Furthermore, participants underscored their motivations extended beyond professional growth. A participant who had previously served as a counselor of studies at their university was profoundly drawn to the **educational aspects** of the project. Their aspiration to contribute to the development of interdisciplinary educational programs across different universities made education a central focus of their involvement, shedding light on the educational impact and the nurturing of future talents.

The power of renowned figures in the field, who initiated contact and underscored the importance of their involvement, was also evident. Especially in regions like southern Europe, these scientists played a pivotal role in recruiting participants, emphasizing their expertise and potential to enhance the project's breadth.

Moreover, the involvement of students who were already engaged with the project and their role in recruiting new participants depicted a **unique intergenerational dynamic**. Their emphasis on the collaborative opportunities within NeurotechEU, along with information about available slots for collaboration, drew individuals with a keen interest in working with the next generation of neuroscientists. This **fusion of experience and youthful enthusiasm** added a layer of dynamism to the project's culture.

In several instances, the recognition of their universities regarding the **significance of international collaboration** played a key role in approaching individuals. The universities viewed NeurotechEU as an opportunity to **foster connections with professionals from diverse disciplines, all unified by their commitment to neuroscience**. This alignment of institutional objectives with the project's broader mission highlighted the critical role of collaborative partnerships in progressing the project and fostering a network of cross-disciplinary synergies.

Curiosity and exploration were intrinsic motivators for some participants who stumbled upon the project through emails or general communication channels. They were intrigued by the potential it offered, seeing NeurotechEU as a chance to explore new horizons, network with experts from different corners of Europe, and partake in international activities aligned with their interests. This spirit of discovery served as a driving force for them to engage more deeply with the project.

Furthermore, the extensive experience of participants in neurotechnology research or teaching subjects closely related to the field made them ideal candidates for participation. Their research background and teaching expertise seamlessly aligned with the project's objectives, positioning them as natural contributors who could provide invaluable insights and expertise.

Lastly, there were those who were excited about the prospects of interdisciplinary collaboration. They viewed the project as **an opportunity to work with individuals from various fields**, to organize courses that welcomed students and professionals from diverse backgrounds, and to create a platform for fruitful interdisciplinary interactions. This inherent potential for diverse collaboration was a driving force, indicating the vital role of diverse expertise and multi-faceted collaborations.

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They began to see it as an opportunity to enhance inclusion, diversity, and collaboration in the fields of neuroscience and Neurotech projects across Europe. In summary, participants learned about the project through personal connections, involvement in related activities, academic circles, and previous experiences with European collaborations. Their motivations varied, with some drawn by the project's challenge, alignment with their professional interests, or the opportunity to contribute to the European University concept.

In summary, the appeal of NeurotechEU was undeniably multifaceted, attracting participants from various backgrounds and motivations. Whether driven by personal connections, a passion for education, academic endorsements, or curiosity for interdisciplinary collaboration, each interviewee brought a unique perspective and a valuable set of skills to the project. This collective synergy enriched the overall experience and the potential impact of NeurotechEU, showcasing the potent effects of collaboration and knowledge sharing in the domain of neurotechnology. The intricate web of motivations and origins illustrated the depth of engagement and the multifaceted nature of international collaborative projects like NeurotechEU.

Table 2: The most important takeaway messages formulated by each stakeholder group related to personal mitovations joining NeurotechEU

PROFESSORS, RESEARCHERS	STAFF MEMBERS	STUDENTS
• Put Europe on the map and keep Europe on the map • Multidisciplinary Nature: Some participants were motivated by the multidisciplinary nature of the project, realizing the importance of collaboration in their field. • Belief in European University Concept: Some participants saw alignment with their beliefs in the European University concept, aiming to create alliances of excellence. • Contribution to Inclusion and Diversity: Some participants viewed their role as contributing to inclusion and diversity within the project and were motivated by this objective. • They emphasized the importance of mobility for students, allowing them to take courses that contribute to their growth as scientists or clinicians and appreciate different perspectives. • They aim to integrate new teaching and training methods from their involvement in the	• Personal Connection: One participant knew the project coordinator from previous experiences and learned about the project through this connection. • Involvement in a Summer School: Another participant initially got involved in organizing a summer school supported by NeurotechEU, which introduced them to the project. • Challenge and Interest: Many participants found the NeurotechEU project challenging and interesting, motivating their involvement. • Alignment with Professional Interests: Several participants joined the project due to their professional backgrounds and interests in neurosciences, science management, and innovation. • Desire to Explore New Roles: One participant was motivated by the opportunity to explore new roles and skills, particularly in communications.	• One student heard about Neurotech through the doctoral student association and StratNeuro, a strategic research area at Karolinska. • They discovered the alliance by chance through a post in the Medical Student Union's doctoral students association and reached out to get involved. • Some received an email about a Neurotech hackathon in Sweden, which sparked their interest. • Interdisciplinary Collaboration as motivation: The students were drawn to the project's potential for interdisciplinary collaboration. They recognized that it provided a platform for individuals from diverse backgrounds to work together on neuroscience-related endeavors. • Organizational Experience as motivation: They saw NeurotechEU as an opportunity to gain valuable experience in organizing courses and events.

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faculty for undergraduate neuroscience committee into the Neurotech project. • They want to advance the hybridization of neuroscience and related fields, making them more integrated and accessible to future generations of neuroscientists. • Researchers and technologists with backgrounds in cognitive science and neuroscience found NeurotechEU a perfect fit due to their interdisciplinary research and collaborations with various departments. • The emphasis on innovation, entrepreneurship, and interdisciplinary collaboration at their institution played a significant role in their involvement. • Passion for Education: For one researcher, a deep love for teaching and education was the driving force. • Academic Endorsement: The influence of renowned figures in the field played a significant role in recruiting participants. One researcher mentioned being contacted through a well-known neuroscientist based in Edinburgh. This connection opened doors for their involvement in the project, highlighting the importance of academic endorsements. • Building a Network: The goal of creating a network for neuroscience training was a major motivator for several researchers. They believed that such collaboration could foster interdisciplinary connections and enhance the learning experience for students and professionals alike.	• They expressed interest in working on the Neurotech project because of their expertise in development and their positive interaction with the product managers. • One interviewee first learned about the project when asked to write a letter of recommendation for Karolinska's initial application. • They have been involved in similar initiatives since 2018 and saw the need for a structured internal steering group at Karolinska. • The interviewee signed up for the project position after it was announced at Karolinska, appreciating the opportunity to work on an European project again. • They saw potential in transforming their university's teaching practices to align with Neurotech's goals and make education more interdisciplinary. • One participant first heard about the project during their doctoral student days, and their understanding deepened when they got involved. • Another participant learned about the project from their boss when a new financier was needed. • For one participant, the project offers an opportunity for professional development, including communication skills and understanding EU Commission accounting policies. • **Importance of Collaboration:** The interviewee stresses the importance of working together to address challenges, highlighting the significance of shared	Importantly, this experience extended beyond their home universities, allowing them to invite participants from various industries. • Professor's Introduction: Several interviewees first heard about the project from their professors. Professors introduced them to the project and shared details about the opportunities it offered. • Personal Initiatives: One interviewee discovered NeurotechEU during their master's studies when their professor informed them of the project. They naturally became interested and got involved. • Finding Career Direction: A recurring motivation was the desire to find a clear career path, particularly in academia. Interviewees saw NeurotechEU as a means to gain insight into their academic careers. • Focus on Applicable Solutions: Some interviewees were motivated by the practical aspect of the project. They valued the idea of creating solutions in neurotechnology rather than purely understanding concepts. The focus on turning knowledge into tangible applications was an appealing aspect. • Desire for Practical Application: Interviewees with backgrounds in electrical engineering expressed that they found previous experiences in creating technology for the sake of technology somewhat unfulfilling. They preferred working on projects where the technology had direct and practical applications.

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• Research and Teaching Background: Some participants had extensive experience in neurotechnology research or teaching related subjects at their universities. This alignment with the project's objectives, combined with their expertise, made their participation a natural fit. • Spontaneous Involvement: In some instances, researchers learned about the project through spontaneous means, such as a colleague's invitation. This spontaneous approach piqued their curiosity and led them to explore the project further. • Institutional Commitment: The commitment of their universities to international collaboration and interdisciplinary initiatives motivated certain researchers to join NeurotechEU. They recognized the value of connecting with professionals from various fields within the context of neuroscience. • Colleague Recommendations: Many researchers learned about the NeurotechEU project through colleagues who were already getting involved. Colleagues approached them and invited them to join the project. • University Leadership Initiative: In some cases, the initiative to participate came from the university's leadership, such as the Rector or previous director, who was a member of the biomedical engineering department. They encouraged researchers to get involved. • Previous European Projects: Researchers mentioned that their departments had prior	projects, shared infrastructure, and shared willpower. • **Overcoming Borders:** There is a strong emphasis on transcending borders to ensure that everyone receives the best educational support. The goal is to make diplomas universally valid, regardless of the country. • **Expectation of Novel Cooperation:** The interviewee anticipates the creation of entirely new, intensely collaborative efforts within the international alliance. • **Intercultural Competencies:** Given the diversity within the Alliance, there is an expectation of gaining a wealth of intercultural competencies, which goes beyond the academic domain and includes understanding how partners manage international projects and handling intercultural differences effectively.	• The participants' motivation stemmed from their professional interest in neurotechnology, the unique opportunities presented by the project • The desire to connect with other students • Gain insights into different research environments. • Campus Festival was also a source

experience with European projects, led by colleagues. These past experiences were rewarding for both professors and students. • Networking and Collaboration: Researchers expressed a strong motivation to get to know more people within Europe and different universities. They aimed to create opportunities for their students to access better education through collaboration. • Opportunity for University Advancement: Being part of the project was seen as an opportunity for university advancement. Researchers believed that participating in NeurotechEU aligned with the roadmap of the EU and would contribute to the university's progress. • Intriguing Project Structure: Researchers found the project's structure impressive and were drawn to its different phases, including the visions for 2032 and 2050. They appreciated the way it was put together. • Interdisciplinary Collaboration: Many researchers highlighted their enjoyment of collaborating with colleagues from diverse departments and fields. They found the interdisciplinary nature of NeurotechEU to be a compelling aspect. • Enjoyment of Collaboration: Researchers who had primarily collaborated within their own academic communities found the experience of working closely with different departments, including biology, neurosciences, biomedical institutes, engineering		

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departments, and more, to be highly enjoyable. They noted that the project expanded their collaboration horizons.		

Source: Own editing (2023)

3.3. Communication and collaboration challenges and solutions

The interactions within the NeurotechEU project have undergone a notable transformation over time, reflecting the dynamic nature of this ambitious initiative. At its inception, the project faced a unique **challenge due to the outbreak of the COVID-19** pandemic, which compelled the use of online meetings as the primary mode of communication. However, this initial reliance on virtual platforms presented its set of challenges. The project's inherent complexity and the multitude of researchers involved made it difficult to establish effective connections and engage in meaningful discussions through these digital channels.

In the early stages, many professors experienced a degree of disenchantment as they grappled with comprehending the project's intricate objectives and structure. The combination of technical difficulties, the loss of the personal touch inherent in face-to-face interactions, and the sheer volume of information to be processed caused a temporary decline in professorial interest. Thus, one of the significant hurdles faced by the project was to reignite the enthusiasm and commitment of these essential academic stakeholders.

The turning point in this endeavor came with the introduction of physical meetings and scientific events. These **in-person encounters allowed project members to truly get to know each other**, fostering **one-on-one interactions** that are often instrumental in building collaborative relationships. Additionally, scientific events, such as the Stockholm meeting and other research presentations, provided valuable platforms for researchers to gain insights into the work being conducted at partner universities. These interactions not only reignited excitement but also bridged the gap that had emerged during the early stages of the project.

The project participants found themselves primarily communicating through the context of work packages and meetings. Work packages, in which representatives from universities played a central role, served as the nucleus for contact and coordination within the alliance. Board of the Rectors meetings, held on multiple occasions, also played a vital role in fostering communication and decision-making within the project's framework. While the communication process was relatively smooth, scheduling emerged as a challenge due to the varying holiday schedules and academic semesters across different universities.

Despite these hurdles, the researchers discovered various opportunities to interact and collaborate effectively. Meetings, work package gatherings, and project summits proved to be vital platforms for communication. These interactions facilitated information sharing, consensus on project objectives, and in-depth discussions regarding the philosophical underpinnings and potential applications of the research. Both students and professors actively engaged in these collaborative efforts, aligning their focus on advancing the project's overarching goals.

The NeurotechEU project has successfully fostered an environment where **open communication**, despite initial challenges, has **allowed project members to connect, collaborate, and drive the initiative forward**. The combination of virtual and in-person interactions, work package meetings, and social events has been instrumental in building a robust network of researchers and students from diverse universities and backgrounds. As the project continues to evolve and expand, participants look forward to even more efficient communication, seamless information sharing, and closer collaboration to achieve their shared goals.

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The project's participants joined for various reasons, each driven by unique motivations. One interviewee initially stumbled upon NeurotechEU while seeking neuroscience opportunities during internships at the University of Bonn. Their motivation centered around expanding their network, connecting with like-minded individuals, and exploring potential internships and lab rotations, all of which hinged on effective communication and engagement within the project. Another interviewee, deeply passionate about neurotechnology, saw NeurotechEU as the perfect platform to pursue their aspirations. The project's primary focus on clinical and computational neuroscience with AI resonated with their professional goals, and their communication with fellow project members likely revolved around shared interests and collaborative opportunities. Yet another interviewee was enticed by the prospects of networking with the best and brightest in the field. Their communication within the project may have focused on establishing connections, learning from experienced academics, and exploring mobility opportunities, given their role as a student council member. One participant, in their pursuit of a hackathon scholarship in Stockholm, discovered NeurotechEU and was motivated by the desire to connect with universities, researchers, and professionals. They emphasized the importance of networking in their envisioned career path, particularly in clinical research, which necessitates effective communication. The final interviewee's introduction to NeurotechEU came through colleagues in their master's program who were already active within the project. Their motivation was fueled by the prospect of knowledge and resource exchange between universities, highlighting the significance of communication and research dissemination. Their interactions with project members likely focused on collaborative efforts and fostering a supportive academic community.

The project's participants had **diverse backgrounds, motivations, and communication preferences**, but they collectively contributed to the project's success. Their commitment to effective communication, whether through virtual platforms, in-person meetings, or digital tools, underscores the importance of fostering a cohesive and productive research community within NeurotechEU.

In terms of the communication channels utilized within the NeurotechEU project, the pandemic initially forced a heavy **reliance on virtual meetings**, email correspondence, and other digital communication methods. Face-to-face interactions were relatively infrequent, with one notable meeting taking place in Alicante, while the majority of communication was conducted in an online environment.

The "lingua franca" for communication within the project emerged as English, despite the participants' **diverse linguistic and cultural backgrounds**. The interviewees reported relatively little difficulty in understanding each other, which was crucial given the project's nature involving students, teachers, and researchers from various institutions and cultural backgrounds.

In addition to video conferences, various digital tools such as email, Slack, and online platforms like WhatsApp were employed to facilitate communication. Work package meetings were regularly scheduled, providing a formal channel for collaboration, while ad-hoc subgroups were formed as needed to tackle specific tasks, allowing for flexible and efficient teamwork. While there was an acknowledgment of potential cultural differences affecting certain aspects of communication, the participants generally found ways to navigate these challenges effectively.

Face-to-face meetings, when they did occur, were deemed essential for strengthening understanding and relationships among team members. These in-person interactions, though hampered by the COVID-19 pandemic, proved invaluable for fostering engagement and building personal connections. The interviewees stressed the significance of personal relationships in enhancing collaborative efforts within the project.

Despite some difficulties, the interviewees recognized the benefits of utilizing digital tools and online meetings. They emphasized the importance of continuous interaction and cooperation among team members, underscoring the value of clear communication as a cornerstone of the project's success.

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Overall, while acknowledging the challenges posed by virtual collaboration, they expressed satisfaction with the communication methods employed in the NeurotechEU project.

The interviewees' experiences and perspectives on communication within their respective project groups varied. For instance, one interviewee felt fortunate to join a group in Sweden where everyone spoke fluent English, making collaboration relatively easy. They relied on platforms like Zoom and Teams to bridge the geographical gap. However, they mentioned not employing specific communication strategies, highlighting the significance of language proficiency and adaptability. Cultural differences and communication barriers didn't appear to be a problem for another interviewee. They found it intriguing to learn about the various research perspectives and work of their international counterparts, emphasizing a harmonious and effective communication environment.

In the case of the student council, communication primarily occurred through Slack, a digital platform. This interviewee, with diverse international experience, didn't face any significant challenges in interacting with people from different cultures. They adapted well to the diverse backgrounds of their peers, showcasing the open and collaborative nature of the NeurotechEU project.

Another interviewee provided insight into the project's evolution, having been involved from the early stages. They emphasized **the value of in-person meetings**, which, while challenging during the COVID-19 pandemic, **were essential for building connections and understanding their future collaborators**.

Table 3: The most important takeaway messages formulated by each stakeholder group related to communication

PROFESSORS, RESEARCHERS	STAFF MEMBERS	STUDENTS
• Communication Methods: Researchers within the project mainly communicated through video conferences and online meetings, with limited in-person interactions. • Language Barrier: Despite participants coming from diverse backgrounds, English served as the primary language for communication, and language difficulties were rarely encountered. • Limited Networking: Some researchers expressed a sense of limited networking and interaction within the project, with a decline in communication noted at one point. • Challenges in Collaboration: Certain groups experienced limited collaboration, with fewer interactions and infrequent meetings. Participants noted the absence of feedback and the	• Cultural Workshops: Some members initiated workshops to understand and address cultural differences. They aimed to improve collaboration by discussing and addressing cultural nuances and expectations. • Adaptation to Partner Preferences: Project members adapted their communication style to the preferences of their partners. Some partners preferred direct communication, while others favored more formal communication. • **Email**: Email appears to be a widely used communication tool for project-related discussions. However, some interviewees express a desire for alternative methods due to the volume of emails. • **Shared Digital Working Space**: Some suggest the need for a shared digital	• Communication among students is primarily done through the student council's Slack group and Zoom meetings. • Surprisingly found that the professors and faculty members were approachable, cared about students' opinions, and wanted to ensure students felt like the main beneficiaries of NeurotechEU. • Contact with professors from other universities is limited unless there is a specific purpose, such as event advertisement. • **Positive Interaction Experience**: Students generally had a positive experience interacting with other participants. They found that people were eager to connect, help, and share information. The inclusive and welcoming atmosphere

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difficulty in achieving high levels of cooperation.
- Involvement with Students: Researchers actively engaged with students and helped organize various activities within their own academic communities, strengthening relationships within their institutions.
- Language and Culture: While some participants acknowledged potential challenges due to language barriers and cultural differences, these were generally not considered insurmountable obstacles to effective communication.
- **Initial Challenges in Online Communication**: At the beginning of the project during the pandemic, online meetings were common but challenging. Many researchers found it hard to connect to online platforms. The complexity of the project and initial chaos caused a loss of interest among some professors.
- **Shift Towards Physical Meetings**: Communication improved with the introduction of physical meetings. Face-to-face interactions allowed participants to connect and engage in more meaningful conversations.
- **Scientific Events and Presentations**: Scientific events and research presentations, such as those in Stockholm, became effective channels for connecting and generating excitement among researchers. These events provided insights into the work being conducted at partner universities.

working space, similar to Intranet, for collaborative work, shared tools, and information access.
- **Video Conferencing**: Zoom, WebEx, and Microsoft Teams are used for virtual meetings. These platforms facilitate communication and collaboration across distances.
- **Phone Calls**: Phone communication is minimal, with some mentioning that they rarely use this method.
- **In-Person Meetings**: In-person meetings have taken place for certain project activities, allowing for face-to-face interactions and relationship-building.
- **Multilingualism**: The interviewees stress the value of multilingualism in the European University Alliance initiative and suggest using two languages during meetings to accommodate diverse language backgrounds.
- **Cultural Awareness**: There is a recognition of the importance of cultural sensitivity in communication and the need to adapt to different cultural and linguistic norms.
- **Pragmatism and Compromise**: Overall, the interviewees exhibit a pragmatic approach to communication and emphasize the need for compromise and flexibility to ensure effective collaboration
- Noted that language proficiency among project participants, from various backgrounds and partner institutions, was at a level where communication was clear and not an issue.

contributed to successful interactions.
- **Summer Schools and Workshops**: Summer schools and workshops organized by NeurotechEU provided valuable opportunities for students to meet and communicate with a diverse group of researchers. During these events, there was a focus on encouraging students to engage in conversations, ask questions, and participate in social activities.
- **Effective Group Work**: Students worked effectively in groups during activities like the KI meeting. Despite some initial competition to determine group leaders, they quickly adapted to their roles and focused on achieving the project's goals. The short time available for these activities required clear communication and collaboration.
- **Inquisitive Approach**: Students took an inquisitive approach to communication, asking basic questions about researchers' experiences and decision-making processes. This approach helped build connections and allowed students to learn about the challenges and successes of their peers.
- **Networking Through In-Person Meetings**: In-person meetings were highlighted as one of the most effective ways to network and connect with people from different universities. These meetings facilitated connections with professors, management staff, and fellow students. The student NeurotechEU student council played a key role in

• **Work Packages as Communication Hubs**: Work package-related meetings played a central role in facilitating communication among researchers. These meetings allowed for detailed discussions and collaborative planning. • **Scheduling Challenges**: Scheduling meetings posed challenges due to differences in holidays and academic semesters across universities. Finding suitable meeting times was a key coordination task. • Broadening Collaborations: The project facilitated collaboration with other universities and institutions. While primarily focused on Hungarian commitments and dissemination activities, there were exceptions that led to valuable partnerships. • Effective Remote Collaboration: In some cases, collaboration with international partners didn't require in-person meetings. Communication and sample sharing were efficiently handled through email and established contact with the help of the project.	• Mentioned that most events were conducted in physical form, especially the ones organized in Cluj and the Board of Rectors event in Stockholm. • The pandemic made collaboration difficult, especially with the lack of previous connections between the European universities involved. • Digital meetings were a struggle in the beginning, and meeting in person would have been preferable for building relationships and handling cultural differences. • Internal meetings have been held at KI to update and connect the team members involved. • Establishing networking opportunities, collaborations, and educational programs for international students is important. • Personal relationships and physical interactions are crucial for successful international collaborations, and the pandemic hindered this aspect. • Challenges of Remote Work: The pandemic necessitated a shift to online communication, hindering the originally planned face-to-face events that foster engagement and mutual understanding among team members. The need for in-person meetings was emphasized, recognizing their value in building relationships. • Adaptation to Digital Tools: Despite these challenges, the project members worked extensively online using tools like Slack, emails, and various digital platforms, showcasing their adaptability and	organizing and participating in these interactions. • **Monthly Meetings and Subgroups**: Monthly meetings of the student council provided a structured platform for students to collaborate and share ideas. Additionally, subgroups, such as "Synapses," organized seminars and introduced lectures or professors from partner universities into the alliance. Diverse Communication Channels: Effective communication within the project involved various channels. • Face-to-Face Discussions: Personal meetings were instrumental in promoting communication among project members. • Common Language and Scientific Background: Communication primarily occurred in English, serving as a common language for participants with diverse scientific backgrounds. • Cultural Harmony: Despite the diverse cultural backgrounds of the students, they generally found few differences in cultures, believing that their shared motivation facilitated effective communication. • Smooth Communication: Students reported no significant issues when communicating with their peers, reflecting the overall positive communication

	commitment to the project's success. • Integration of New Members: As the project progressed, new participants joined, and efforts were made to integrate them into existing teams through online meetings, which became the primary mode of interaction. • Formal and Informal Interaction: The project had a structured framework, including scheduled online meetings within work packages and in-person gatherings for certain occasions, such as board meetings. Participants found these in-person meetings particularly valuable for more casual, relationship-building conversations. • Enhanced Communication: Despite language barriers, the use of English as the common language facilitated communication. While occasional challenges in understanding arose, team members believed that shared motivation and a willingness to adapt helped bridge potential cultural and linguistic differences. • Varied Responsibilities: Team members had diverse roles, from communications and marketing to tasks related to funding and local event organization. These responsibilities were undertaken with the support of university structures and aimed to contribute to the project's overall success. • Collaboration on specific tasks, such as writing white papers, was highlighted as a productive and collaborative process, with members from different institutions working	

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	together effectively to meet defined timelines. • Effective Communication Among Members: The project team members maintained communication through various means. • Professional and Timely Responses: The partners in the project provided polite and prompt responses to inquiries. • In-Person Meetings to Enhance Collaboration: Face-to-face meetings were organized, offering the opportunity for personal interaction and strengthening the professional relationships among project members. • Communication Focused on Financial Management: A significant portion of the communication revolved around financial management aspects. • Emphasized open and reflective communication, sharing ideas and actively seeking input from others. • Stressed the importance of respect, good communication, and regular exchange of ideas within the Alliance • Mainly communicated via email for work packages but also attended in-person meetings. • Acknowledged the value of in-person meetings for bridging cultural differences, even though it could be challenging due to different communication styles. • Highlighted the need to improve understanding of diverse cultural backgrounds within the Alliance. • The interviewees acknowledged the necessity of understanding the network and proposals when initially joining the project. They	

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	organized speed presentations to introduce researchers to Neurotech and stimulate collaborations.	

Source: Own editing (2023)

3.4. Tasks and responsibilities

In the context of the NeurotechEU project, effective communication and diverse responsibilities have been instrumental in its overall success. Participants faced initial challenges, including content dissemination and communication gaps between work packages and the alliance. Despite these setbacks, they worked diligently with dedicated teams, primarily focusing on website development and improving information flow. The need for a dedicated person within the Erasmus office to manage information efficiently was recognized.

A senior project manager and main project manager at Radboud University were tasked with coordinating the Management and Coordination Office for both Radboud and the entire alliance. Their primary role involved managing project coordination and organization across the alliance. Their extensive experience in European projects, along with their calm and democratic approach, aided in mediating discussions and working with diverse partners.

Participants also engaged in various research-related tasks, such as reviewing documents, providing feedback, and preparing materials for different universities. They conducted bibliometric analyses, reviewed documents pertaining to work packages and deliverables, and contributed to content creation for the R&D school. Some participants actively worked on review articles related to neurotechnology dimensions. Additionally, they were involved in establishing a new laboratory, familiarizing themselves with its operations, and managing tasks related to its functionality. During a summer school program, participants formed project groups, selected projects based on their interests, collaborated with diverse team members, conducted background research, and developed coding for projects. This approach fostered teamwork and led to the successful completion of projects.

Some participants focused on collecting information about the academic and industrial partners' research fields, strengths, and capabilities. They created a resource that could facilitate future mobilities and collaborations within the project. They also organized informative seminar series to share expertise in behavioral neuroscience and the sense of touch, further enhancing knowledge sharing and collaboration.

The roles within the NeurotechEU project were diverse, spanning communication and education to research and content creation, collectively contributing to the project's achievements. Here are some key roles and their descriptions:

Project Manager: A critical role in project management, the Project Manager at the University of Bonn served as the primary contact person for all Alliance members at the university. They were responsible for daily project management and led a project team with diverse roles related to the University of Bonn.

Student Council Representative: This individual served as a Student Council representative for NeurotechEU, drawing on previous experience to facilitate communication and engagement within the project. They were actively involved in Work Package 8 and worked on project deliverables, including scientific papers. Additionally, they organized events for outreach and socializing.

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Education Coordinator: A participant involved in Work Package 4, the Education Coordinator actively contributed to enhancing graduate school courses, focusing on methodologies for research and lifelong learning. They played a significant role in shaping the educational component of NeurotechEU.

Quality Assurance Specialist: A pivotal role involved defining the project's quality system and creating tools and mechanisms to ensure the quality of all project activities. This position required collaboration within a team and close coordination with the European Commission.

Promotion and Communication Specialist: These participants actively worked to promote NeurotechEU within their respective institutions, devising effective communication strategies to disseminate project objectives and activities, expanding the project's influence and fostering connections with various stakeholders.

White Paper Developer: Several participants were tasked with crafting white papers, essential documents for sharing research findings and project outcomes. This role required meticulous writing and collaboration with subject matter experts.

Project Manager and Coordinator: These roles provided crucial support in defining project roadmaps, preparing documents, and facilitating communication among team members, ensuring alignment with overarching project goals.

Networking and Coordination Expert: Participants proactively created connections, organized events, and fostered collaborations to expand NeurotechEU's influence across institutions.

Curriculum Developer: Some participants identified subject areas suitable for potential master's degree programs in Neurotech, requiring an in-depth understanding of the field and curricular elements aligned with the project's objectives.

Student Representative: Champions of student representation within the project, these participants organized events, gathered student feedback, and ensured that students' perspectives and concerns were considered.

Survey Analyst: Some participants were responsible for examining survey data, identifying areas for enhancement, and contributing to data-driven improvements.

Event and Course Organizer: These participants managed event logistics, coordinated registrations, and ensured the smooth execution of these activities.

Dissemination and Communication Specialist: Specific participants played a critical role in keeping the broader university community informed and aligned with the project's goals and activities.

Future Program Developer: Participants explored the inclusion of specific subjects in potential future master's degree programs, identifying relevant topics aligned with the project's objectives.

These diverse roles and responsibilities highlight the multi-dimensional nature of the NeurotechEU project, with each individual contributing to its multifaceted goals and holistic development.

Within the NeurotechEU project, participants assumed various roles and responsibilities that collectively contributed to the project's success. Some key areas of involvement included:

1. Education: Participants actively worked on enhancing graduate school courses, creating intensive master's programs, and developing educational content related to brain drain prevention.

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2. Quality Assurance: Some members played pivotal roles in defining and implementing a comprehensive quality system for the project, ensuring the quality of all activities and timely delivery.
3. Promotion and Communication: Individuals focused on promoting NeurotechEU within their institutions, devising communication strategies, expanding the project's influence, and fostering connections with stakeholders.
4. White Paper Development: Several participants were responsible for crafting white papers to communicate research findings and project outcomes effectively.
5. Project Management: Project managers provided essential support by defining project roadmaps, preparing documents, and facilitating communication among team members.
6. Networking and Coordination: Some participants actively created connections, organized events, and fostered collaborations to expand NeurotechEU's influence across institutions.
7. Curriculum Development: Specific individuals identified subject areas suitable for potential master's degree programs in Neurotech, ensuring alignment with project objectives.
8. Student Representation: Dedicated participants organized events, gathered student feedback, and ensured that students' perspectives and concerns were considered within the project.
9. Survey Analysis: Some participants examined survey data, identified areas for enhancement, and contributed to data-driven improvements in project activities.
10. Event and Course Organization: These individuals managed event logistics, coordinated registrations, and ensured the smooth execution of activities.
11. Dissemination and Communication: Specific participants played a crucial role in keeping the broader university community informed and aligned with the project's goals and activities.
12. Future Program Development: Participants explored the inclusion of specific subjects in potential future master's degree programs, aligning with the project's objectives.

These diverse roles underscore the collaborative and multi-faceted nature of the NeurotechEU project, with each participant making significant contributions to its success.

In the NeurotechEU project, participants held diverse roles and responsibilities that collectively contributed to the project's success. Here are key areas of involvement:

1. Management and Coordination: Some participants played central roles in coordinating the project, managing project coordination and organization across the alliance. Their tasks included event organization, tracking milestones, and overseeing various work packages.
2. Communication and Student Affairs: A participant focused on revitalizing the project's communication channels, such as social media, newsletters, and website management. They also organized seminars, lectures, and social events to foster collaboration among students and researchers.
3. Student Council: Others were actively engaged in the student council, working to create a sense of unity among local students interested in neurosciences. They facilitated social and scientific connections among students and contributed to enhancing the Neurotech Alliance.
4. Inclusion and Diversity: Efforts to address inclusion and diversity within the project involved collecting best practice examples to improve inclusion. Participants worked on strategies to make the project more inclusive.

These roles and responsibilities highlighted the multi-faceted nature of the NeurotechEU project, with diverse members of the team fulfilling various functions, each contributing to the project's overall success.

The **diverse roles and contributions of the interviewees** demonstrate the flexibility and adaptability of participants within the NeurotechEU project, allowing them to engage in various aspects of the project's activities. Overall, the project members had diverse responsibilities that spanned project

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management, communication, event organization, research and innovation, quality assurance, student affairs, and efforts to enhance inclusion and diversity within the alliance. Their tasks were tailored to their expertise and the specific needs of the project's different work packages.

Table 4: The most important takeaway messages formulated by each stakeholder group related to task and responsibilities

PROFESSORS, RESEARCHERS	STAFF MEMBERS	STUDENTS
• **Inclusion and Diversity**: Efforts were made to address inclusion and diversity, with some members focusing on collecting best practice examples to improve inclusion within the project. • **Work Package Eight (Communication)**: responsible for work package eight, which primarily focused on communication and dissemination. The challenges included the initial lack of content for dissemination and miscommunication between work packages. The participant mentioned their efforts to improve communication and dissemination within the project. • **Educational Work Package (WP4)**: a key role in the educational work package (WP4) at Boğaziçi University. Their responsibilities included defining classes, programs, and aims for educational initiatives within the project. They worked closely with NeurotechEU researchers to design educational content and programs. • **Project Management and Finance**: responsibilities related to project management and finance. This included organizing the NeurotechEU summit and other financial tasks within the project.	• **Senior Project Manager and Main Project Manager**: Responsible for coordinating the Management and Coordination Office, overseeing project management for Radboud University, and extending coordination to the entire alliance. They played a mediation role and were known for their patience and democratic approach. • **Mobility Subgroup**: Some members were actively involved in the mobility subgroup, which focused on aspects related to student mobility. • Contributed to project deliverables, including scientific papers. • Organized events for outreach and socializing, gaining experience in event planning and administration. • Transitioned into the role of project manager within NeurotechEU, specializing in daily project management and communication. • project leadership, including the Board of Governors members • Quality Assurance and Data Collection: One of the primary tasks was to ensure the quality assurance of the entire project. • Quality Assurance for the Summer University. • Neuricoo Project: Work Package 2 also extended its	• Student Council Secretary Role • Participation in the Hackathon: During the hackathon, the interviewee took on a leadership role within a team. • **R&D School and Review Articles**: Some participants were involved in creating content for the R&D school, an online platform for NeurotechEU members. They were also working on review articles related to specific dimensions within neurotechnology, such as neuromorphic computing and neuroinformatics. • Survey Analysis and Improvement: Students played a crucial role in analyzing and improving surveys conducted by educational institutions. Their responsibilities included examining survey results and suggesting enhancements for future courses. They also considered the student perspective, ensuring that questions addressed relevant aspects of the project. • **Research and Document Review**: Several participants were actively involved in reviewing documents related to work packages and deliverables. They provided feedback and contributed to the creation of reports, research papers, and documents.

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• Contributing to White Papers: Some researchers played a pivotal role in the creation of white papers. Their task included coordinating and writing sections of these documents, particularly focusing on areas like nutrition and cognition. These white papers aimed to disseminate research findings and project outcomes. • Collaborative Participation: For certain researchers, their roles within the project were not explicitly defined. They contributed by identifying relevant subjects and providing input when necessary. • Championing Project Engagement: One researcher championed the engagement of their university and encouraged participation across faculties, ensuring a holistic involvement of their institution. • Coordination and Collaboration: Several researchers took on diverse roles within different work packages, showcasing their adaptability. They participated in various work packages, such as Work Package One (coordination), Work Package Three (white papers), and Work Package Four (mobility). Their responsibilities ranged from administrative aspects to shaping course designs. • Building the Neurotech Image: One researcher was instrumental in promoting the project's image within their institution, actively engaging with various departments and services to bolster NeurotechEU's presence.	activities to the Neuricoo project, focusing on higher education-industry cooperation. • Financial Administration: The interviewee was actively involved in financial administration tasks, including managing financial approvals. • Project Management: A project manager played a specific role in assisting the leader of work package two, which was focused on quality aspects. Their responsibilities included defining a roadmap, preparing documents, and facilitating communication within the team. • Science and Project Communication: One staff member with expertise in science and project communication, particularly related to NeurotechEU, was responsible for communicating the project to prospective students and stakeholders. • Participation in Multiple Work Packages: Some team members were actively engaged in multiple work packages, attending various meetings and actively participating in project activities. Their primary responsibility was to stay informed, relay information to their university staff, and actively contribute to project tasks. • One interviewee is responsible for managing the NeurotechEU information on the website. • Administrative Tasks: Organizing staff selection and hiring. Coordinating meetings and maintaining communication with all project partners Managing project	• **Lab Setup and Maintenance**: Participants were responsible for setting up and maintaining a laboratory, ensuring it was fully functional. They also managed various technical aspects related to the lab's operations. • **Project Group Work**: Some participants formed project groups, worked on specific tasks or projects, and presented their work at the end. This involved coding, research, and teamwork in areas like artificial intelligence and machine learning. • **Resource Compilation**: One participant collected information from academic and industrial partners to create a resource database. This database served as a search engine, making it easier for project members, students, and professors to find partners with specific research strengths and capabilities. • **Seminar Series**: Another participant organized a seminar series covering topics in neuroscience and sensory touch. These seminars aimed to share knowledge and foster collaboration among project members. • Engaged in outreach activities by setting up booths at local events to educate people, including students from different departments, about NeurotechEU and neuroscience. • Voice of the Student: The students recognized the importance of their opinions and contributions. They aimed to actively engage and provide valuable insights, acknowledging the

• The participant's team is currently responsible for building the campus plus platform, which is based on a previous project called training space. The goal is to provide open access training resources for the neuroscience community worldwide. • Multiple neuroscience societies and renowned universities, such as Cambridge, Oxford, MIT, Harvard, Yale, and Karolinska, have contributed content to the platform.	activities on the European Commission platform. • **Coordinating Leadership Role**: They ensure the university's active participation in the Neurotech Project. Their role involves keeping university leadership informed about Neurotech, coordinating various aspects of the project, and finding people to work on specific tasks. • Involvement in discussions related to new types of mobilities. • Contributions to the open house concept. • Participation in discussions on microcredentials and promotion of mobilities. • **Communications and Student Affairs Project Manager**: Responsible for revitalizing communication channels, including social media, newsletters, and website management. This role also involved collaborating with the student council and organizing student-oriented events.	significance of their role in the project. • Setting up regional chapters for Neurotech students. • Board and Roundtable Participation: Some students actively participated in leadership roles, serving as chairs in the board and contributing to roundtable discussions in locations like Cluj. These roles required organizational skills and the ability to facilitate productive discussions.

Source: Own editing (2023)

3.5. Balance and support

Balancing the multifaceted demands of the NeurotechEU project alongside their existing academic and administrative responsibilities provided a rich tapestry of experiences for the participants. **Effective time management** was the linchpin upon which they hung their ability to traverse these various roles and responsibilities.

One overarching theme that emerged was the challenge presented by the numerous project-related meetings. These gatherings, integral to the project's progression, often led to intricate **scheduling conflicts**, forcing participants to fine-tune their time management skills. The participants were not only scholars, but many also shouldered significant administrative roles within their respective academic institutions. Some held administrative positions that carried significant responsibilities, such as overseeing faculty appointments or being part of the Scientific Council, demanding weekly meetings that required extensive preparation. These roles intensified their already busy schedules.

Furthermore, within the realm of the project itself, the participants voiced a **desire for enhanced communication and information dissemination**. They noted that crucial details sometimes got lost in the shuffle, indicating room for improvement in this aspect.

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Nevertheless, the participants commended the effective delegation of responsibilities by the project's leadership. This delegation streamlined their tasks, enabling them to manage their workloads more efficiently. They also underscored the pivotal role played by their university leadership. The support they received from their academic institutions, even when their leaders were not directly involved in the project, was instrumental.

While the participants found themselves engaged in roles that varied in scope, they acknowledged that **additional administrative support would be imperative** in the project's forthcoming phases. The recognition of this need demonstrated their proactive approach to enhancing the project's efficiency and sustainability.

Effective time management played a critical role in their ability to balance project commitments with their other responsibilities. They appreciated the presence of project deadlines, which allowed them to plan and distribute their work effectively. The participants expressed that they generally did not feel overwhelmed by the project's demands, a testament to their adept time management skills. Furthermore, some participants highlighted the value of research assistants at their universities, whose support aided them in carrying out their project tasks more efficiently.

What set the participants' experiences apart was the alignment of their roles within the project with their academic interests. This synergy made their project-related tasks more enjoyable and satisfying. They also lauded the financial support they received for their travel and participation in project-related events, underscoring the project's commitment to facilitating their involvement.

In sum, the participants demonstrated unwavering dedication to their roles within the NeurotechEU project. They adeptly managed their time to balance project tasks with their academic and administrative responsibilities. Their experiences varied, with some navigating more complex balancing acts due to the demanding nature of the project. Nevertheless, they were united in their emphasis on meticulous time management, clear role allocation, and flexible working hours as vital strategies for managing their diverse commitments effectively.

In terms of institutional support, the participants' experiences ran the gamut. While some universities exhibited a strong commitment to the project, providing the necessary resources and personnel for its seamless operation, others faced challenges in securing institutional support. These challenges occasionally translated into a more demanding workload for the participants.

Delegating tasks emerged as an essential strategy as the project evolved. The participants found themselves increasingly able to delegate tasks and, in some cases, hire additional staff to support various NeurotechEU activities. This flexibility was paramount, given the evolving needs of the project.

Additionally, **involving students emerged as a valuable strategy**. It not only engaged the next generation of researchers but also fostered collaboration between universities and created a diverse network of stakeholders. The participants recognized the importance of this approach and actively integrated it into their project-related activities.

Their approach was to prioritize tasks and work as needed, rather than adhering to a fixed 8-hour workday. Team support played a crucial role in their experiences. The interviewees felt that the NeurotechEU team was highly engaged and collaborative. They highlighted the willingness of team members to help and support one another. This strong sense of teamwork made managing their responsibilities more manageable.

In conclusion, the interviewees shed light on the intricate task of balancing their commitments to the NeurotechEU project with their diverse roles and responsibilities. Their dedication, meticulous time

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management, and adaptability in the face of challenges exemplified their commitment to the project's success. These experiences underscored the complexity of managing project roles within the context of their academic institutions and revealed the resilience and strategic thinking of these individuals in their contributions to the NeurotechEU project.

Table 5: The most important takeaway messages formulated by each stakeholder group related to balance and support

PROFESSORS, RESEARCHERS	STAFF MEMBERS	STUDENTS
• Time Management Challenges: Researchers faced challenges due to a high number of project meetings, task demands, and administrative work. The project work often required extensive preparation for meetings, which could take up a significant portion of their time. • Academic Responsibilities: Some researchers held major roles within their universities, such as participation in the Scientific Council. These roles came with additional meetings and responsibilities, further complicating their time management. • Communication and Information Flow: Researchers expressed concerns about the dissemination of information within the project. They noted that information from project meetings sometimes did not flow effectively to all team members, which hindered their ability to stay informed about project developments. • Independence and Leadership: Researchers highlighted that they were given a high degree of independence in leading the project. They discussed upcoming tasks, such as website development and communications, which required additional team members for support.	• **Efficiency and Time Management**: One interviewee highlighted the importance of personal efficiency and productivity. They mentioned investing time in improving individual and group efficiency to handle the workload effectively. • **Work-Life Balance**: The interviewees acknowledged that project commitments could sometimes require working long hours, especially when deadlines were approaching. They mentioned their preference for setting objectives and working flexibly, striving for a balance between work and personal life. • **Team Support**: The project members emphasized the importance of teamwork and collaboration. They mentioned a sense of involvement and engagement within the team, with everyone willing to help and support each other. • **Voluntary Basis**: In the initial phase, project work was done on a voluntary basis, and the interviewees shared their experiences of working extra hours alongside their regular job responsibilities. The workload could be demanding during peak times. • **Flexibility and Freedom**: Flexibility in working hours and the freedom to determine their work schedule were valued by the interviewees.	• **Training and Courses**: The interviewees mentioned making use of training opportunities and courses provided by their universities to enhance their skills and competencies. • **Challenges with Unpredictability**: Some interviewees faced challenges in managing their time due to the unpredictable nature of their work responsibilities. Ad hoc meetings and unforeseen work demands could affect their participation in project-related activities. • **Financial Support**: The students had financial support for their project-related activities, such as attending meetings or traveling for research purposes. This support covered their travel expenses and other project-related costs. • **Academic Advisor Support**: Many of the students received support from their academic advisors or professors who were involved in the project. These advisors were supportive of the students' participation in NeurotechEU activities. • **Guidance and Mentorship**: The students mentioned receiving guidance and mentorship from their academic advisors and professors. They were provided with advice on how to get involved in specific

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• Positive Team Dynamics: Despite the challenges, the researchers generally expressed satisfaction with the leadership and coordination within the project. They acknowledged the value of the project's alignment with other initiatives and the support from their leadership. • International Collaboration: Researchers found the international nature of the project appealing, and they recognized the potential benefits for their careers. They enjoyed participating in events and collaborating with international partners. • Financial Support: Researchers mentioned receiving financial support, especially for travel expenses related to the project, such as attending meetings and events. • Academic Advisor and Professor Support: Many researchers received support and mentorship from their academic advisors and professors who were involved in the project. This support often extended to guidance on specific tasks and research activities. • Flexible Scheduling: Some researchers noted that their academic advisors allowed them flexibility in their schedules, enabling them to focus on NeurotechEU project tasks during specific periods. • Financial Compensation: In addition to financial support, some researchers received financial compensation for specific project-related expenses and tasks. • No extra burden.	They felt that clear objectives and personal control over work schedules helped maintain a work-life balance. • Importance of coordination and scheduling • Time Management • Quick email communication • The support they received primarily involved information exchange and consultation to address project-related challenges and opportunities. • The successful fulfillment of commitments in WP2. • The potential to develop a quality assurance system supporting collaboration between higher education and industry. • The practical perspective of an expert who transitioned from the industry to higher education. • The incorporation of innovation management expertise. • Used tools like Outlook to manage tasks, calendars, and emails. • Structured their day for maximum productivity. • Had access to online courses for continuous learning and skill development. • Struggled to balance project commitments with personal life. • Emphasized the need for a work-life balance to prevent burnout. • Received support and understanding from project leadership and the university. • Importance of Institutional Support: One staff member emphasizes the importance of institutional support for NeurotechEU. They mention the challenges of balancing project work with other	project tasks and research activities. • **Flexible Scheduling**: Some students mentioned that their advisors allowed them flexibility in their schedules to participate in NeurotechEU events and projects. This flexibility made it easier for them to balance their academic and project-related responsibilities. • To accommodate everyone, meetings were often scheduled for the early evening. • Proactive Schedule Adjustment • Verbal Support and Advice: Although not always directly related to the project, this support often pertained to general research and provided valuable insights and guidance. • Found flexibility to allocate time for project involvement. • Part-Time Involvement: Some students are not fully committed to NeurotechEU due to their involvement in other research groups or work packages. This part-time engagement allows them to manage their time effectively. • It can be challenging to balance lab work with other activities and projects. • Zoom meetings have made it easier to manage time and attend meetings without needing to travel. • Taking breaks and working on different projects can help alleviate frustration and improve productivity. • Someone's The direct supervisor is supportive of the extracurricular activities associated with the PhD. • Time management is important related to balance.

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• Long-Term Vision: Researchers acknowledge that NeurotechEU is a long-term project, and tangible results may take time to manifest. They emphasize patience and persistence in achieving the project's objectives. • Institutional Support: The level of institutional support varies among researchers. Some universities are fully committed to NeurotechEU, providing the necessary resources, while others face challenges in securing support. • Delegation: Delegation of tasks and responsibilities is seen as a key strategy for managing workloads effectively as the project progresses. Some researchers hire additional staff to support project activities. • Student Involvement: Involving students is viewed as an opportunity to engage the next generation of researchers, foster collaboration between universities, and create a diverse network of stakeholders. • Dedication: Researchers emphasize their unwavering dedication to NeurotechEU's success, despite the complexities of their roles and responsibilities. • The organization is a volunteer-based organization, with researchers and employees working as volunteers. • The employees have a flexible schedule due to working across 17 different countries and primarily working virtually.	commitments and the need for additional personnel dedicated to the project. They also highlight the role of a colleague who was hired specifically for NeurotechEU. • Personal Dedication: Somes are fully dedicated to NeurotechEU. For them, the challenge lies in coordinating with team members who have their own work and responsibilities. • Collaboration with International Office: The international office at the university is actively involved in NeurotechEU, particularly in work package one and quality checks. There is close cooperation between the author and the international office. • Learning to Prioritize: Over time, staff members have learned to manage their involvement in NeurotechEU with their other commitments. Prioritization of tasks has become essential due to the extensive workload within the project. • One interviewee emphasizes the easy communication and engagement within their organization, including with higher-level individuals like the president. • The leadership at their institution (KI), fully supports their involvement in the project. • KI provides support for internal funding and hiring if needed, but there may be some challenges in understanding the EU funding process. • One person has taken a step back from leadership roles within the project due to other responsibilities and projects.	• Clear goals are essential for maintaining focus and achieving intrinsic accomplishments.

	• Collaboration and teamwork are essential within the project, requiring a critical mass of staff to fulfill expectations and engage various departments and units. • Sometimes it's challenging due to numerous university commitments. • No external force compels them; it's their choice to allocate extra time for project-related work. • Internal Support: Colleagues from the human resources department assist with tasks related to timesheets, salary calculation, and payments. Colleagues from accounting and procurement departments provide help when needed. • Integration with Daily Work: Many project tasks complement daily responsibilities, making integration into the schedule seamless. • Team Effort: Collaborative work within the department and coordination between various faculties and departments. Support and assistance from university management and department heads. • **Lack of Clear Strategy**: There is a sense of urgency in managing the project's workload. One interviewee mentions they often dedicate more than 60% of their time to Neurotech, although their official position might be part-time. They highlight the absence of a clear overview or dashboard to track project activities, deliverables, and time allocation. • **Team-Based Approach**: Collaboration and team support are crucial for	

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	managing project responsibilities. The interviewees emphasize that having a well-organized team with defined roles and regular meetings aids in efficient time management. They align their schedules to dedicate specific days to the project, ensuring productivity. • **Leadership Support**: The support they receive varies, with one interviewee expressing concerns about the university administration's understanding of the project's strategic importance. However, there is a recognition of the general support for the project from university leadership. • **Future Resource Needs**: The interviewees anticipate the need to hire additional personnel as the project progresses, recognizing the growing workload.	

Source: Own editing (2023)

3.6. Skills, achievements, added value (from the members' perspective)

In terms of academic growth, the participants emphasized the **positive impact** of their involvement in the project **on their academic careers**. They anticipate publishing several articles and gaining research and development experience that will benefit their academic careers. The project allowed them to **explore interdisciplinary connections** and realize that their expertise, even in fields unrelated to neuroscience, could have potential applications in neurotechnology, leading to new research directions.

Furthermore, the participants highlighted the **development of interpersonal skills**. They participated in workshops and meetings where they learned how to connect with people from different cultural backgrounds. This helped them understand the importance of cultural differences and effective communication. They discussed the significance of working with colleagues from different countries and the awareness of diverse cultural perspectives, including gestures, communication styles, and behavior. Understanding these differences became crucial for effective collaboration within the alliance.

The participants considered the preparation of the project's quality plan and quality assurance activities as significant achievements within their respective work packages. They contributed to delivering a comprehensive quality plan and conducted bibliometric analyses, which are set to be published in a scientific journal. In summary, the NeurotechEU project had a profound impact on the participants' academic and personal development, deepening their understanding of cultural diversity, strengthening

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their interdisciplinary connections, and making notable contributions to the project's deliverables and research outcomes.

During their involvement in the project, the participants were able to hone and develop various essential skills. One prominent area of skill enhancement was project management, with a focus on coordination and efficient execution. Participants had the opportunity to gain experience in handling a project of this scale, which involved collaboration with multiple international partners. This experience was invaluable for cultivating strong organizational skills, an **ability to navigate complex projects**, and the capability to meet tight deadlines.

Another significant skill that participants improved was **effective communication**. They had numerous opportunities to engage with diverse audiences, including the general public, international partners, and colleagues. Public speaking was a notable aspect, as participants presented their work and ideas confidently, both in person and virtually. These experiences played a pivotal role in enhancing their communication skills, especially in conveying complex scientific concepts in an understandable manner.

Additionally, the project provided a platform for the participants to work on their **intercultural competencies**. Engaging with partners from various countries and backgrounds exposed them to different cultural nuances and communication styles. This experience was enlightening and helped in fostering better cross-cultural understanding and collaboration. The ability to work seamlessly with people from diverse backgrounds is a skill that can greatly benefit their future careers.

In terms of achievements, the participants successfully organized several outreach events during the project. These events not only demonstrated their project management skills but also underscored the importance of face-to-face interactions with the general public. The opportunity to present the project and engage with the community allowed participants to showcase their communication abilities and convey the significance of the work they were doing. Moreover, participants adapted to new environments with ease and formed valuable international connections. They integrated seamlessly into different cultures and **established new friendships**, which **expanded their global networks**.

In addition, participants gained the confidence to present their work effectively, enhancing their self-esteem and competence in discussing their research and ideas. Looking to the future, the project has provided participants with a wealth of connections that can open up job prospects and collaborative opportunities. The innovative thinking and intercultural competencies they acquired will be valuable assets in their future careers. With their improved communication skills, project management experience, and cross-cultural understanding, participants are well-prepared for a wide range of opportunities and challenges that lie ahead.

One interviewee played a pivotal role in quality assurance and project management within NeurotechEU. Their primary responsibility was to define and establish the project's quality system. They stress the significance of this role as it involved not merely implementing an existing quality assurance system but engaging in a collaborative process with project partners to co-create a suitable framework for maintaining high standards. Furthermore, they had the crucial task of managing time and adhering to deadlines, a vital aspect of project success. Their extensive background in Quality Management at their university and their international experience made them well-suited for this role.

Another interviewee shares their experience from a different angle, emphasizing the development of communication skills and self-confidence during their NeurotechEU journey. They discuss the challenge of overcoming shyness, particularly when communicating with individuals from diverse backgrounds and different academic levels. They recount a valuable experience where they participated in a roundtable discussion without prior preparation, highlighting that this experience significantly improved their ability to

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communicate in English, even outside the academic context. They also note that their participation in NeurotechEU encouraged creativity, especially in organizing various events and courses.

Some regard the **enhancement of communication skills** as the most significant personal growth from their participation in NeurotechEU. They elaborate on how the project provided them with ample opportunities to communicate effectively in English, not solely within the confines of academia but also in broader professional contexts. Additionally, they stress the newfound capacity for creative thinking, which NeurotechEU nurtured, especially in the context of planning and organizing events and courses. They also acknowledge the critical importance of teamwork and efficient organization within the project, contributing to their development in these areas.

Collectively, the interviewees express **a sense of pride in their achievements** within NeurotechEU, especially with regard to the events they successfully organized. Their experiences have fostered the development of crucial skills such as effective communication, creativity, teamwork, and adept project management. These achievements underscore the multifaceted nature of the NeurotechEU project and the diverse skills and experiences it offers to its participants.

One interviewee highlighted the opportunity to build things, drawing from their startup background, and emphasized the importance of having more accessible lectures on topics related to Neurotech. They hoped to find more clarity and areas they understand better within the project. Another interviewee expressed their aspiration for NeurotechEU to become a dominant force in Europe by 2040 and suggested integration with companies as a potential direction for the project.

Several interviewees shared the skills they've acquired, such as networking and creating connections with professionals from various research fields. They also pointed out the value of learning about EEG analysis programs and developing soft skills like teamwork and organization during group work. For one interviewee, the project served as a valuable learning experience in coordinating roles within an EU project. They expected the knowledge gained from NeurotechEU to prepare them for future international projects in research. Another interviewee emphasized the importance of understanding how EU projects work and the pride they felt in securing funding for phase two. They considered it a milestone for Neurotech and the researchers involved in its development.

A different interviewee highlighted the significance of a small country's university participating in a project of this size. They believed that this collaboration expanded the university's global impact and provided opportunities for change in teaching methods, research, and societal connections.

Overall, the interviewees recognized the skills they've developed and the positive impact of the project on their work and studies. They anticipate further growth in their understanding of the project's goals and challenges and look forward to contributing to its future success.

One interviewee expressed their enthusiasm for being involved in projects and product development, as they believe it not only enhances their career but also contributes to the advancement of the European university sector. They emphasized the value of being part of innovative initiatives and driving change within academia.

On the other hand, a different interviewee shared their challenges in staying updated with the progress in other work packages and navigating bureaucratic processes. Although they acknowledged the importance of the mobility agreement signed within the project, they were not directly involved in its development. This highlighted the need for better communication and information-sharing across different teams and work packages.

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In contrast, this interviewee mentioned that their colleagues had established stronger relationships with the strategic level and actively participated in work package five. They had also been in contact with the communications officer to enhance the visibility of their events and activities, recognizing the significance of effective communication and outreach.

Another interviewee discussed the positive impact of their involvement in Neurotech on their organization's relationship with the administrative level at Karolinska Institute. Collaborating on the establishment of a data management strategy for a new Center for Imaging Research allowed them to introduce themselves and their expertise in informatics. They emphasized the importance of interdisciplinary collaboration and data sharing in the context of data science and medicine.

Furthermore, this interviewee mentioned that their experience in Neurotech had helped them refine their ability to explain informatics in a more accessible way, particularly when addressing individuals at different levels of expertise. They highlighted the role of Neurotech in fostering collaborations and networking opportunities, enabling fruitful partnerships with other organizations dedicated to neuroscience.

The development of the campus plus platform was identified as a significant milestone by multiple interviewees. This platform not only raised the profile of Neurotech but also facilitated collaborations with other institutions and organizations working in the field of neuroscience. It served as a catalyst for knowledge exchange and cooperative endeavors.

The interviewees consistently emphasized the **importance of communication, networking, and relationship-building with various universities and organizations**. They cited successful collaborations with the neuroscience seminar series, PWC, and INCF as examples of how effective partnerships can lead to impactful outcomes. Engaging in discussions through white papers and exploring topics such as artificial intelligence and machine learning allowed the interviewees to gain valuable insights and exchange ideas with fellow students from diverse academic backgrounds.

One interviewee expresses satisfaction with the progress made in the project after a period of stagnation. They emphasize that under new coordinators, the project began to move forward, and they are happy with the results achieved. Interacting with colleagues from different universities allowed them to gain insight into how universities in different countries operate. They found it particularly useful to learn about time management and organization during their visit to Karolinska. Understanding the complexities of university roles and legislation in different countries was a valuable outcome. They realized that merging rules from NeurotechEU with university and country-specific regulations can be challenging but essential. The interviewees reflect on the successful organization of events like the board of directors in Cluj and the Women of NeurotechEU event, where personal connections were established among participants from various backgrounds. Skills such as organization, time management, and the ability to prioritize tasks have been developed throughout the project. They emphasize that these skills are invaluable and have positively impacted their professional lives. Organizing the first summer school within NeurotechEU in Cluj is regarded as a significant achievement. It was a collaborative effort with the Erasmus office, even though it was the first instance, and they consider it a positive accomplishment. For one interviewee, the project has been a platform for understanding international cooperation, project management, and the political nuances of decision-making. They believe that these skills have had a positive impact on their academic and entrepreneurial pursuits. Soft skills, including effective communication, managing cultural differences, and setting realistic goals, have been a focus of personal growth. They have learned to interact with individuals of various ages and backgrounds and understand their needs. Building a dynamic and supportive group of students within the Student Council has been one of the most significant achievements. Creating a positive culture and fostering a sense of community is considered an essential outcome. Another interviewee, working in an administrative role, mentions that the project expanded their interactions beyond their usual office environment. They believe it has provided them with hands-on experience at an international level. Skills gained through the project include improved communication

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and time management. The interviewee had to reorganize and prioritize their tasks to meet project deadlines. One of the department's major achievements was organizing the blended intensive program or summer school, which was their main success within the Erasmus framework. This collaborative effort between departments contributed to their accomplishments. Personal achievements include acquiring organizational and scientific skills, gaining insights into European project management, and understanding the inner workings of such projects at a high level. The interviewees express their pride in successfully getting mobility programs to work and the excitement of building a community within the Student Council through local chapters. They look forward to organizing new summer schools and contributing to the future growth of the project.

One of the interviewees is a civil servant and an engineer who tutors, finding their role in the project challenging yet satisfying. They emphasize the change in their daily job, from developing proposals to managing and coordinating projects. They highlight the significance of skills such as creativity, cooperation, communication, curiosity, and emotional intelligence within the project. The collaborative nature of Neurotech has enabled them to develop and enhance these skills.

For another interviewee, their involvement in the alliance offers a valuable link to neuroscience-related universities across Europe, enriching their professional network and contacts. They believe this will greatly benefit their future career goals. They recognize the project as a valuable opportunity for career advancement and gaining new perspectives, including constructive advice from fellow collaborators. Although they are just beginning, they hope that their involvement will provide them with tools and experience in project management.

The interviewee responsible for communication and international projects at their university sees their involvement as an opportunity to combine international and intercultural aspects. This intercultural atmosphere provides a platform to work with diverse individuals, helping them adapt to different people with common interests. They emphasize the exchange of knowledge and skills within the Neurotech project, highlighting that their colleagues in Neurotech use their expertise to enhance the project. They perceive this as a mutually beneficial process, where they contribute their skills, and the project helps them further develop their abilities. Specific aspects such as website management, content production, and understanding the evaluation of social media tools have been key learning points within the project, providing a valuable skill set.

For some, their participation in the Neurotech project has introduced them to **new techniques, tools, and data analysis skills** that will significantly benefit their future research work. In addition, the collaborative environment of the project enables students to meet others who share their interests, potentially leading to future collaborations and knowledge exchange.

Overall, the interviewees recognize that their involvement in the Neurotech project provides them with a unique blend of skills, experiences, and networks. Even though the project may not be directly related to their academic research, it enriches their careers, enhances their skills, and fosters professional development, making it a valuable and enriching endeavor.

When one interviewee joined the project in August, there were significant challenges that had accumulated during the period of project coordinator vacancy. The absence of a coherent management strategy made project activities complex and inefficient. Over the course of a year, the project has achieved remarkable progress. The most notable achievement has been the establishment of a functional management office. In January 2023, the project welcomed a full-time member dedicated to supporting NeurotechEU. The project's dedication to overcoming obstacles is commendable, given the initial state of disarray and lack of direction.

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The achievements of NeurotechEU, such as **the establishment of a functional management office** and the **successful phase two proposal**, mark substantial progress and underscore the project's potential to reshape the landscape of neurotechnology and education.

From a personal growth perspective, one interviewee highlighted the experiences gained from working with multidisciplinary teams and engaging in international collaborations. These experiences have emphasized the importance of effective communication, adaptability, and patience. They noted that while they may not have acquired new technical skills directly aligned with their background, the ability to collaborate with individuals from different cultural backgrounds and academic disciplines is a valuable lesson.

Table 6: The most important takeaway messages formulated by each stakeholder group related to skills, achievements, added value

PROFESSORS, RESEARCHERS	STAFF MEMBERS	STUDENTS
• Researchers have developed patience and adaptability through their experiences in the project. • The unpredictable nature of human behavior and alliance dynamics has been a significant learning point. • Dealing with unpredictability and challenges in the project has honed these skills. • Researchers have benefited from networking opportunities provided by the project. • Participating in events and meetings has allowed them to meet colleagues from various universities and disciplines. • In-person interactions have facilitated collaboration and the exchange of ideas. • These experiences offer insights into human behavior and the need for more open-mindedness, trust, and collaboration in multidisciplinary projects. • Contributions to the Vision: Participants have actively contributed to the project's vision, especially regarding the establishment of interdisciplinary programs and cooperation between	• Collaborated with partner institutions from different countries, gaining intercultural insights. • Improved project coordination and reached out to other partner institutions for coordination • Significant achievement: The establishment of a functional management office. • Learning about neurotechnology and specific knowledge about universities and assessment. • Acquired insights into academic and European funding schemes. • Improved efficiency in time management. • Gained experience in presenting and better planning activities. • Developed skills in internationalization and intercultural differences. • Notable achievement: The successful Phase Two proposal. • Successful organization of activities such as summer schools with Radboud University.	• Developed communication skills, including presenting to diverse audiences. • Gained competence in EEG basics through participation in the summer school. • Explored the significance of building international connections for future job prospects. • Noted the innovative thinking and project organization learned from participating in the Hackathon. • Organized successful outreach events and facilitated interaction between participants. • Highlighted the value of intercultural exchange and the ability to adapt to different cultures. • Recognized achievement in presenting work confidently. • Emphasized the importance of connecting and creating opportunities for the future • Academic Advancement: The participants mentioned that their academic careers have seen improvements due to their involvement in the project. They anticipate publishing multiple articles and gaining R&D

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academic and administrative staff. Their input has helped shape the direction of the project. • Cultural Awareness: Working with a diverse alliance has allowed participants to gain a better understanding of cultural differences. They've learned how different cultural perspectives can influence communication and interactions, leading to improved cross-cultural collaboration. • Quality Assurance and Research Output: Participants have contributed to critical project deliverables, such as the quality plan and quality assurance activities. Additionally, they have been actively involved in bibliometric analyses and are in the process of submitting a paper to a prestigious journal. • Fulfillment of Milestones: Some participants see the successful organization of a summit or the establishment of a new graduate program as potential milestones for the project's future. These endeavors are seen as significant achievements. • Interdisciplinary Collaborations: The project has encouraged interdisciplinary collaborations between researchers, emphasizing the potential for innovations at the intersection of different disciplines. For example, one participant mentioned the intersection between neurology and industrial engineering,	• A significant milestone: Agreement to acknowledge each other's credits among partner institutions. • Addressing issues related to student exchange and mobility. • Collaborating with Dutch universities and other European alliances to improve student-centric policies. • Highlighted the importance of learning organizational and communication skills. • Values the experience gained in leading a project team and pioneering a European University alliance. • Enhanced project management and coordination skills. • Acknowledged the challenge of balancing project responsibilities. • Emphasized the significance of creating something innovative in the project. • Expressed the need for patience and perseverance. • Acquired valuable public speaking and communication skills. • Felt rewarded by witnessing the growth of a local Neurotech chapter. • Gained intercultural competency through international exposure. • Valuable addition to the CV for academic goals. • Skill development in an intercultural environment. • Gained experience in presenting at international forums. • Quality Assurance: Team members, particularly the Quality Manager, played a crucial role in defining the	experience, which will be beneficial for their academic careers. • Enhanced Interpersonal Skills: One of the most important learnings from the project is the ability to connect with people. The participants have benefited from workshops and meetings designed to foster better communication and understanding among team members. • Research Contributions: Some participants have made substantial contributions to research. They've worked on multiple papers and have actively engaged with other researchers. They have learned new techniques and expanded their knowledge in areas beyond their initial expertise. • The project is expected to have a significant impact on students' future careers. • Neurotechnology is highly relevant to those studying neuroscience, and it will likely shape their careers in the next 5-10 years. • The project exposes them to advancements in AI, technology, and the growing field of artificial intelligence, which will be increasingly important in the future. • Even events such as hackathons have provided opportunities to establish connections and engage with people who can offer support and guidance. • Career Opportunities: Participants believe that the project has opened doors for new career opportunities. They have expanded their professional networks and

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indicating areas for further exploration. • Meeting intelligent young people and engaging in two-way information exchange. • Receiving feedback and gaining new ideas. • Adapting communication to different age groups. • The ability to approach problems from various angles. • The enrichment of work approach and perspective. • The value of the design thinking approach to problem-solving. • Project Involvement: One of the interviewees highlights the involvement of their university. They consider this a significant achievement, even though the project's goals were not fully met. • Educational Impact: The interviewees emphasize the project's impact on the education of neuroscience. While white papers did not bring direct change, the collaborative structure and network-building are crucial milestones. • Academic Expertise: One interviewee integrated their academic experience into the project. They proposed a new technology master's program from their university and hope these proposals contribute to NeurotechEU's overarching goals. • Optimism: The interviewees are optimistic about the future of NeurotechEU, believing it can grow into a full-fledged "Neurotech University." While they acknowledge that their current contributions may not necessarily directly	quality system for the project. They engaged in collaborative efforts to create a quality framework rather than simply implementing an existing system. This required coordination, time management, and knowledge of quality management. • Coordination and Time Management: The Quality Manager was responsible for coordinating various aspects of the project, including timelines, tasks, and deliverables. This involved meticulous planning and adherence to schedules to ensure project success. • Adaptability: Staff members had to adapt from theoretical approaches to practical implementations and find solutions collaboratively. They learned the importance of flexibility and adaptability in complex projects. • Communication Skills: Engaging with colleagues from different universities and backgrounds exposed team members to diverse communication styles and structures. They developed improved communication skills, especially in international contexts. • Learning from Others: Staff members learned from peers at different universities, gaining insights into alternative ways of working and thinking. This exposure contributed to expanding their knowledge and strategies for group thinking. • Thinking Globally: Being part of an international	made valuable connections with professors and researchers across the alliance. Some have also embarked on research mobility and guest research programs at partner institutions, which contribute to their career development. • Educational Insights: In addition to academic gains, participants have deepened their understanding of the European education system. They appreciate the commonalities among different countries and the potential for establishing joint programs that can benefit students. • Focused on engaging in neurotech topics to fully utilize project opportunities. • The importance of self-criticism and communication improvement. • Networking: The students set out to expand their professional networks and connect with interns from different partner universities. This goal was essential for their unique career paths and the opportunity to build diverse connections within the project. • Course Organization: The students ventured into organizing courses, which they found challenging but rewarding. Collaborating with experienced individuals in course planning provided valuable learning experiences. This skill of course organization is seen as highly beneficial and transferable. • Teaching and Collaboration: The students expressed a desire to create classes that engage both students and

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impact their careers, they stress its value to other participants. • Learning Experience: The interviewees share their learning experiences in NeurotechEU, highlighting the importance of integrating information from various sources and adapting to different workstyles. • Social Engagement: Social aspects come into play, with an emphasis on understanding and responding to colleagues' behavior being crucial in such a collaborative project. • Training and Education: The interviewees emphasize the importance of organizing joint training and courses in the project, showing their commitment to advancing education in neuroscience and neurotechnology. • Securing funding for phase two was a significant milestone, with a focus on the project's bottom-up nature and university governance. • Recognition of the project's role in expanding the university's global impact and creating opportunities for change in teaching methods, research, and societal connections. • People's fear and misunderstanding of the term "informatics" has led to the need for explaining it in more accessible terms such as data science in medicine or data science for brain research. • Emphasizing to students the need for data analysis, integration, and collaboration skills in	project encouraged team members to think globally rather than locally in their planning and decision-making. This broader perspective became valuable in their roles. • Achieving Commitments: They successfully fulfilled the commitments defined in the project, meeting its objectives. However, they acknowledge the need for ongoing improvements and refinements in the quality system beyond the project's scope. • Creativity: Staff members discovered their capacity for creativity, particularly in organizing events and courses that would interest others. They took pride in conceptualizing and executing successful initiatives. • Teamwork: Given the collaborative nature of NeurotechEU, teamwork became essential. Team members recognized the importance of effective team organization and cooperation. • Anticipation of continued knowledge expansion in understanding the project's goals and challenges, particularly in the eight dimensions of the project. • Being part of something new within the European university sector is beneficial for the staff member’s career. • Lack of knowledge about activities in other work packages is a challenge. • Colleagues have established a stronger relationship with strat level,	professors. This reflects their aspiration to facilitate effective teaching and foster collaboration within the project, indicating a commitment to education and teamwork. • Communication Skills: Communication was a key area of growth for the students. They sought to overcome shyness and embarrassment when speaking with others, especially through virtual means. This development in communication skills is seen as a significant achievement. • Public Speaking: The students participated in roundtable discussions spontaneously, without prior preparation. This was a challenge, but it allowed them to build confidence in public speaking, even in front of diverse and influential audiences. • Continuous Learning: The students expressed a desire to continue their education and career development. They aim to create more courses, manage budgets, and assist students in their educational journeys, which they consider as potential milestones for their future in NeurotechEU. • Recognizing the need to look beyond the scientific bubble and gaining experiences from different people for career prospects outside academia. • Collaborating with the neuroscience seminar series and other organizations to promote awareness of Neurotech.

addition to domain expertise. • Developing the campus plus platform and leveraging the activities of other neuroscience organizations to increase awareness of Neurotech's existence. • The milestone of putting Neurotech on the map for societies like the Federation of European Societies and the opportunity to expand and integrate the training platform into something useful. • The pride in being tasked with developing the new campus plus platform. • Organizing the First Summer School: Organizing the inaugural summer school within NeurotechEU in Cluj is regarded as a significant accomplishment. This endeavor required collaboration with the Erasmus office, and even though it was the first instance, it is considered a positive achievement.	leading to collaborations and increased visibility. • Someone's involvement in Neurotech has helped establish connections and collaborations with the administrative level at Karolinska Institute. • One interviewee is proud of the team's better structure and increased recognition within their own context. • Achievements include the publication of white papers and the participation of a student in mobility. • Successful submission of applications and involvement in setting up organizations have been achieved. • Implementation of neuroscience education is still in progress, but research collaborations and internal networking have been fruitful. • Learning from Colleagues in Different Universities: Interacting with colleagues from various universities within NeurotechEU allowed the interviewees to gain valuable insights into how universities in different countries operate. This experience was particularly beneficial for understanding time management and organizational skills, such as during their visit to Karolinska. • Navigating Complex University Roles and Legislation: The interviewees recognized the complexities of university roles and legal regulations that vary across different countries. They acknowledged that harmonizing rules and	• Establishing collaborations with companies like PWC and discovering new skills and applications outside of scientific education. • Working on white papers and discussing challenges related to artificial intelligence, machine learning, and virtual platforms like the campus plus. • Gaining insights into university functioning, management, and decision-making processes, providing a policy experience. • Summer School Learning: The students see the project as an opportunity to acquire new knowledge, particularly in techniques they are not yet familiar with. They are eager to learn and plan to apply this newfound knowledge in their future research work.

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	regulations from NeurotechEU with specific university and country regulations can be challenging but is essential for effective cooperation. • Navigating Complex University Roles and Legislation: The interviewees recognized the complexities of university roles and legal regulations that vary across different countries. They acknowledged that harmonizing rules and regulations from NeurotechEU with specific university and country regulations can be challenging but is essential for effective cooperation. • Personal Achievements: Skills gained through the project include improved communication and time management. The interviewee had to reorganize and prioritize their tasks to meet project deadlines. • **Project Management**: One interviewee, a civil servant and engineer, has adapted to a new role involving project management and coordination. They have shifted from proposal development to managing accepted proposals, adding a new dimension to their daily job. • **Skills Development**: The interviewees have honed several valuable skills throughout the project, such as cooperation, teamwork, creativity, communication, curiosity, and emotional intelligence. These skills have been essential in	

	tackling the challenges posed by Neurotech. • **Communication Strategy**: The interviewees have recognized the importance of a well-defined communication strategy, emphasizing the need for one within the project. • **Interdisciplinary Collaboration**: The project has provided a unique opportunity for individuals with varying skill sets to collaborate. They have learned from one another and enhanced their respective skills, highlighting the value of working with people from diverse backgrounds and expertise. • **Website and Social Media Management**: The interviewees have gained experience in managing websites and utilizing social media tools to evaluate their reach and engagement. This newfound knowledge has expanded their skill set. • **International Experience**: The project's international and intercultural atmosphere has offered a valuable learning experience. It has facilitated travel, collaboration, and problem-solving with individuals from diverse cultural backgrounds. • **Relevance to Linguistics**: Despite not directly relating to their field of linguistics, one interviewee sees a connection in terms of linguistic diversity, language policy, and international relations.	

Source: Own editing (2023)

3.7. Local elements - examples to follow

The interviewees from the NeurotechEU project have shared a comprehensive set of local elements and practices that, when adopted by other universities, have the potential to significantly enhance the overall success and impact of similar international collaborations.

These elements offer a comprehensive blueprint for not only enhancing the success of international university collaborations but also enriching the academic experience for students and fostering a sense of community, both locally and globally.

The cornerstone of these elements is the **imperative for improved communication within the university**. The interviewees emphasized the need for a dedicated and competent communication office, possibly funded through project resources. **Effective communication** was viewed as more than just a convenience; it was considered **a strategic necessity**. In a complex international project like NeurotechEU, where multiple institutions, researchers, students, and administrators are involved, efficient and transparent communication is of paramount importance. It is the linchpin that ensures that everyone is aligned with project objectives, deadlines are met, and a sense of unity prevails among all stakeholders. This shared commitment to strong communication underscores the importance of investing in communication channels and strategies that facilitate collaboration, coordinate efforts, and build a common vision.

A critical element that emerged from the interviews is the **active involvement of administrative staff**. The interviewees stressed that administrative personnel who actively participate in project tasks, proactively follow up on activities, and genuinely invest in problem-solving were indispensable for ensuring project efficiency. While administrative staff often work behind the scenes, their role is pivotal in the successful execution of international initiatives. Recognizing and supporting the involvement of these staff members is vital for ensuring that projects like NeurotechEU not only run smoothly but also thrive.

The project's success in **fostering collaboration among different academic departments** within the university is a testament to its significance. The interviewees highlighted that it not only encouraged research collaboration but also promoted academic mobility and networking, ultimately leading to the creation of new cross-disciplinary collaborations. In today's academic landscape, many of the most significant breakthroughs and innovations occur at the intersection of multiple fields. This **collaborative environment is instrumental in breaking down silos** and inspiring scholars from diverse backgrounds to work together towards shared goals. It encourages a culture of knowledge exchange and a dynamic intellectual ecosystem.

Furthermore, the **close collaboration between academics, administrative staff, and students** was highlighted as an essential dynamic. This collaboration bridged gaps and facilitated the smoother implementation of the project. The participants noted the significance of academics working in close partnership with administrative staff and students. This kind of teamwork and integration of efforts creates an environment of active participation and shared responsibility. It fosters a sense of unity and common purpose within the university, making every member of the academic community feel valued and engaged.

In addition to these core elements, the interviewees recognized the importance of offering a diverse array of courses related to neurotechnology. They proposed that other universities could adopt a similar model by expanding their course offerings to encompass various disciplines relevant to neurotechnology. This comprehensive approach provides students with a broader and more holistic education in the field. It equips them with the skills and knowledge necessary to tackle the complex challenges of neurotechnology from a multidisciplinary perspective. It reflects a commitment to producing well-rounded graduates who are equipped to address the complex and multifaceted challenges in the field.

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Lastly, the interviewees highlighted the **success of events such as hackathons and seminars** in promoting knowledge sharing and collaboration. These events not only engage students but also serve as dynamic platforms for the exchange of ideas and the formation of collaborative projects. They represent an incubator for innovation and a catalyst for interdisciplinary collaboration. Such initiatives go beyond traditional classroom learning, fostering a culture of innovation, entrepreneurship, and hands-on problem-solving. They are an essential element in preparing students for the challenges and opportunities of the real world.

In summary, the local elements and practices identified by the interviewees transcend the immediate context of the NeurotechEU project. They offer a **holistic approach to enhancing international university collaborations and enriching the academic experience**. These elements underscore the **critical role of communication**, the often-overlooked but **indispensable contribution of administrative staff**, the **value of cross-disciplinary collaboration**, the **power of teamwork among academics, administrators, and students**, and the **importance of providing a diverse and comprehensive curriculum**. Moreover, they highlight the significance of creating engaging platforms for knowledge exchange and collaboration, **going beyond traditional classroom learning**. By adopting these practices, universities can create a vibrant and inclusive learning environment, fostering a strong sense of community among students and academics, both locally and internationally. Ultimately, these elements serve as a roadmap for the success of ambitious academic initiatives like NeurotechEU, where excellence in education and research can flourish in an atmosphere of collaboration, innovation, and collective responsibility.

Table 7: The most important takeaway messages formulated by each stakeholder group related to local elements – examples to follow

PROFESSORS, RESEARCHERS	STAFF MEMBERS	STUDENTS
• Establishing a clear definition and conceptual framework for "neurotechnology" can be an excellent starting point for collaboration. Defining the dimensions of neurotechnology helps align the efforts of the alliance members. • **Improved Communications**: The interviewees suggested that other universities could benefit from a heightened focus on effective communication. They expressed the need for dedicated and capable staff within the university's communication office. It was noted that hiring personnel, possibly through project funds, to enhance communication efforts could be a valuable addition. • **Engaged Administrative Staff**: The participants	• Having a team that is entirely dedicated to the NeurotechEU project helps create clarity within the institution. This approach ensures that there are clear points of contact for project-related inquiries, and roles and responsibilities are well-defined. • Encouraging cross-disciplinary collaboration and learning from different academic backgrounds helps in broadening perspectives. • Promoting transparency, idea exchange, and discussions around project content are crucial for success. Fostering an environment where people gather to exchange ideas can lead to meaningful innovation and progress. Student participation was well-supported by their university, and the successful collaboration in an	• Leveraging the expertise of local institutions and teams, especially if they have a strong regional presence, can be a valuable asset in advancing the project's goals. • Having a strong local presence with many labs and principal investigators (PIs) involved in the project can facilitate communication and engagement. • **Hackathons and Seminars**: The participants mentioned that organizing events like hackathons and seminars related to neurotechnology was beneficial. They recommended that other universities consider hosting similar events to engage students and the academic community, facilitating knowledge sharing and fostering collaborative projects.

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emphasized the significance of having administrative staff that are actively involved in the project, are proactive in following up on tasks, and are dedicated to problem-solving. Administrative staff members who understand the project's goals and are invested in its success were seen as vital contributors.

- **Incentives for Collaboration**: The project was seen as an excellent incentive for fostering collaboration across departments within the university. Beyond research, the interviewees noted that mobility and networking opportunities led to new collaborations. They suggested that the creation of such incentives within universities can naturally encourage synergy and interdisciplinary cooperation.
- **Collaboration Between Academics and Admin**: The participants underscored the importance of academics working closely with administrative staff and students. This collaborative approach helped bridge the gap between these groups and facilitated a smoother and more efficient project implementation.
- **Diverse Course Offerings**: One of the local elements identified was the extensive list of courses related to neurotechnology and neuroscience offered by the university. They suggested that other institutions could follow suit by expanding their course offerings to cover a wide range of disciplines relevant to neurotechnology. This diverse course selection

international environment to develop a new system has improved the university.

- **Online Training Tools:** The project introduced online training tools that allowed students to access courses and workshops at their own pace, independently of specific dates. These tools covered various topics, from using specific software tools to negotiation strategies.
- **Methods in Neuroscience:** Each partner university contributed its unique expertise in the field of neuroscience. This encompassed specialized methods and approaches. By identifying and sharing these areas of excellence, universities can enrich the learning experience for their students and help them gain expertise in specific aspects of neuroscience.
- **German Language Courses:** The University of Bonn offered German language courses for international students, both during the semester and through intensive in-person courses. Scholarships were provided to NeurotechEU students attending these courses, allowing them to enhance their language skills.
- **Local Exchange and Outreach Events:** The project placed great emphasis on local exchanges and outreach events. These initiatives helped connect students with their local communities and allowed for face-to-face interactions with the general public. Hosting events where NeurotechEU students could inform the community about the project's

- **German Language Courses:** The University of Bonn offered German language courses for international students, both during the semester and through intensive in-person courses. Scholarships were provided to NeurotechEU students attending these courses, allowing them to enhance their language skills.
- **Sharing Classes and Labs**: The interviewees stressed the importance of opening up classes to students from other universities. They saw this as a way to encourage knowledge exchange and expand the educational experience. Additionally, they highlighted the value of exceptional laboratories within their universities and suggested that other institutions explore opportunities for internships and collaborations, especially for postdoctoral researchers.
- The strong emphasis on student engagement and valuing the student voice at Karolinska Institute (KI).
- The absence of a big hierarchy in Sweden and at KI, promoting a sense of equality and openness for communication.
- The ongoing hackathon and the importance of having both academic and administrative staff participating in physical meetings for effective collaboration.
- The positive approach of KI towards the police project and the suggestion to implement it with other funding universities as well.
- The desire for active deliberation and feedback-seeking from students and

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can provide students with a more comprehensive education. • Participating in festivals and bringing science to the public is an effective approach to make scientific projects more transparent and engage with the community. • This kind of dissemination, beyond traditional means like writing blog posts, is highly recommended to other project participants and universities. • Active Student Involvement: The researchers appreciate the active participation of students from the project's inception. They acknowledge the significant contributions made by students and attribute much of their local achievements to this involvement. This practice of engaging students early on could be considered a best practice, emphasizing the importance of including students as integral parts of the project. • Student Integration and Perception: While students have been actively engaged, there is room for improvement in ensuring that they feel like an essential and relevant part of the project. The researchers highlight the importance of students' perception of their role within NeurotechEU, emphasizing that students should feel that their contributions are valued. Improving student integration can lead to a more cohesive and fruitful collaboration within the project. • Curriculum Development: The mention of a proposal for a Neurotechnology master's program and the related study on integrating relevant	goals and the significance of neuroscience is an excellent approach to foster community engagement and support. • **International Student Integration:** The project encouraged integration events where international students could meet and engage with each other. These events helped create a sense of belonging, fostered friendships, and enriched the international experience for participants. • **Promotion at Local Fairs:** The University of Bonn engaged in local fairs to promote NeurotechEU to people who were not yet familiar with the project. This direct interaction allowed them to answer questions and raise awareness about the project's objectives. • Expertise in Quality Systems: The team emphasizes their university's extensive experience in quality systems, which includes quality recommendations, systems, and protocols. This expertise can be a valuable asset for the project, promoting quality assurance and best practices. • Cross-disciplinary Collaboration: The team also highlights their institution's involvement in various fields, including gender equality, disability services, neuroscience, and robotics. Their ability to contribute insights and experiences from these diverse areas can enrich the project by fostering cross-disciplinary collaboration. • Strong Partnerships: The team mentions their close collaboration with associated partners, particularly a local	senior management in order to contribute effectively to Neurotech and related initiatives. • **Effective Communication Workshops**: The communication workshop held in Cluj was highly appreciated for its well-thought-out approach and open, honest dialogue. It focused on discussions about the future of the project, aiming to avoid repetitive meetings and improve productivity. Implementing similar workshop styles in other sections of NeurotechEU is suggested to make progress more effective. • **Student Signups Group**: The interviewee mentioned that they are in the process of creating a student signups group for the university. This group aims to organize social and scientific events around neuroscience. While this initiative is still in progress, it's a local element that can be implemented in other universities as well, particularly if they don't have a similar group.

subjects into the neuroscience curriculum indicates a commitment to aligning academic offerings with project objectives. This proactive approach to curriculum development could inspire other institutions to explore similar initiatives, enriching their educational programs. • An inspirational talk by colleagues from the Education Support Office about digital ambassadors and their development. • Discussions regarding the potential collaboration of digital ambassadors with Neurotech. • Involvement in a professional development course for administrative staff in internationalization and cultural awareness, developed in tandem with the Philippines. • The importance of measuring success and using surveys to assess participant satisfaction and gather feedback for improvement. • Appreciation for the Swedish model of student engagement and the need for increased student involvement in decision-making processes. • Acknowledgment of the significance of the Equality, Diversity, and Inclusion (EDI) division's involvement in Neurotech and	office of the European Commission specializing in patents. This partnership has provided opportunities for training and knowledge exchange, which could be replicated or expanded in the project's context. • Adaptive Work Methods: One team member acknowledges that different institutions work in various ways, making it challenging to assert that their methods are superior. Instead, they emphasize the importance of adapting and learning from each other's approaches to achieve project goals effectively. • Emphasis on Metrics and Measurement: While the team member personally doesn't use metrics extensively, they acknowledge that some colleagues in the international department are structured in tracking and measuring project progress. This focus on metrics can provide valuable insights into project performance and impact. • Summer Schools and Courses: The mention of offering summer schools and courses provides opportunities for international interaction and knowledge exchange among different countries and universities. This initiative can foster collaboration and expand the project's reach. • **Promoting Multicultural and Translational Skills**: The practice of developing multicultural and translational skills within Erasmus BIP was successful. A workshop on Romanian culture, including basic language conversations and a lecture on language history and heritage, helped	

	participants get to know each other better, especially when they were not familiar with one another before. • **International Relations Expertise**: The University of Lille excels in organizing Erasmus Mundus master's degree programs. They have 10 such programs, which is a significant number in Europe. This experience in organizing multi-university and multi-country master's programs could be a valuable element to share with other universities. It's a local strength that can benefit the wider academic community. • **Neuro-Metaphysics Dimension**: The project at the University of Lille is based on the neuro-metaphysics dimension. This unique perspective can be shared and incorporated into research and academic activities at other universities, providing a fresh approach to neuroscience studies.	

Source: Own editing (2023)

3.8. The project's contribution to the future of neuroscience and neurotechnology

The NeurotechEU project is poised to enact a substantial transformation in the landscape of neuroscience and neurotechnology research. Its collaborative approach, which draws together expertise and resources from multiple universities and partners across Europe, has the potential to revolutionize the way neurotechnology is explored and applied. The project's inclusive ethos acknowledges that no single university or institution can comprehensively cover all the multifaceted areas of neurotechnology. By fostering inter-European collaboration, NeurotechEU addresses the diverse challenges inherent in this field.

One of the central tenets of the project is the pivotal role played by its **graduate programs**. These programs are not only intended to impart knowledge but also to facilitate active engagement among students from various institutions. This interaction is anticipated to be the catalyst for interdisciplinary collaboration, building a strong foundation for the future of neurotechnology.

In addition, the project places significant emphasis on **organizing various events such as summer schools and scientific seminars**. These events serve as vital platforms for connecting academics, researchers, and students, fostering the exchange of ideas and knowledge. Such interactions are

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indispensable in cultivating a culture of collaboration and knowledge sharing among scientists, further accelerating advancements in the field of neurotechnology.

At a broader scale, the **NeurotechEU project is seen as a driving force in reshaping the field of neurotechnology in Europe**. The involvement of multiple universities ensures a broad spectrum of perspectives and expertise is considered. This diversity is especially crucial, given the nuanced challenges that different countries may encounter in the realm of neurotechnology. The project has led to an expanded definition of neurotechnology, which now encompasses brain-related studies, brain-inspired technologies, neural computing, and even philosophical explorations. This broader vision implies that the field of neurotechnology is dynamic and adaptable, capable of evolving and incorporating various approaches and interdisciplinary contributions.

The impact of NeurotechEU is not limited to its overarching goals; it has already brought about substantial changes within its member universities. The project has facilitated **collaborations between academia and industry**, **fostering innovation in neurotechnological practices and attracting significant grants and projects**. These collaborations might not have been achievable without the alliance's formation. Looking ahead, the researchers anticipate that well-trained individuals, novel projects, and innovative technologies will emerge as a direct result of the project's activities. The **synergy between academia and industry** is expected to generate new products and solutions, significantly impacting human health and well-being.

From a societal perspective, the application of neurotechnology is poised to become increasingly pervasive. Smart technologies, brain-computer interfaces, and neural computing are predicted to play a more prominent role in various aspects of life, from healthcare and mobility to communication and daily tasks. Ultimately, the NeurotechEU project, along with the field of neurotechnology as a whole, is viewed as a catalyst for a brighter and more interconnected future. The potential for these innovations to contribute to sustainable development goals, improve human well-being, promote social inclusiveness, and support environmental sustainability is central to the project's mission. Neurotechnology, through initiatives like NeurotechEU, is seen as a driving force that will change how humans live and interact with technology, with the potential to positively impact the world.

In summary, the NeurotechEU project is poised to revolutionize neuroscience and neurotechnology through its collaborative, interdisciplinary, and inclusive approach. Its impact is not limited to research and education but extends to innovation, industry collaboration, and broader societal transformation. The project holds the promise of reshaping the future of neurotechnology and its applications, ultimately contributing to a brighter and more connected world.

Table 8: The most important takeaway messages related to the projct's contribution to the future of neuroscience

PROFESSORS, RESEARCHERS	STAFF MEMBERS	STUDENTS
• Content Development and Roadmapping: The project will continue to bring together experts to develop comprehensive roadmaps for research and education in the field of neurotechnology. These roadmaps will help guide future investments in neuroscience and neurotechnology by both the	• Expansion of Participation: The staff members express a desire for more universities to join NeurotechEU. This expansion allows for greater participation and collaboration among institutions. • Enhanced Learning Opportunities: They highlight the importance of NeurotechEU in	• Enhanced Learning Opportunities: The students believe that access to different techniques and infrastructure depends on the university you attend, leading to varying learning experiences. • Opportunity for Collaboration: NeurotechEU provides a platform for individuals with

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European Commission and national funders. By defining the direction of the field and highlighting its key priorities, the project will shape the future of research and education. • Education Reform: NeurotechEU recognizes the need for a transformation in university-based education systems. The project aims to provide examples of innovative and effective cross-disciplinary training approaches. This reform involves rethinking higher education as a lifelong learning experience, rather than a static, time-bound endeavor. This change will empower individuals to reinvent themselves multiple times throughout their careers, aligning with the evolving demands of the job market. • Impact on Healthcare: The collaboration within NeurotechEU, such as in clinical neurophysiology, has the potential to disrupt and significantly enhance healthcare. The current healthcare systems are under considerable strain, and neurotechnology can provide solutions to strengthen and improve patient care, particularly in the realm of brain health. By harnessing the collective expertise within the Alliance, the project can drive advancements in healthcare and medical systems. • **Collaborative and Interdisciplinary Nature**: The project's collaborative and interdisciplinary approach is essential for advancing neurotechnology as no single	complementing the learning packages for prospective students. This inclusion provides students with more opportunities to move around Europe and gain diverse educational experiences. • Political Neutrality: The staff members emphasize the project's apolitical nature, highlighting the importance of separating politics from the initiative. They stress the need for collaboration despite potential political challenges. • Promising Future: They find the project to be very interesting and foresee a promising future in the field. They acknowledge the exponential growth of artificial intelligence and its impact across various sectors, including medical studies, education, and government. • Quality of Life Improvement: They express their hope that research in artificial intelligence, facilitated by NeurotechEU, will ultimately enhance the quality of life for people. They emphasize the need to view artificial intelligence as a tool rather than a risk or threat. • Technological Advancements: They see NeurotechEU as closely tied to the development of artificial intelligence, quantum computing, and the increasing computational power of supercomputers. They anticipate a significant explosion of knowledge and advancements, particularly in the field of neurotechnology. • **Innovative Rehabilitation and Diagnosis**: They highlighted the potential for gaining knowledge about brain functions, using	diverse expertise and backgrounds to collaborate. It allows them to share knowledge, meet people with different skills and techniques, and form collaborations. • Interdisciplinary Collaboration: The project encourages collaboration between individuals from different fields, such as performance engineering and neuroscience. This interdisciplinary approach fosters innovation and creativity. • Utilization of Advanced Equipment: NeurotechEU allows students to access advanced equipment like fMRI or automation tools, which may not be readily available at their home universities. • Equalizing Opportunities: It seeks to address disparities in infrastructure and knowledge across universities, ensuring that students have equitable access to resources.

university can cover all aspects comprehensively. • **Transformation in Neuroscience Research**: Researchers anticipate a significant transformation in how neuroscience research is conducted, driven by inter-European collaboration. • **Graduate Programs and Next-Generation Scientists**: The project's graduate programs are expected to nurture the next generation of scientists who will engage with peers from different institutions, stimulating interdisciplinary collaboration. • **Academic Events**: Organizing events such as summer schools and scientific seminars is seen as integral to fostering collaboration among researchers. • **Reshaping Neurotechnology in Europe**: The project is expected to reshape the field of neurotechnology in Europe, ensuring diverse perspectives and expertise are considered. • **Expanded Definition of Neurotechnology**: The definition of neurotechnology has expanded to encompass brain-inspired technologies, neural computing, and philosophical explorations. • **Local Impact and Collaboration**: NeurotechEU has already facilitated valuable partnerships between academia and industry, attracting substantial grants and projects. • **Innovation and New Products**: Well-trained individuals and collaboration between academia and industry are expected to yield innovative technologies and	technology to diagnose and rehabilitate individuals more effectively. This approach could potentially result in innovative methods for treating and supporting people following brain injuries or disorders.	

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new products, impacting human health and well-being. • **Pervasiveness of Neurotechnology**: The application of neurotechnology in everyday life is predicted to become more pervasive, influencing healthcare, mobility, communication, and daily tasks. • **Catalyst for Change**: NeurotechEU is viewed as a catalyst for change, improving human well-being, supporting social inclusiveness, and promoting environmental sustainability. • Accelerate the integration of neuroscience knowledge into technology: They anticipate that the transition to neurotechnology will outpace its integration into healthcare systems due to fewer regulatory obstacles. NeurotechEU's objectives include fostering a common language between technologists and neurobiologists, addressing ethical concerns surrounding neurotechnology, and monitoring its responsible use, especially as the field becomes dominated by companies. • Optimistic vision: Despite the challenges and the project's long-term nature, the researchers are optimistic about NeurotechEU's potential. They hope to establish a genuine Neurotechnology University with opportunities for master's and graduate degrees in the future. They emphasize the importance of neurotechnology in society, particularly in fields like brain-computer interfaces, which		

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have applications in rehabilitation, assistance for people with motor disabilities, and even entertainment. • The researchers acknowledge the diversity of backgrounds within the alliance, with some members specializing in neurotechnology and others in neuroscience. They view this diversity as an asset and stress the importance of collaboration, complementarity, and the willingness to share knowledge to remain competitive in the field. • **Improved Quality of Life**: They expressed hope that the collaborative efforts within NeurotechEU would contribute to improving the quality of life for individuals with neurological challenges. This impact was expected to span across all age groups, from children to the elderly, with the belief that addressing such challenges required interdisciplinary collaboration and international cooperation. • **Technology as a Solution**: The interviewees emphasized the critical role of technology in addressing social and medical challenges. They anticipated that technological advancements would be pivotal in finding solutions to complex issues. Furthermore, they acknowledged the increasing importance of technology in addressing such challenges as advancements in technology continue. • **Strengthening Research Infrastructure**: From a local perspective, they saw NeurotechEU as an opportunity for smaller universities like Reykjavik		

University to strengthen their research infrastructure related to neuroscience. It was viewed as a way to invest in scientific capabilities and expand their contributions to the field. • **Openness to Learning**: They acknowledged the potential for personal growth and learning by participating in NeurotechEU. They welcomed the opportunity to collaborate with individuals from diverse backgrounds and expand their knowledge. The idea of joint courses that can move between universities and flexible educational modules was particularly appealing, enhancing their skills and broadening their horizons. • **World-Leading Potential**: While they believed that NeurotechEU had the potential to become world-leading in the field of neurotechnology, they acknowledged that only time would reveal the extent of its impact. They emphasized the need for innovative thinking and a bottom-up approach to support the project's goals.		

Source: Own editing (2023)

3.9. Measuring success

Researchers, professors, staff members and students in the NeurotechEU project are considering various key factors for measuring its success. While **concrete metrics have not yet been initiated**, their perspectives shed light on different dimensions of success evaluation within the project.

First and foremost, they view **mobility and the development of relationships** as significant factors in gauging success. However, they recognize that assessing the success of Phase 1 based solely on mobility can be challenging due to the somewhat intangible nature of the relationships that are still in the process of forming.

In terms of education, success is envisioned through the **number of students who graduate from the program** and their subsequent contributions to the field. This may involve achievements such as patents,

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participation in research projects, and the initiation of new scientific endeavors, all of which will serve as metrics of success.

The researchers also emphasize the importance of the project as an **incubator for new initiatives**. The success of the project will be evaluated by the number and impact of these innovative initiatives.

Moreover, they place considerable importance on softer achievements, such as establishing a clear vision for future interdisciplinary and transdisciplinary programs. While these might be more challenging to quantify, they are viewed as crucial indicators of success.

Additionally, researchers highlight the significance of project deliverables as a key performance indicator. The quality and timely submission of these deliverables are expected to reflect the success of the project.

A primary success indicator for Phase 1 is the creation of a joint graduate program for master's and PhD students. This entails preparing courses, offering them across partner universities, and ultimately awarding joint or double degrees, which is deemed as a pivotal accomplishment.

Beyond education, researchers are also outlining **research objectives**, including **academic publications, presentations**, and the fulfillment of various work packages. Success is measured by the timely submission of deliverables, an increase in the number of students and academic staff actively participating in the project, and the growth in the number of mobilities. In addition, success is also assessed through surveys, which help evaluate the effectiveness of events and identify areas for improvement.

The participants in the NeurotechEU project have acknowledged the challenges in measuring success within the initiative. They admit to the absence of concrete metrics for evaluating outcomes, attributing this to the project's ongoing nature and the evolving nature of its objectives. In their discussions, they describe their evaluation process as primarily qualitative, indicating that although they have numerous metrics, they anticipate having fewer quantitative measures to assess success.

The concept of time sensitivity is a crucial aspect of their approach to evaluating success. They emphasize the necessity of measuring outcomes at various timescales. They discuss the idea of monitoring students' progress over several years, tracking their success in achieving specific academic milestones, such as obtaining international PhDs, publishing research papers, or reaching other academic achievements.

Additionally, the participants stress that **success is closely linked to collaboration and research publications**. They note that successful outcomes may manifest in institutions or research groups that were previously not collaborating now working together and producing research papers.

Acknowledging that some of the initial project milestones were overly ambitious, the participants recognize that difficulties in achieving these goals may be due to the complexity of the tasks rather than a lack of effort. They highlight the need for a professional analysis of project achievements and challenges.

While they admit not being experts in this area, the participants suggest the possibility of **using surveys or gathering opinions from project participants to measure impact and success**. They believe that shorter, more concise surveys may yield more accurate responses, as extensive surveys tend to deter participants from providing accurate feedback.

Success is also defined by the ability to **create new interdisciplinary and international collaborations among partner universities** based in different parts of Europe. By fostering these collaborations, the project enables students to receive education and training in neuroscience from multiple European sites, offering a unique and successful educational experience. The project's impact is expected to be realized across these benchmarks and evaluated based on their achievement.

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In summary, the participants are actively working on **developing concrete success metrics for the NeurotechEU** project. They emphasize the importance of assessing outcomes at different timescales and underscore the significance of collaboration, research publications, and professional analysis in evaluating success.

Table 9: The most important takeaway messages formulated by each stakeholder group related to measuring success

PROFESSORS, RESEARCHERS	STAFF MEMBERS
• **Short-term benchmarks** include the project's ability to facilitate mobility, such as sending students to different events and exchanges between partner institutions, which aligns with the European Commission's emphasis on mobility. • **Mid-term benchmarks** focus on the development of shared training programs, especially new master's programs and integrated Pan-European graduate programs. • **Long-term benchmarks** encompass the broader implications of these programs, impacting bachelor-level education, post-academic training, and the transition to a lifelong learning perspective, reshaping higher education in Europe. • The number of graduates with a joint diploma in biomedical engineering, the completion of theses and doctoral dissertations that can directly contribute to technology development. • Success is challenging to quantify and often subjective. • **Mobility and Building Relations**: Mobility and relationship-building are considered important success factors, but they acknowledge that evaluating Phase 1's success based solely on mobility can be challenging due to the soft nature of newly formed relations. • **Measuring Success in Education**: Success in education is anticipated to be measured through the number of students graduating from the program and their subsequent impact on the field, which may include patents, research projects, and new scientific endeavors. • **Incubating New Projects**: NeurotechEU is expected to serve as an incubator for new projects, leading to scientific innovations. The success of the project will be evaluated	• Success within the project is measured by achieving set goals and helping other work packages (WPs) develop ways to measure overall project success. • The implementation of a quality assurance system for various project activities, starting with the summer university, is seen as a positive indicator of success. • Success in financial aspects is measured by milestones such as gaining full approval from the EU auditor for the financial settlement. • Additionally, partial successes, like coordinating event costs and supporting document • Surveys • An increase in the number of students and academic staff actively participating in the project (e.g., joining the Student Council), • The growth in the number of mobilities • Indicators for Evaluating Outcomes: They recognize the need for indicators to evaluate project outcomes. While they have some indicators in place, they acknowledge that there is room for improvement. These indicators are used to assess whether project objectives have been achieved or not. • Qualitative Approach: The evaluation process mentioned in the "meet report" is described as qualitative. This suggests that the assessment involves subjective judgment rather than purely quantitative metrics. • Limited Quantitative Metrics: They anticipate that there may not be a multitude of quantitative metrics to measure success. This indicates that success may be challenging to quantify in some aspects of the project. • Analysis of Outcomes: They emphasize the importance of conducting a thorough analysis of project outcomes, particularly in

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based on the number and impact of these new initiatives.

- **Soft Achievements**: Researchers emphasize the importance of softer achievements, such as creating a clear vision for interdisciplinary and transdisciplinary programs for the future. These may be more challenging to measure but are vital indicators of success.
- **Deliverables**: A key performance indicator is the quality and preparation of project deliverables. Researchers stress the importance of submitting these deliverables on time and with high quality.
- **Joint Graduate Program**: The most significant indicator of success in Phase 1 is the creation of a joint graduate program for master's and PhD students. Preparing courses, offering them to students across partner universities, and ultimately awarding joint or double degrees are critical aspects of success.
- **Research Objectives**: Beyond education, researchers are also setting research objectives that involve academic publications, presentations, and the fulfillment of work packages.
- Different Timescales: Success is seen as something that can be measured at different timescales. They discuss the possibility of tracking the progress of students and participants over time, ranging from several years for international PhDs to shorter periods for collaborative research and grant applications.
- Labeling and Follow-Up: One approach to measuring success is by creating a "stamp of Neurotech student" and following the progress of individuals who have gone through the project's programs. This tracking could extend to various levels of education and research achievements.
- Collaboration and Research Outputs: Success can also be gauged by examining collaboration and research outputs. If institutions or research groups that previously did not collaborate start working together and produce research papers or apply for grants as a result of the project, it would be considered a positive outcome.
- Challenges in Metrics: Some interviewee express challenges in defining concrete the final report. This analysis is expected to provide insights into the project's achievements.
- Tools and Systems: Mention is made of tools and systems, such as those related to the monitoring process, which are essential for evaluating success. These tools are considered useful, even if they are not perfect.
- Surveys and Public Opinion: They consider the possibility of using surveys to gauge public opinion and measure impact. However, they note that surveys, especially for students, should be concise and focused to encourage participation.
- Online Surveys: Online surveys are preferred over traditional interviews for gathering opinions and feedback from participants.
- **Research Publications:** Tracking the number of publications resulting from collaborative research efforts is essential for evaluating research impact.
- **Innovative Treatments and Programs:** Success may also be measured by the development of new treatments or programs with real-world applications.

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metrics to evaluate the project's success, particularly in terms of education and enrollment metrics. • Professional Analysis: One researcher is mentioned as being proficient in defining parameters for measuring success and conducting professional analyses of achievements and challenges. • Ambitious Goals: Acknowledgment is made that certain project milestones, especially those set initially, may have been overly ambitious. It is recognized that not achieving these goals might be due to their complexity rather than a lack of effort. • **and Expertise:** Metrics include the number of co-published papers and the extent of collaborative research efforts across institutions. • **Teaching Opportunities:** Success can be measured by the frequency of guest lectures at partner universities and the establishment of guest professorships. • **Student and PhD Student Mobility:** Metrics will evaluate the level of participation and engagement of students in courses offered by partner universities. • **Reaching Phase Two Goals:** Attaining Phase Two of the project is seen as an important milestone, with specific targets for mobility and cross-university course participation serving as tangible metrics.	

Source: Own editing (2023)

3.10. Challenges, unexpected experiences

During the course of the NeurotechEU project, participants encountered **numerous challenges and surprising elements** that significantly shaped the project's trajectory. These experiences provided insights into the dynamic nature of a large-scale collaborative initiative and the complexities that come with it.

One of the significant challenges faced by the participants was the **complex issue of communication and the flow of information within the project**. Given the diverse nature of the alliance, comprising multiple universities from different countries, ensuring that all members were well-informed and aligned with the project's objectives proved to be a substantial challenge. Understanding the intricacies of a multifaceted project such as NeurotechEU and **clarifying individual roles** was particularly daunting, especially during the project's initial phases. Participants often found themselves grappling with the complexity of the project's scope and the expectations placed upon them. These challenges occasionally led to moments of confusion and frustration, underlining the critical role of effective communication in collaborative projects.

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A striking revelation for the participants was **the abstract and expansive nature of neurotechnology**. Many interviewees initially had a narrower perspective of the field, but they discovered that neurotechnology transcended traditional boundaries. It incorporated a wide array of disciplines and perspectives, transforming the participants' understanding of the subject matter. This realization challenged them to adapt to the multidisciplinary nature of the project.

The **profound multidisciplinarity** within the project was both fascinating and challenging. Observing the convergence of various academic disciplines within the realm of neurotechnology was enlightening, but it also highlighted the need for participants to familiarize themselves with diverse areas of expertise. **Bridging the gaps** between these disciplines to facilitate collaboration was an ongoing process and a substantial learning curve for the participants.

Cultural differences within the international alliance brought about their own set of unexpected challenges. The project's composition, with participants from diverse cultural backgrounds, led to variations in how team members approached tasks and projects. These differences occasionally resulted in misunderstandings and **differences in working styles**. Building mutual understanding and effective collaboration across cultural boundaries became an essential aspect of the project.

Unforeseen delays during the project's initial phases presented a significant challenge. Changes in key personnel and project management were largely unanticipated and led to disruptions in the project's timeline and objectives. Navigating these delays required patience, adaptability, and strategic adjustments on the part of the participants.

Understanding and contributing to a diverse and evolving field like neurotechnology posed a steep learning curve for some participants. The need to familiarize themselves with new terminology, tools, and techniques made the project a continuous learning experience. Participants had to embrace a growth mindset and actively seek opportunities for learning and skill development.

Setting up laboratories for practical work was another challenge. Researchers had to acquire specific datasets and establish the necessary infrastructure for their studies, which involved a considerable amount of effort. This process, while challenging, was crucial for the project's success and fostered a spirit of resourcefulness among the participants.

The project exposed a **disparity in expertise** within the alliance. Different members possessed varying levels of knowledge in the field of neurotechnology, highlighting the need to bridge gaps between experts and those less familiar with specific tools and technologies. Collaborative efforts were essential to leverage the collective knowledge and skills of the alliance effectively.

Leadership changes also introduced a layer of complexity into the project. The transition from one leadership style to another required participants to adapt swiftly to the new direction and evolving priorities. Coping with these changes and reconciling different approaches to leadership necessitated a high degree of flexibility on the participants' part. A change in the project's management office introduced an unexpected layer of complexity. This transition required participants **to adapt to new leadership and strategies**. The project's management office plays a pivotal role in guiding the project, and changes in this office had implications for the project's overall direction.

The project's **decision-making process**, particularly regarding critical aspects such as project websites and desired outcomes, was occasionally perceived as slow. **Achieving consensus** among diverse participants, each with their unique perspectives and priorities, presented its own set of challenges. Nonetheless, it was a necessary and intrinsic part of the collaborative process.

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Despite these challenges and surprises, the participants in the NeurotechEU project continue to navigate the dynamic journey with determination. They remain dedicated to their work, continuously learning, and adapting as they go. Their shared commitment to advancing the field of neurotechnology serves as a driving force, propelling the project forward. The experiences and lessons learned from these challenges and surprises contribute to the project's growth and evolution, reinforcing the participants' resolve to overcome obstacles and achieve their ambitious goals. The ongoing journey of the NeurotechEU project is a testament to the resilience and adaptability of its participants in the face of complex and unexpected challenges.

To address these challenges, the project has implemented initiatives such as a hybrid management model, taking proactive measures to solve issues, and fostering open discussions to ensure a smoother transition into the next phase.

Table 10: The most important takeaway messages formulated by each stakeholder group related to challenges, surprising things

PROFESSORS, RESEARCHERS	STAFF MEMBERS	STUDENTS
• Clarity of Objectives: Partners had different expectations and goals for the project, which created confusion and misalignment. • Leadership Model: Shifting from a bottom-up approach to a more inclusive yet top-down approach raised questions about the management model. • Abstract Nature of Work: Addressing inclusion and diversity, which can be abstract and continuously evolving, posed challenges in motivating participants and defining concrete objectives. • Communication and Information Flow: Understanding the project's goals and their individual roles within the alliance proved to be a significant challenge, particularly in the early stages. Many participants found it challenging to grasp the scope and expectations of their contributions. • Leadership Changes: The project underwent leadership changes, which introduced a fresh set of challenges.	• Diversity and Collaboration: Working with partners from diverse backgrounds and different organizational cultures posed a significant challenge. Academic and administrative roles mixed, causing misunderstandings. Collaboration was more challenging than expected. • Mobility: Encouraging students to embrace mobility, despite the exciting opportunities offered, turned out to be surprisingly difficult. The number of students participating in mobility programs remained low. • Change in Leadership: A significant change in project leadership presented challenges as different leadership styles led to varying reactions and expectations among the partners. • Communication Platforms: The absence of a unified communication platform for efficient and real-time communication was a challenge. Partners struggled to maintain effective communication due to the lack of a central platform.	• The difficulty of cooperation. • Not clear picture about the whole project. • Learning Curve: For some participants, delving into the field of neurotechnology represented a substantial learning curve. The challenge lay in understanding and contributing to this diverse and evolving field. • Setting Up Labs: In some cases, practical challenges arose, such as setting up laboratories or acquiring specific datasets required for research projects. These operational difficulties added to the learning process. • Mismatched Expertise: Different project members had varied expertise levels in neurotechnology. Bridging the gap between experts and those less familiar with specific tools and technologies presented a challenge. • Change in Management: A transition in the project management office was unexpected, requiring participants to adapt to new leadership and strategies.

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Adjusting to new leadership and priorities brought further complexities to the project. • Abstract Nature of Neurotechnology: Some researchers were surprised by the vastness of neurotechnology. They discovered that neurotechnology encompasses numerous aspects beyond the traditional understanding of neuroscience, leading to a broader perspective. • Multidisciplinarity: The project's multidisciplinary nature revealed the merging of various disciplines, which was both challenging and intriguing. Participants had to familiarize themselves with different areas of expertise. • Cultural Differences: The international composition of the alliance highlighted some cultural differences in how participants approached the project. This created misunderstandings and added complexity to collaborations. • Delays in Progress: The project faced delays in its initial stages, and significant time was lost due to key personnel changes. These disruptions were unexpected and posed challenges. • Expected Administrative Challenges: The participants anticipated administrative challenges when establishing a joint graduate school between universities from different countries. These challenges stemmed from differing national laws and regulations governing studies, making it difficult to create a unified program. • Positive Surprise - Collaboration Enthusiasm: A	• Well-planned and tight schedules set from the beginning, which could be considered a pleasant surprise. • An unrefined flow of information where it wasn't always clear where information originated and where it should be directed. • Time Management: Balancing project commitments with academic responsibilities and meetings posed a continual challenge. Prioritizing and effective time management strategies were crucial. • Organizational Complexity: Understanding the intricate workings of NeurotechEU, especially in its early stages, was a challenge. Participants grappled with the organizational processes and how various elements converged to achieve project objectives. • Slow Pace of Change: Participants were surprised by the gradual pace of change within a large organization like NeurotechEU. This emphasized the need for patience and adaptability in such innovative initiatives. • Pandemic-Related Challenges: The COVID-19 pandemic posed a significant challenge, leading to substantial changes in project dynamics and necessitating a complete overhaul of established plans. • Adaptation and Rebuilding: Team members had to adapt to the rapidly changing circumstances caused by the pandemic. They were required to find innovative solutions and rebuild their strategies to align with the new reality.	• Slower Decision-Making: The consensus-building process led to what some perceived as slow decision-making, especially regarding critical aspects like project websites and outcomes. • Awareness Levels: The low awareness of NeurotechEU among the student and academic community was unexpected. Many peers and seniors had limited knowledge of the project, emphasizing the importance of increasing awareness. • Event Management: Managing attendance at numerous meetings and events proved to be a logistical challenge. Participants started implementing organizational tools, such as calendar systems, to stay organized. • **Late Entry:** Joining the project later posed a significant challenge in terms of getting up to speed with the ongoing activities and establishing a clear overview. • **Stressful Phase One:** Some participants were surprised by the high stress levels and intensity of activities during Phase One, particularly due to their late entry. • **Resistance to Change:** Changing established processes and perspectives within the student council proved to be challenging, as existing members had established routines and methods. • **European University Collaboration**: The entire concept of European universities working together for such collaborative projects was a surprising and pleasant realization for the

positive surprise was the enthusiasm and willingness of many institutions to join the project and collaborate. This collective spirit aligned with the philosophy of the European Union, emphasizing cooperation among European nations. • Challenges with Individual Recognition: Interviewees faced challenges when individual desires for recognition and visibility sometimes hindered project progress. This issue highlighted the balance between collective goals and individual aspirations. • Slower Progress Than Expected: Progress toward the goal of building a Neurotechnology University was slower than anticipated. The dynamic nature of the project necessitated a different approach to communication and marketing strategies. • Balancing Commitments: Balancing involvement in the project with other personal and professional commitments, including in-person meetings and activities, posed challenges for participants. • Language Proficiency: Some participants acknowledged the need to improve their English proficiency to enhance communication in the multidisciplinary field of Neurotech. • Recognition of Research Contributions: Researchers also faced challenges in having their research contributions recognized in academic evaluations, affecting their career advancement.	• Product Design and Communication Challenges: In the context of marketing and communication, the staff faced unique challenges when working with a project that had not yet reached a finalized state. They had to navigate the complexities of creating strategies for a product, in this case, education, that was still evolving and not fully defined. • Ongoing Project Objectives: Overcoming the ambiguity of ongoing project objectives was a challenge for some staff members. They learned that the project was continually evolving, and they needed to adapt their communication and marketing strategies accordingly. • Surprise at Creating Something from Scratch: Staff members expressed surprise at how they managed to create a substantial project despite initially having limited knowledge about it. This ability to build something substantial out of minimal prior information was unexpected. • Balancing Involvement and Time Management: Finding a balance between project involvement, personal life, and research commitments was a recurring challenge. This was particularly challenging with the introduction of in-person meetings and activities. • Language Proficiency: Some staff members acknowledged the need to improve their English language proficiency to communicate effectively in the multidisciplinary field of Neurotech.	interviewees. The level of enthusiasm and dedication among professors and students involved in the project was also a positive surprise. • **Role Definition for Student Council**: Defining a clear and well-defined role for the Student Council within NeurotechEU was a significant challenge. It required finding a way to organize events without a dedicated budget and determining the specific expectations and contributions of the Student Council within the project.

• Pandemic-Related Disruption: The COVID-19 pandemic was an unexpected and significant challenge, requiring the project to adapt rapidly to changing circumstances. • Personnel Changes: Unexpected personnel changes, such as the project manager relocating to the United States, disrupted the project's continuity and required adjustments. • Challenges in Creating Content: Despite building a visually appealing website, challenges remained in creating content and collecting educational materials for the Neurotechnology courses. • Vacation-Induced Slowdown: The project experienced a slowdown when many participants went on vacation, affecting productivity and momentum.	• Recognition in Academic Evaluation: A challenge encountered by staff members was the recognition of their research contributions in academic evaluations. Their work in the multidisciplinary field of Neurotech and artificial intelligence was not always adequately acknowledged in academic assessment processes, impacting their career advancement. • **Uncertainty and Lack of Guidelines:** The project revealed the absence of predefined guidelines or a handbook for such large-scale collaborative efforts, leading to confusion and uncertainty among participants. • **Initial Inactivity**: In the first one and a half years of the project, there was a surprising lack of progress. Almost nothing happened until a change in the project coordinator at Radboud University. This inactivity was an unexpected challenge. • **Accelerated Timeline**: One of the major challenges was completing a three-year project in just one and a half years. The accelerated timeline required careful coordination among all partners to meet deadlines and deliverables. • **Summer School Organization**: Organizing a summer school faced challenges related to gathering participants from universities with varying academic calendars and managing unforeseen circumstances such as participant dropouts due to health issues.	

Source: Own editing (2023)

3.11. Expectation, achievements, future goals (from the project' perspective)

The NeurotechEU project served as a convergence point for participants with a wide array of expectations and visionary hopes for its future. Their collective aspirations spanned multiple dimensions and represented a shared commitment to shaping the landscape of higher education, innovation, collaboration, and the development of interdisciplinary competencies.

One overarching ambition among the participants was to **transform the NeurotechEU project into a fully-fledged European University**. This grand vision sought to be a testament to collaborative educational endeavors spanning the continent, transcending the conventional limitations imposed by national borders, legislative intricacies, and political considerations. The envisioned European University aimed to offer students a seamless and unified learning experience across geographical boundaries, fostering a rich cross-pollination of skills and experiences. It stood in stark contrast to the traditional competitive and prestige-oriented model of higher education, championing collaboration among European universities as its cornerstone.

As the NeurotechEU project progressed, there was an unmistakable sense of achievement among the participants. Noteworthy milestones included the **development of robust quality systems** and comprehensive framework documents. These achievements marked significant strides for the project, instilling a sense of confidence in the collective capabilities of the team and bringing them closer to realizing their ambitious goals.

Collaboration and shared learning experiences were highly esteemed by the participants. Workshops, meetings, and interactions among individuals from different universities and diverse disciplines enriched the project's intellectual tapestry. The active involvement and participation of students, particularly through mobility programs like summer schools, were seen as catalysts for enriching their educational journeys, expanding their horizons, and preparing them for the demands of a future that necessitates multidisciplinary proficiency.

The project's objective extended beyond the mere provision of education to innovating within the realm of higher learning. One of the central objectives was to align educational offerings with the evolving needs of students, the demands of industry, and the requirements of society. The participants envisioned educational opportunities that were forward-looking, capable of not only meeting the needs of the present but also preparing students for the challenges and opportunities that the future would present.

In the long term, the participants hoped to manifest the **positive impact of collaborative efforts on students' lives**. Their vision encompassed the establishment of a prestigious European University dedicated to Neurotech. This institution would serve as a beacon of excellence in the field, showcasing the commitment to long-lasting impact and sustainability, extending far beyond the initial phases of the project.

Facilitating ease of enrollment and program development held critical importance for the participants. They desired prospective students to navigate the discovery and enrollment of Neurotech programs seamlessly, even if it entailed studying across multiple universities. The development of degree programs and courses designed to integrate harmoniously into the broader educational landscape was a crucial component of this goal.

Sustaining collaboration emerged as another fundamental expectation. Participants acknowledged that, like many ambitious projects, there was a risk of waning enthusiasm and commitment as the project

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matured. However, they remained resolute in their determination to circumvent complacency and to stay dedicated to the mission of NeurotechEU.

Recognition and accreditation constituted vital aspects for ensuring the value of the project's contributions and degrees in both academic and professional realms. The participants recognized the importance of achieving seamless mobility for students and of incorporating innovative pedagogical approaches into their teaching practices. These measures were essential steps toward the realization of their vision.

An ambitious vision lies at the heart of this project, one that envisages a European University for brain technology. In this vision, multiple educational institutions coalesce into a single entity, fostering efficiency and a collaborative ethos in education. The project serves as a conduit for facilitating interdisciplinary collaboration. It aims to bridge geographical and cultural gaps within Europe, allowing diverse regions to interact and fostering expansive collaborative research networks. A future focus of the project lies in crafting structured learning pathways, offering joint programs in neurotechnology, and encouraging teacher collaboration to provide similar courses. This not only benefits students but also lightens the workload for educators and nurtures stronger bonds among scientists. Recognizing the significance of effective communication, the project has organized a communication workshop and is committed to amplifying its presence on social media platforms. These efforts underscore the project's dedication to fostering better engagement and dissemination of information

Lastly, some participants expressed a **strong desire to expand global collaborations**, particularly in areas related to Neurotech, such as computer-human interaction and artificial intelligence. This underlined their commitment to maintaining a leading position in their respective fields and nurturing international partnerships to advance knowledge and expertise.

In summary, the participants in the NeurotechEU project held diverse and multifaceted expectations that spanned from the creation of a transformative European University to achieving significant milestones, fostering student mobility, delivering innovative education, and ensuring long-term impact. Recognition, seamless mobility, and international collaborations were also emphasized as integral to the project's success in the dynamic and promising field of Neurotech. Their collective vision portrayed a vivid picture of a collaborative, innovative, and impactful future for European higher education in the field of Neurotech.

Table 11: The most important takeaway messages formulated by each stakeholder group related to expectation, achievements, future goals

PROFESSORS, RESEARCHERS	STAFF MEMBERS	STUDENTS
• They believed that NeurotechEU could facilitate interdisciplinary research, foster collaboration between different parts of Europe • They hoped the project would convince current professors and scientists to embrace the alliance, demonstrate the benefits of NeurotechEU, and lead to changes in attitudes and educational approaches • Support European-Level Initiatives: The project aligns	• Long-Term Vision: The long-term vision includes the creation of a European University for Brain Technology, which would unite several universities into a single institution dedicated to brain-related fields. • Improve Communication: There's a strong emphasis on effective communication, including organizing workshops and enhancing social media presence to	• They expected the project to offer a fresh perspective on the future of universities. • They hoped that the project would break down the traditional competition between prestigious universities. • They anticipated the project would lead to more concrete initiatives, such as exchange programs, mobility opportunities and summer schools.

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with broader European initiatives, such as promoting interdisciplinary research and developing less invasive technologies. • The social aspect of the project is very attractive. • To be able to accept students from other universities to work in the laboratory if necessary. • Long-Term Partnerships: Interviewees expect that the project will create long-term partnerships among universities and researchers. They anticipate the project's long-term success through continued collaboration and strengthened partnerships. • Interdisciplinary Collaboration: Interviewees wish to see the project foster interdisciplinary collaboration and knowledge transfer between academia and industry. They believe that the project should contribute to the practical application of knowledge in real-life scenarios. • Establishing a Real European University: A primary aspiration was to transform the collaboration into a genuine European University that transcended national boundaries, laws, administrative constraints, and politics. They envisioned a unified institution that could offer education independently of these factors. • Impact on Students' Lives: The researchers aimed to demonstrate the positive impact of their collaborative efforts on students' lives, particularly those pursuing PhDs. They hoped that	engage a wider audience and promote the project's activities. • Structured Learning Pathways: The project envisions more organized learning pathways, joint programs in neurotechnology, and collaboration between teachers from different universities to offer similar courses. • Engage Scientists and Professors: Convincing scientists, professors, and PIs of the project's value is crucial for long-term success. • Overcoming Challenges: Recognizing and addressing challenges, such as resistance to change and slow progress within the alliance, is essential for achieving the project's goals. • Streamlined Learning and Research: the project aims to create a more efficient and collaborative educational and research environment in the field of neurotechnology. • Expanding European Collaboration: The project seeks to break the barriers of geographical and cultural constraints and promote collaboration across various parts of Europe. • the project aimed to encourage changes in attitudes, particularly toward mobility programs and summer schools, leading to more seamless mobility for students. • The successful development of a quality assurance system that supports collaboration between	• Reimagine the University of the Future: The project aims to envision what universities should look like in the next 50 years. It seeks to redefine the traditional competitive and prestigious university model, fostering cooperation among European universities with a focus on practical and empirical studies, rather than competition for grades and positions. • Promote Multidisciplinary Research: One of the goals is to encourage universities and professors to embrace multidisciplinary research and lifelong learning. • Evaluate Exchange Programs and Summer Schools: The project intends to assess the outcomes of exchange programs and summer schools, particularly to determine if these initiatives enhance the learning experience. • **Changing Educational Paradigms** • Graduate School: There are plans to establish a graduate school, focusing on brain-machine interfaces and EEG technology. • European University: The ultimate goal is to create a comprehensive European university that pools knowledge and offers diverse learning experiences for students. • Lack of scientific cooperation • The primary goal should be for partners not to compete with each other but to progress together. • It would be good to have some joint PhD training or courses, easily accessible

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students would benefit from the opportunities created by the project and that this would significantly shape their educational journeys. • Creating Degree Programs: A key objective was to create specialized degree programs in Neurotechnology. While recognizing the complexity of obtaining approval from multiple universities and navigating diverse legislation, they emphasized the importance of building program contents for undergraduate and master's students. • Seamless Enrollment: Researchers desired that students could effortlessly find and enroll in Neurotechnology programs offered by the project. They envisioned a future where students could access courses and degrees regardless of their home university, even applying for grants to support their travels between institutions. • Sustaining Collaboration: Understanding that enthusiasm for a project could wane over time, the researchers stressed the importance of maintaining a high level of interest and commitment among all participants. They aimed to keep the alliance engaged and dedicated to the long-term vision of NeurotechEU. • Innovation and Pedagogy: There was a focus on innovating in the field of higher education. Researchers wanted to align educational offerings with evolving student needs, industry demands, and	higher education and industry • The goal was to be active in WP in a way that the university could be proud of. • coherence and good self-reflection, especially in quality assurance • Enthusiastic Collaboration: Participants expected active and enthusiastic collaboration within the project to create a favorable environment for brain-related research. • Lifelong Learning: The project aimed to provide a catalog of educational resources for students and promote a culture of lifelong learning. • Student Mobility: The goal was to facilitate student mobility, allowing them to gain valuable experience in various research labs. • Collaboration and Idea Exchange: The project intended to foster collaboration, idea exchange, and data sharing among partner universities. • Shared Diplomas: A shared diploma system was envisioned to provide students with due recognition for their achievements. • Successful Mobilities: The project achieved successful student mobilities, signifying progress. • Personnel Expansion: The expansion of personnel in Bonn indicated the project's growth and development. • Event and Meeting Milestones: Each event and meeting served as a significant milestone in advancing the project.	research exchange programs, or research opportunities. • More Partners and Academic Participants: Interviewees hope that the project will establish more partnerships and involve more academic stakeholders, possibly even industrial partners, to transfer knowledge into real-life applications. Progress has already been made in this area. • Training and Familiarization: Interviewees anticipated learning new techniques and gaining a deeper understanding of the field of neurotechnology. The project has already contributed to some extent, but further opportunities are expected. • Practical Applications and Research Projects: Interviewees hope that practical applications and research projects will emerge from the results generated by the project. Developments have already occurred in this area, but more projects and collaborations are expected in the future. • Enhanced Collaboration: Students hoped for increased collaboration between different cities and institutions. They envisioned the possibility of offering free courses and easier mobility options on an annual basis. They saw this as a means to foster strong collaboration and facilitate student access to educational resources. • Continued Stability: Students expressed the desire for the project to

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societal requirements. They saw the importance of adopting new pedagogical approaches and multidisciplinary methods. • International Collaborations: Some researchers expressed a desire to expand international collaborations, particularly in areas related to Neurotech. They believed that such collaborations would enhance their expertise and contribute to the project's success. • The interviewee wants to see neuroscientists embrace open, fair, and insightful research practices. • The technology being developed should promote openness, fairness, and community-based standards. • Integration of data and tools is essential for open and accessible neuroscience research. • Neurotechnology should adopt the same principles of openness and fairness. • It is important to teach students strong foundations in data management and open standards. • Data should be published in publicly accessible repositories with appropriate metadata. • The hardware and output of neurotechnology should adhere to standard formats. • The goal is to create a natural workflow where open standards and data sharing are part of researchers' routine. • The lack of a platform like Campus Plus was a challenge in phase one, but	• Upcoming Summit: The upcoming summit in Bodrum represented a positive step forward. • Stable Leadership: The project secured stable leadership from Radboud University, contributing to its growth. • Expansion of Joint Programs: The project aims to expand joint programs for students, postdocs, and researchers, promoting interdisciplinary collaboration. • Quality System Implementation: At the project's outset, there was a significant focus on implementing a quality system. Staff members found it challenging to initiate this process, but they acknowledged its importance. They viewed the development of quality plans and documentation as an achievement, demonstrating progress in the right direction. • Collaboration and Workshops: Staff members highlighted the value of collaboration, particularly through workshops and meetings. They emphasized the positive outcomes of working in interdisciplinary teams and expressed satisfaction with the fluency of the project's organization. • Expanding Research Opportunities: The staff looked forward to more opportunities for research labs and academic endeavors. While recognizing that these developments might not happen immediately, they	maintain stability over time. While acknowledging occasional complexities and challenges in project management, they believed in its overall potential. They hoped that the initiative would evolve and become a valuable resource for students, particularly those embarking on their university journeys, including PhD students. • Streamlined Processes: Students aimed for the project to streamline its processes and establish clear structures. They mentioned occasional perceptions of messiness or randomness in project operations and desired a more organized and coherent approach. • Benefiting Students: Overall, students expected the project to greatly benefit them, not only during their PhD studies but throughout their entire university experience. They saw the project as a means to simplify complex processes and make access to educational opportunities more convenient. • Gaining insights into neuroscience and neurotechnology. • Participating in courses and expanding their knowledge. • Taking on leadership roles and engaging in activities beyond their studies. • Fostering a deep interest in neuroscience. • One participant feels that one of the project's important achievements is the fulfillment of meeting many neuroscientists from across Europe.

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alternative resources were utilized. • **Shared Vision for European Higher Education**: Despite differing entry points, there was a common aspiration to create a shared European space for higher education. This vision entailed the idea of universities across the Alliance providing students with a broader education, resulting in a more well-rounded and high-level academic experience.	anticipated their growth in the coming years. • Innovative Education: The staff shared a vision of innovative education that meets the evolving needs of students, industries, and society. They aimed to position Europe's higher education system differently by offering unique, valuable programs aligned with industry and societal demands. • Seamless Mobility: There was an expectation for the project to achieve seamless mobility for students and researchers across institutions. They recognized that this was an area that required improvement to enhance the student experience. • Long-Term Sustainability: Staff members wished for the project's long-term sustainability and continuity. They acknowledged the challenges posed by differences between countries and institutions but remained committed to the project's success. • International Collaborations: The staff saw the potential for international collaborations to advance their careers and research interests. They identified opportunities for multidisciplinary approaches, particularly in areas related to computer-human interaction and artificial intelligence. • The importance of creating action plans to make concrete progress towards goals, especially in terms of lifelong learning and platform development.	• Establishing a postgraduate program with co-supervision from different supervisors is considered crucial. • One interviewee highlights the need for a platform like Campus Plus to give students access to courses and knowledge from different universities. • The mentoring platform is seen as valuable to support students in their academic journey. • Implementation of student activities and alignment with study programs at the Karolinska Institute is important. • Some hopes for collaboration and cooperation among universities, allowing students to personalize their courses by choosing electives from different institutions. • Resource sharing among universities without bureaucratic obstacles is desired for efficient collaboration in the future. • **American University Model Influence**: They envisioned a system where students could freely select degrees and classes within an institution, preserving each university's unique identity. This approach aimed to foster personalized and exploratory learning, ultimately producing more adaptable and successful students. • **Ambitious Expectations**: Project members held ambitious expectations for NeurotechEU, including the prospect of joint degrees, although it had not been realized yet. Joint degrees

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	• Potential initiatives such as platforms and networks for researchers and PhD students, opportunities for students to take part in courses at partner universities, digital solutions and joint ventures, and staff exchange programs. • The expectation for increased funding to carry out the project effectively. • The need to clearly communicate the benefits of engaging with Neurotech and encourage student participation. • The vision of a university system that seamlessly channels resources and the need for discussions on boundaries and integration. • The importance of branding the project and its partners, as well as highlighting unique selling points for students. • The desire for a strong leader who listens to partners, active and engaged partners who share their perspectives, and a collaborative approach involving all parties. • The expectation of progress in education, particularly in terms of mobilities and accreditation challenges. • The need to address internal problems within the university, such as strict study programs and limited electives, to facilitate mobility opportunities and student engagement. • The importance of aligning student activities with study programs and meeting student needs and expectations. • They aimed to collaborate with diverse universities and	had the potential to revolutionize higher education by providing diverse academic experiences leveraging the strengths of each university within the Alliance. • Their main goal was to acquire knowledge and skills from the project that they could apply to their scientific research, particularly in EEG and clinical neurophysiology. • Students hoped to meet peers from all over Europe, collaborate with professors, and discover new approaches to research within the field of neuroscience. • The project successfully provided students with opportunities to learn and contribute to a major European initiative, fulfilling their expectations of broad and innovative neuroscience research. • The existence of the Neurotech alliance was a pleasant surprise to some, and they saw potential in developing relationships and collaborative research projects across European universities. • They aspired to witness the project fostering closer connections among European universities, promoting cooperation, exchanges, and international mobility. • A key goal was to encourage more universities to join the project, expanding its scope and impact.

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	students from across Europe, fostering a sense of community and mutual learning. • Expectations extended to strengthening relationships between European universities and working on innovative projects transcending national boundaries. • The project managed to submit a challenging proposal in a short period, reflecting dedication and commitment. • Participants actively attended various project events, enhancing engagement. • The initiation of the first Neurotech Hackathon was a significant accomplishment, facilitating intellectual exchange and the development of close-knit teams. • Participants aspire to ensure the long-term continuation of the Neurotech project, emphasizing cooperation, exchanges, and international mobility among European universities. • They aim to expand the project by inviting more universities to join, enhancing collaboration and creating a broader network. • A crucial goal is to develop a shared identity among all those involved in the project, transforming participants into ambassadors of the European University Initiative. • Future objectives also include the development of joint degree programs, collaborative research projects, and laboratories, extending the project's	

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	impact beyond neurosciences and technology. • Deepening relationships with partner universities and working together on multiple dimensions is a priority.	

Source: Own editing (2023)

3.12. Areas for improvement

Interviewees within the Neurotech initiative have recognized **several key areas** that require attention and improvement:

First and foremost, there's a pressing need to establish clear pathways for each participating institution. It's been observed that altering these pathways to accommodate others can be challenging, particularly in the case of larger institutions like the University of Bonn. Overcoming this resistance to change is a complex task, but interviewees believe that creating concrete examples of success, through two or three successful instances of collaboration, could encourage a shift in institutional mindsets towards a more cooperative approach.

Internal communication within the project has emerged as a crucial concern. Interviewees stressed that enhancing communication among project members should be the primary focus, as effective internal communication is vital to prevent conveying incomplete or inaccurate information to individual institutions. This is essential to avoid missed opportunities and misunderstandings.

The complexity of communication within the project is compounded by the large number of individuals involved, representing various universities and career stages. While communication within universities and between students and coordinators may be satisfactory, overall communication among the entire student council and coordinators in Neurotech is perceived as challenging. The suggestion is to establish a common platform or team to enhance communication and facilitate public outreach and advertisement of Neurotech events, creating a more cohesive and recognizable presence for Neurotech across different universities.

Understanding the importance of communication and its role in building trust is essential. Interviewees believe there's room for improvement in terms of **trust-building** and fostering effective communication among project members. Even small details, like the way people interact with each other, can significantly impact the overall communication dynamics when done correctly.

Administrative challenges, such as differing regulations and academic calendars across countries, were noted as additional obstacles. These variations make aligning efforts and streamlining processes more difficult, underscoring the importance of addressing these seemingly minor issues to ensure smoother collaboration.

Better exchange and engagement between different work packages to gain a comprehensive understanding of the project's activities are also desired. Concerns were raised about the slow implementation of promising ideas within the project, with interviewees worried that the slow implementation process might cause ideas to become irrelevant by the time they are executed. They emphasized the need for agility and the ability to adapt to changing circumstances and the importance of transformative and agile mechanisms within the project.

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Financial management at the project's overall level was highlighted as another area in need of improvement. Concerns were expressed about the unpredictability and fluctuations in project funding, which have led to challenges in meeting the project's original objectives. Addressing this financial matter is particularly crucial, as different institutions have varying interpretations of what constitutes a project and when planning for project funds should commence.

Moreover, **greater involvement of students** was proposed as a means of project development, suggesting the launch of joint courses, even for earning academic credits, and aligning these courses with students' degree requirements to provide them with practical knowledge and experience. This approach could meet the demand for credit courses in technological directions, offering more detailed knowledge from researchers in various scientific fields.

In conclusion, the development areas within the Neurotech project encompass defining and aligning pathways among participating institutions, generating success stories to foster collaboration, improving internal communication for a shared vision and understanding of project objectives, addressing administrative challenges, enhancing communication among diverse participants, promoting exchange and engagement, expediting the implementation of ideas, improving financial management, and involving students for project development.

Table 12: The most important takeaway messages formulated by each stakeholder group related to areas for improvement

PROFESSORS, RESEARCHERS	STAFF MEMBERS	STUDENTS
• Communication • Increased Student Involvement: Involving more students in project activities, particularly by launching joint courses, including credit courses. • Credit Courses in Technological Directions: Developing additional credit courses, especially in technological fields, to meet the demand and provide students with opportunities to deepen their knowledge. • Enhancement of Ph.D. Programs: Focusing on the improvement and expansion of Ph.D. programs, particularly by introducing credit courses in technological directions. • Interdisciplinary Knowledge Transfer: Promoting interdisciplinary knowledge transfer and collaboration, such as connecting students	• Communication • Build trust • Slow implementation • Financial Management: The financial aspect of the project has evolved in a peculiar way, with discussions about substantial funding followed by the realization of limited resources and issues with resource allocation. • Need for better financial management at the overall project level to ensure that the original objectives can be achieved. This includes addressing differences in interpretation among participating institutions regarding project contracts and funding planning. • Resource Allocation: Ensuring that resources are allocated appropriately and in a timely manner, particularly within the context of a research	• Communication

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with researchers from anatomical institutes. • Pathway Definition: It has become evident that each participating institution should establish its own pathways. There is resistance to altering these pathways to accommodate others, particularly in larger institutions such as the University of Bonn, where change can be challenging. The preferred approach to address this issue is to create concrete examples of success. By showcasing two or three instances where collaboration has produced tangible benefits, the aim is to change the mindset of institutions and trigger a ripple effect of change. • Internal Communication: Participants have highlighted the need to focus on enhancing internal communication within the project. Effective communication among project members is seen as a primary concern. Without improved internal communication, there is a risk of conveying incomplete or inaccurate information to individual institutions. This could result in missed opportunities and misunderstandings.	project, is essential to meet the project's goals effectively and efficiently. • Resolving Project-Wide Issues: Collaboratively addressing issues that affect the entire project, such as resource allocation, contract interpretation, and planning for project funds. • Improved Communication and Decision-Making: The need for clearer communication and decision-making processes across the alliance to prevent misunderstandings and obstacles in project execution. • Internal Communication: The primary focus should be on enhancing internal communication within the project. Participants believe that this aspect requires immediate attention. Insufficient internal communication may result in the transfer of incomplete or inaccurate information to individual institutions. This, in turn, could lead to missed opportunities and a lack of understanding of the overall project objectives.	

Source: Own editing (2023)

3.13. Best practices

The project participants have offered valuable insights into best practices and lessons learned during their involvement in the Neurotech project. Their experiences have highlighted several key areas and practices that have significantly contributed to the project's success and ongoing development.

One overarching theme that consistently emerged from the interviews is the **vital importance of adaptability and openness**. Instead of rigidly adhering to predefined goals, the interviewees emphasized the need to remain flexible and open to change. They found that having a fixed, precise goal isn't always necessary. What truly matters is making meaningful progress, even if the ultimate destination remains

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somewhat undefined. The key is to maintain momentum and not become overly fixated on specific, predetermined outcomes. This approach fosters a dynamic project management style, allowing for agile adjustments and optimizations throughout the project's lifecycle.

Based on the shared thoughts, the following key areas were highlighted: One of the primary takeaways was the importance of documenting everything and **fostering openness and a democratic approach**. **Transparent communication** and open discussions were considered crucial for building trust and advancing collaborative efforts.

In addition, the interviewees highlighted the value of thorough preparation and prior research. Being well-informed and adequately prepared for workshops and meetings significantly enhanced their effectiveness. With prior knowledge in hand, they could not only comprehend the content more deeply but also engage in more relevant and productive discussions with their fellow project partners. This proactive approach ensures that interactions are of the highest quality and demonstrates a commitment to maximizing the value of collaborative efforts.

Given the diverse backgrounds and cultural contexts of the project participants, maintaining **clear and productive communication** emerged as another cornerstone of success. The interviewees recognized that challenges in communication could arise in such complex, cross-cultural collaborative projects. Therefore, they placed a strong emphasis on the continual improvement of communication strategies. This might entail developing clear communication protocols, establishing regular feedback mechanisms, and fostering a culture of open and honest communication. Additionally, they acknowledged the importance of diverse communication channels to cater to the preferences of different team members.

Some interviewees recognized the significance of having experts who are well-versed in grant management and administrative tasks. Administrative staff with a deep understanding of managing research grants play a crucial role in ensuring the seamless execution of projects, especially in large-scale collaborations. Their expertise facilitates efficient grant management, enhances partnerships, and helps navigate bureaucratic complexities effectively.

The interviewees stressed that successful projects often require a degree of **patience**. They acknowledged that change doesn't happen overnight, and the journey itself can be as important as the destination. Trusting the process and nurturing high-quality interactions and relationships within the collaborative project were seen as integral to long-term success. This patience, combined with trust, contributes to a more positive and productive project atmosphere.

While specific best practices were not explicitly mentioned, the ability of an alliance to persist and thrive over time was seen as a potential best practice in itself. The capacity to endure, adapt, and evolve as an alliance, even in the face of challenges and changes, was recognized as a significant achievement.

In summary, the interviewees' experiences underscored the importance of these best practices in the Neurotech project, offering valuable insights into how flexibility, preparation, effective communication, administrative support, patience, trust in the process, and long-term sustainability are pivotal elements for the success and ongoing development of complex collaborative projects like Neurotech. These insights can serve as a guide for the project's continued progress and achievement of its objectives.

Table 13: The most important takeaway messages formulated by each stakeholder group related to best practices

PROFESSORS, RESEARCHERS	STAFF MEMBERS	STUDENTS
• Engage External Stakeholders: It was	• Document Everything and Foster Openness: The	• Learn from Challenges: Acknowledging the

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suggested that the project should reach out to external stakeholders who have an interest in neurotechnology in different domains. Expanding the project's reach and connecting with external stakeholders was deemed important. • Standardize Administrative Structures: A recommendation was made to standardize administrative structures within partner institutions, ensuring that the right people with expertise in specific areas are available for efficient communication. A more professional and goal-oriented approach to project management was considered necessary. • Separate Content and Administrative Discussions: Proposals to separate high-level meetings focused on policy and procedure from top-level discussions centered on content issues were presented to address the confusion that can arise from mixed discussions. • Structured Approach to Work: The need for a more structured approach, particularly in terms of getting all institutions to understand the project's significance and making it an institution-wide initiative, was emphasized. This included local efforts, science and technology boards, and streamlined communication channels. • **Administrative Personnel for Grant Management**: The need for administrative personnel who are experienced in managing research grants was noted. These individuals can play a crucial role in ensuring the	importance of comprehensive documentation and maintaining an open, democratic approach was emphasized. Transparent communication and the willingness to allow open discussions were considered crucial for building trust and facilitating collaboration. • Graduate School and Student Support: The Adonis Institute's graduate school model, which provides support for PhD students through counseling and centralized information, was cited as a best practice. Implementing a similar support structure within NeurotechEU was proposed. • Workshops for Collaboration: Hosting workshops, such as the one in Cluj, was regarded as an effective approach to foster connections between partner universities and promote a deeper understanding of each other. Workshops spanning various topics, including project management, leadership, and soft skills, were suggested to strengthen collaboration. • Promoting Events at Local Institutions: Leveraging existing events at partner institutions, such as neuroscience-related gatherings, and utilizing banners and flyers to raise awareness about NeurotechEU were identified as successful strategies to engage local communities. • Successful collaboration • Opennes • Consideration for other institutions • Flowing informaiton • **Regular and Planned Meetings:** The participants	challenges in coordinating meetings and schedules among partner institutions, the importance of patience and listening, and the realization that not everything can be controlled was considered a valuable lesson. Identifying and rectifying such challenges while maintaining a positive approach was seen as essential. • **Adaptability and Flexibility**: The importance of adaptability was highlighted. Rather than rigidly sticking to predetermined goals, being open to change and allowing projects to naturally evolve was considered a valuable approach. It was acknowledged that not having an exact goal in mind could be acceptable if the focus is on making meaningful improvements. • **Preparation and Prior Research**: Some interviewees mentioned the benefit of preparing for workshops and meetings by conducting prior research. This helps in asking the right questions and better utilizing the knowledge gained during these events. Being well-informed in advance can lead to more productive interactions. • Lot of content is created • Many events are held • Communication works smoothly • **Tolerance and Cultural Diversity:** The project involved participants from diverse cultural backgrounds. One of the best practices identified was a welcoming and tolerant approach, respecting each other's cultures and fostering mutual

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smooth execution of projects, especially in larger collaborations. They can facilitate effective grant management and interaction with partners. • **Patience and Trust in the Process**: The interviewees emphasized the need for patience and trust in the collaborative process. They highlighted the importance of valuing the entire process rather than just focusing on the final outcomes. Building and maintaining quality relationships, trust, and transparency were viewed as essential aspects of project success. • The lesson is that we need to be much more receptive to people with different interests because good can come out of it. • Proactive Approach: One key takeaway is the recognition that having good ideas and good intentions alone is insufficient. They have learned that proactive effort is essential for achieving their goals. • Importance of Communication: Communication is acknowledged as a complex yet crucial aspect of the project. Effective communication is vital to the project's success, and the participants have learned valuable lessons in this regard. • Learning and Implementation: The researchers emphasize the importance of learning from project meetings and implementing insights gained into their daily work. They cite an example from a board of directors meeting in	found it essential to have regular meetings to track progress and set priorities for different tasks. They realized that having too many tasks can be overwhelming, and planning ahead is crucial. In-person meetings at events like the Board of Governors and Board of Directors summits allowed for face-to-face interaction and strengthened. • Strategic Communications Planning: They have learned valuable insights from Karolinska's approach to strategic communications planning. This involves thinking strategically about how to handle long-term projects, particularly those that start slowly. They've adopted techniques from Neurotech, such as the "slow burn" strategy, to effectively manage such projects, even when working remotely. • Emphasis on Communication and Transparency: Staff members have recognized the importance of effective communication and transparency within the project. They've highlighted that some aspects of the project may be unknown even to those involved, emphasizing the need to improve internal communication among all project participants. • Becoming a Reference in the Field: Given that Neurotech is the only European University working in this specialized field, staff members see the importance of becoming a reference point for the future. They aim to provide structured opportunities for students to learn from experts	respect. This approach was seen as essential to effective collaboration in a culturally diverse environment. • Warm and Inclusive Atmosphere: During board meetings, especially in Cluj, students noted a warm and inclusive atmosphere. They highlighted the presence of individuals from diverse backgrounds and different countries coming together with a shared goal of making a meaningful impact and solving problems collaboratively. • Collaboration Across Differences: Students found it encouraging that people from varied backgrounds and nationalities were working together harmoniously. They appreciated the sense of unity and cooperation among participants, transcending the usual hierarchical barriers often encountered in the scientific community. • Shared Purpose: The students emphasized the value of being in an environment where individuals could sit side by side, working towards a common purpose. This sense of collective effort and camaraderie was particularly noteworthy, as it is not always a common occurrence in scientific endeavors. • **Cutting Bureaucracy:** Dealing with bureaucratic obstacles can be challenging. The best practice identified was the ability to navigate bureaucracy efficiently, making decisions promptly while still involving relevant stakeholders. • **Understanding and Adapting to Differences:**

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Stockholm, where they observed different interaction techniques with students. This observation inspired them to explore new methods for student exams, including reducing the need for physical materials and focusing on electronic options.	in a systematic manner, ensuring that the educational experience is well-organized and comprehensive. • Enhanced Collaboration and Involvement: They stress the need for active involvement from individuals within each university to ensure the success of the project. This approach promotes collaboration across institutions and fosters the development of robust alliances, aligning with the broader project goals. • **Diversity and Inclusivity**: The project's approach of forming mixed groups involving university leadership, scientists, staff, and students created a strong sense of unity and collaboration. This mix fostered a "family feeling," breaking down barriers and providing opportunities for everyone, • **Effective Integration and Collaboration**: One of the best practices noted was the welcoming and integration of new colleagues into the project. Instead of making newcomers feel like outsiders, the project emphasized that they were now part of the team. This approach instilled a sense of readiness to work together, resulting in increased collaboration and productivity. • **Communication and In-Person Meetings**: Effective communication was recognized as crucial within the project. There was a call for even more communication, particularly among different workgroups and members. While online tools were useful, the	Acknowledging and understanding the differences among partner institutions, such as academic calendars, legal regulations, and budgetary constraints, is essential. • **Personal Growth and Development**: The Neurotech project offered valuable lessons, such as how to present a project effectively and capture the audience's attention during a pitch. It provided a platform for personal growth, particularly for those who might be introverted, and encouraged individuals to reach out to others. The kind and supportive nature of participants, especially from the student council, made it easier for introverted individuals to engage.

	importance of in-person meetings for building relationships and fostering collaboration was emphasized. In-person meetings were seen as irreplaceable, despite the convenience of virtual tools for certain aspects of the project.	

Source: Own editing (2023)

3.14. Ideas for communication/sharing results

To effectively communicate the results and insights of the Neurotech project, interviewees provided a comprehensive set of recommendations and strategies. They emphasized the importance of a **multi-faceted communication approach** that encompasses various elements to engage stakeholders effectively.

First and foremost, the interviewees underscored the need for **regular meetings among project partners**. These meetings should transcend individual institutes and include cross-institutional gatherings, promoting open dialogue and the sharing of knowledge and updates. Additionally, organizing events specifically tailored to students can create a sense of ownership and involvement, enhancing the project's reach and impact.

The **involvement of university management** within their respective institutions was highlighted, emphasizing the active promotion and support of the project. Hosting events at the home university can raise awareness and encourage students and faculty to actively participate, resulting in increased commitment to the project's goals.

Effective communication was identified as a crucial component of project success, with dedicated communication personnel playing a vital role. Providing explanations at different levels of complexity was recommended, catering to a diverse audience, from experts to laypeople, while using the project's website to house these explanations can ensure broad accessibility and understanding.

Furthermore, the interviewees advised future students, researchers, and stakeholders to be proactive, seizing opportunities to promote and disseminate the project's vision and goals instead of waiting for a single chance.

In summary, a multi-faceted communication strategy was emphasized, including regular meetings, student events, university management support, dedicated communication personnel, accessible explanations, and proactive engagement. These strategies can effectively communicate the project's outcomes and foster broader involvement.

Another significant approach discussed involved **conducting personal interviews with project participants**. These interviews can serve to share insights, identify key takeaways, and engage in meaningful discussions, making them particularly valuable during important events like the Board of the Rectors meetings.

The interviewees also recognized the significance of using social media channels for communication, with the help of a dedicated social media manager. Social media platforms, such as LinkedIn, were

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recommended for connecting with interested parties. They also suggested engaging in activities such as growing flower seeds on balconies and sharing progress on platforms like Instagram to create a sense of community and maintain member engagement.

A **co-authored newsletter involving students and professionals** within the project was proposed as an effective means of disseminating information and providing updates on the latest developments in the field. Additionally, writing blogs on platforms like Medium, focusing on neuroscience and NeurotechEU, was considered valuable for spreading knowledge and insights to a wider audience.

In discussions within the project, participants emphasized the gradual involvement of a broader range of stakeholders as the project evolves. Initially, a select group of individuals capable of handling uncertainties was engaged, but there is a growing opportunity to engage more researchers, professors, students, and others interested in the field as the project becomes more concrete with specific activities and outcomes.

Demonstrating tangible and concrete results, rather than solely relying on the concept of Neurotech, was seen as crucial in maintaining the project's momentum and inspiring continued collaboration among stakeholders. Sharing of best practices and a commitment to learning from one another were also key aspects of the communication strategy.

The **importance of internal communication** within the project was highlighted, with participants emphasizing the need for shared folders containing documents and materials to facilitate collaboration and keep all team members well-informed and aligned with the project's goals and progress.

Promoting NeurotechEU to students, both current and prospective, was recognized as a crucial endeavor. Participants believed that by increasing awareness of the project among students, universities could attract individuals interested in pursuing education and research in the field of neurotechnology. Using infographics to enhance the clarity and accessibility of information was also suggested.

In summary, the strategies discussed aim to create **a collaborative and transparent environment** within the project while ensuring that external stakeholders have a clear understanding of NeurotechEU's objectives and accomplishments.

The interviewees stressed the need for diverse strategies to communicate the project's successes. This involved active engagement through meetings and discussions, the establishment of a dedicated project website for comprehensive information, the use of podcasts for disseminating updates and insights, and sharing experiences within the university.

Moreover, promoting inter-university collaboration was deemed essential through events, workshops, and discussions, fostering dialogue, generating ideas, and strengthening relationships. Establishing a platform to share information, ideas, and experiences across the entire network was considered to be an ongoing necessity.

The project's **visibility, comprehensibility, and enthusiasm** were highlighted as key factors in its continued success and growth.

Additionally, the interviewees identified a need to **improve the communication of project results**. They suggested the creation of discussion platforms to facilitate conversations and information sharing, potentially by establishing campus-specific channels or dedicated channels for each university involved in the project.

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Leveraging existing networks among participating institutions, such as the Swedish network among European University alliances, was emphasized. This network enables the exchange of experiences, sharing of best practices, and gaining insights and regulations applicable to all participating institutions.

Furthermore, fostering a change in attitude towards NeurotechEU, particularly among individuals with entrenched practices, was recognized as essential. It was suggested that the project should create opportunities for participants to organically discover and embrace changes, focusing on a self-discovery approach.

To effectively communicate the project's results, interviewees recommended a multifaceted approach that involves various communication methods, such as multimedia, presentations, and different languages to cater to diverse audiences. Listening to and engaging with stakeholders, including students, researchers, professors, and others, was considered crucial to gather diverse perspectives and refine communication strategies continually.

In summary, these insights provide a comprehensive understanding of how to effectively communicate the project's results and ensure its continued success.

Table 14: The most important takeaway messages formulated by each stakeholder group related to communicate/share the project results

PROFESSORS, RESEARCHERS	STAFF MEMBERS	STUDENTS
• Customized Discussions: Customized, one-on-one discussions were proposed as an approach to communicate effectively. These discussions could be held with leadership figures from each institution, including rectors, board members, and key researchers. Tailoring the communication to the specific needs and context of each partner institution is essential to address their unique circumstances. • Targeted Dissemination: The choice of dissemination methods should depend on the target audience. For individuals actively involved in NeurotechEU, reports and detailed documents might be effective. However, for a broader audience within the institutions, especially those who may not be familiar with the project, introductory and more general reports could be more appropriate. The goal is to ensure that the	• Institutional and Alliance Channels: Within institutions, participants mentioned approaching management and coordination offices and collaborating with communication departments. These channels can help disseminate project achievements within the institution. Within the alliance, the choice of communication work packages or management work packages depends on the nature of the content being shared. Communication work packages may be suitable for topics directly related to communication, while management work packages can be used for more general discussions. • Personal Sharing and Openness: Many participants expressed their willingness to continue sharing their knowledge and insights on a personal basis. They stressed the importance of open	• Social Events: One participant emphasized the value of social events as a means of sharing experiences. They believed that engaging in casual conversations during social gatherings could lead to meaningful discussions and the exchange of insights. Informal interactions at such events can help individuals find common ground to talk about and share their experiences. • Personal Interviews: Conducting personal interviews with project stakeholders to share insights and identify key takeaways, especially during events like the Board of Directors meetings. • **Regular Meetings:** Hosting regular meetings among project partners is essential for sharing knowledge and updates. These meetings should include both individual

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dissemination method aligns with the level of awareness and involvement of the recipients. • **Different Levels of Explanation:** Providing explanations at different levels of complexity ensures broad accessibility and understanding. These explanations should cater to various audiences, from experts to laypeople, and be available on the project's website. • **Proactive Engagement:** Future students, researchers, and stakeholders interested in joining the project should be proactive. They should not wait for a single opportunity but should participate in various activities and seize any available occasions to promote and disseminate the project's vision and goals. • Academic Publications and Conferences: Communicate the project's results through academic publications and conference presentations. This approach helps disseminate the findings to a broader academic audience and highlights the work within the scientific community. • Direct Communication with Students: Establish direct communication channels with students, especially those who may be involved or interested in neurotechnology research. This can be achieved through targeted emails, workshops, seminars, or informational sessions tailored to students' interests and needs. • Public Outreach: Extend the project's communication to the general public to raise awareness about the project,	discussions, acknowledging that perspectives and views can evolve over time as they continue to learn and adapt. Engaging in conversations and being open to different viewpoints is a valuable way to share insights. • Personal Interviews: Conducting personal interviews with project stakeholders to share insights and identify key takeaways, especially during events like the Board of Directors meetings. • Increased Student Involvement: Involving more students in project activities, particularly by launching joint courses, including credit courses. • Credit Courses in Technological Directions: Developing additional credit courses, especially in technological fields, to meet the demand and provide students with opportunities to deepen their knowledge. • Enhancement of Ph.D. Programs: Focusing on the improvement and expansion of PhD. programs, particularly by introducing credit courses in technological directions. • Interdisciplinary Knowledge Transfer: Promoting interdisciplinary knowledge transfer and collaboration, such as connecting students with researchers from anatomical institutes. • Progressive Involvement: Staff members stressed the importance of gradually involving more individuals in the project as it evolves. They recognized the need to start with a core group and expand over time to include researchers, professors,	institutes and cross-institutional gatherings. • **Student Involvement:** Organizing events specifically for students to share their insights and engage with the project can create a sense of ownership and involvement. • **University Support:** University management needs to actively promote and support the project within their institutions. Hosting events at the home university can raise awareness and encourage student and faculty participation. • Workshops and Meetings: Workshops and meetings are suggested as platforms for facilitating opportunities and open dialogue among participants.

its goals, and the benefits it brings. This outreach can be accomplished through various means, including articles in university publications and reaching out to external stakeholders or partners for collaborations. • Shift from Idea to Tangible Results: The participants emphasized the need to move beyond promoting the concept of Neurotech and instead focus on showcasing concrete achievements. They acknowledged that after years of discussions, it was time to demonstrate real progress. • Highlighting Success Stories: To maintain momentum and garner support, it was suggested that the project should present success stories. This involves communicating not just the idea's potential but also its practical benefits, proving that the project is on the right track. • Knowledge Exchange: Participants expressed a desire to learn from one another's experiences and best practices. They pointed out that sharing insights and strategies could help streamline project communication and enhance its overall impact. • Internal Communication and Transparency: Effective internal communication was recognized as a crucial element. The need for transparency, shared folders, and accessible documents to facilitate collaboration was highlighted. • Enhancing Collaboration: Participants stressed the importance of working together rather than in	students, PhD candidates, and other stakeholders. • Concrete Activities and Outputs: To effectively communicate project outcomes, the emphasis was placed on having concrete activities, subgroups, and well-defined outputs. This approach would provide tangible evidence of the project's success. • Engaging Diverse Participants: It was acknowledged that engaging a diverse range of participants, including researchers, professors, students, and PhD candidates, would contribute to the project's success and foster collaboration among various stakeholders. • Using infographic. • Promote inter-university collaboration through researcher talks, workshops, and discussions. • Facilitate discussions on interdisciplinary work and collaboration opportunities. • Consider establishing a platform for sharing information, best practices, and experiences across the entire network. • Utilize diverse communication methods, including videos, testimonials, talks, and small videos or capsules to convey project achievements. • Establish a comprehensive web presence with a dedicated website or web page to improve the project's online visibility and accessibility. • Consider communicating in multiple languages, such as English and French, to cater to a broader audience.	

isolation. They acknowledged that the current approach of individual efforts within institutions was insufficient and called for more collaborative initiatives. • Adopting Proven Approaches: Learning from successful approaches implemented by peers was seen as an efficient way to improve project outcomes. This approach would ensure that valuable lessons are not overlooked. • Hold meetings and discussions to engage participants and spark interest in the project. • Maintain a dedicated project website as a central hub for comprehensive information. • Use podcasts as a medium to share project updates and insights. • Encourage experienced members to share their insights and experiences within the university.	• Engage with various stakeholders, including students, researchers, and professors, to gather diverse perspectives and ideas for enhancing communication strategies. • Emphasize the importance of listening to stakeholders to adapt and refine communication approaches continually.	

Source: Own editing (2023)

3.15. Advices for future participants

The insights and advice shared by project participants offer a profound and comprehensive perspective for individuals contemplating involvement in the NeurotechEU project. At its core, their guidance conveys a sense of the project's unparalleled uniqueness and its potential to be a transformative experience, both in terms of personal growth and career development.

Central to the advice provided is the understanding that the **NeurotechEU project represents an extraordinary and unparalleled opportunity**. Participants underscore its **global significance**, emphasizing that there are limited endeavors of this scale worldwide for those passionate about neurotechnology. This rare opportunity should not be missed, and it is viewed as a catalyst for personal and professional development.

A key theme that permeates this advice is the importance of **maintaining an open-minded approach**. While it is natural to have expectations when entering a project of this magnitude, adaptability and resilience are highly encouraged. The project's multifaceted nature may not align perfectly with every expectation, but embracing an open mindset allows for a more enjoyable experience. It also facilitates active engagement with various disciplines and researchers, enriching the overall project experience.

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Language proficiency, particularly in English, is deemed crucial for effective participation in international projects like NeurotechEU. As such, prospective participants are strongly advised to invest in language skills. Proficiency in English not only enhances communication within the project but also expands opportunities for engagement and collaboration.

Project participants also recommend establishing a robust structure from the project's inception, one that garners consensus and support from all members. This structure should be designed to cater to the multifaceted requirements of the project effectively. An essential component is the **development of a tailored communication strategy** that takes into account the diverse needs and preferences of the various stakeholders.

Active involvement is a recurring theme in the advice offered. Whether one is a student or a researcher, proactivity is key. Participants stress that **NeurotechEU offers room for everyone to contribute**, either through research or by actively engaging with the project on cultural and human levels. Being proactive in your involvement is not just about research; it extends to gaining cultural and human experiences, broadening horizons, and interacting with individuals from diverse backgrounds.

In terms of skill development, the advice centers on technical competencies, particularly in programming languages like Python, and knowledge in artificial intelligence. These skills are seen as critical for future success in the field and for contributing effectively to the project's goals.

Belief in the overarching objectives of NeurotechEU is another fundamental aspect of the advice. This belief encompasses the fostering of a common language between technology and neurobiology, the provision of a multidisciplinary education, and the cultivation of collaboration among diverse stakeholders. The advice emphasizes the need for a collective effort to effectively compete with international counterparts, underlining the collaborative spirit at the project's core.

A resounding recommendation throughout the insights is the importance of **persistence and commitment**. Participants acknowledge that immediate progress might not always be visible, but they stress the significance of staying the course and maintaining a long-term perspective on the project's goals.

Within **administrative roles**, **full dedication to the project** is essential. Participants view NeurotechEU as a pioneering endeavor, akin to creating an entirely new university. Consequently, dedicated staff members who can focus exclusively on the project's development and management are imperative.

In summary, the advice offered to future participants in the NeurotechEU project is a comprehensive set of principles grounded in seizing a unique and transformative opportunity, fostering adaptability, investing in language skills, being proactive in engagement, developing essential technical skills, believing in the project's overarching goals, and persistently committing to the long-term success of this exceptional endeavor. The project participants collectively emphasize that future involvement in the project should be characterized by open-mindedness, effective communication, and a commitment to embrace diversity. The journey to success within the project is rooted in prioritizing its importance, active participation, and the creation of a well-structured environment. These insights offer profound guidance to individuals considering joining the NeurotechEU project, empowering them to navigate challenges and maximize their contributions effectively.

Table 15: The most important takeaway messages formulated by each stakeholder group related to advices to future participants

PROFESSORS, RESEARCHERS	STAFF MEMBERS	STUDENTS

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• Complementarity: When identifying new members, consider their complementarity to the existing expertise and demographics of the alliance. Assess the potential for collaboration and shared aspirations. • Think Long-Term: Project leaders and new members should think about the long-term prospects and consider where students of the future will come from. Analyze the broader context of higher education and the competitive landscape in Europe. • Opportunity for Exposure: Highlight the opportunities the project offers, such as the chance to connect with researchers and students from diverse corners of Europe. The project facilitates contact with different schools of thought and research methodologies. Early career researchers and students can gain valuable exposure to unique research perspectives. • Learn • Don't give up • Be motivated • **Active Engagement:** Students and researchers were encouraged to actively engage with the project. It was emphasized that there's room for everyone to contribute and make the project better through collaborative efforts. • **Cultural and Human Experiences:** Engaging in international projects like NeurotechEU offers not only research opportunities but also cultural and human experiences. It broadens horizons and provides the	• Embrace Diversity: Understand that not only individuals but also institutions and countries bring unique perspectives and cultural backgrounds to the project. Recognize that what might seem crystal clear to you could be less so for others, and this doesn't imply right or wrong, just different viewpoints. Embrace the diversity of backgrounds, cultures, and experiences within the alliance. • Effective Communication: Communication is paramount. Ensure that you establish a robust structure from the project's outset, one that all members can agree upon. Develop an efficient communication strategy that considers the different needs and preferences of various stakeholders. This may include the use of reports, meetings, and other communication tools. • Open-Mindedness: Maintain an open mind and actively listen to others. Accept that differences exist at the individual, institutional, and country levels. Seek compromises and common ground that respect these differences. Prioritize collaboration and flexibility. • Familiarize Yourself: For new members or individuals considering joining, become well-acquainted with the project's structure and goals from the beginning. Attend board of directors meetings to immerse yourself in the spirit of the alliance. Actively participate and engage with the project's activities and decision-making processes.	• **Seize the Opportunity:** The interviewees stressed the uniqueness and significance of the NeurotechEU project, highlighting that there are limited opportunities of this scale in the world for those interested in neurotechnology. They encouraged future participants to take full advantage of this exceptional opportunity. • Building International Connections: Suggests that the project provides an excellent opportunity to establish strong international connections. These connections can be valuable for both personal and professional development, especially for those with a professional interest in the field. • Unique Opportunity: Emphasizes that the project represents a unique and pioneering direction at a European level. It encourages individuals interested in this field to apply, as it is a novel opportunity to be part of an international community working on cutting-edge topics. • Long-Term Perspective: Consider that this is a long-term project, and your involvement can extend over time, allowing you to contribute and gain experience in the evolving field of neurotechnology. • Career Diversity: Recognize that participation can diversify your career and differentiate you from others by fostering connections with individuals from various countries and gaining knowledge from different perspectives.

chance to interact with people from diverse backgrounds. • **Be Open-Minded:** Open-mindedness was emphasized as a crucial attitude to adopt when joining the project. Future participants should be adaptable and not overly fixated on specific expectations, as it's a dynamic and diverse environment with various opportunities. • **Language Proficiency:** Administrative personnel within universities were advised to improve their English language skills, as effective communication is key in international projects like NeurotechEU. Language proficiency enables better collaboration and understanding. • Time and Hard Work: Researchers should be prepared to invest a significant amount of time and effort into the project. Active involvement and dedication are crucial. • Believe in the Goal: It's essential to believe in the overarching goals of Neurotech, including fostering a common language between technology and neurobiology. Participants stress the importance of this belief in driving progress. • Multidisciplinary Formation: Providing students with a multidisciplinary education is seen as fundamental. NeurotechEU aims to bridge the gap between technology and neurobiology, making it vital to offer diverse educational experiences. • Collaboration: Collaborative efforts are emphasized as the key to success. Working	• Prioritize the Project: Elevate the project's priority in your agenda and daily life. Understand that committing time and effort is essential to contribute effectively. • Active Participation: Encourages individuals to actively engage and participate in the project. Stressing the importance of being proactive and taking advantage of the opportunities it offers. • Resource and Relational Capital: Emphasizes the benefits of joining such a project, including gaining access to valuable resources and establishing relationships that can be beneficial in various ways. • Effective Communication: Highlights the significance of effectively communicating the project's results and outcomes, not only to internal stakeholders within the university but also to external parties and potential collaborators. • Self-Care: Take care of your well-being and don't underestimate the workload. Burnout is a concern, and it's essential to maintain a healthy work-life balance. • Cultural Awareness: Acknowledge and respect the diverse cultural and political contexts within the project. Understand that different cultural backgrounds can influence communication and collaboration styles. • Patience: Be patient and recognize that things in the project may progress at a slower pace than expected. • Great Opportunities: Understand that joining the project offers great	• No Drawbacks: Highlight the benefits of joining the project, such as learning the German language, attending mobilities, participating in volunteering tasks, and becoming part of the NeurotechEU community. • Diverse Learning Opportunities: NeurotechEU offers a unique learning experience compared to traditional conferences. Students can gain in-depth knowledge in specific topics across various universities, making it a valuable opportunity • Networking and Collaboration: Students are encouraged to meet new people and collaborate. The mobility within Europe makes it easy to connect with peers from different regions, fostering international relationships. • Practical Experience: While attending conferences is useful, students are advised to engage in practical activities. They can benefit from hands-on experiences, such as testing in clinical settings, to enhance their learning. • Exploration and Flexibility: Students should be open to exploring various aspects of neurotechnology. They are encouraged to try different courses, activities, and mobility options to discover their interests and potential career paths. • Take Full Advantage: Students should make the most of the opportunities available in NeurotechEU. This includes participating in courses, activities, language courses, and taking advantage of the chance to

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together is the only way to compete effectively on a global scale, given the project's ambitious goals. • Patience: Future researchers are advised not to be overly pessimistic or hasty in expecting immediate results. Neurotechnology is an important field, and progress may take time. • Recruitment and Unique Offering: Efforts should focus on recruiting students and offering them something unique. The project should aim to create a distinct educational experience that goes beyond existing neuroscience and technology programs. • A future is the future. You have to collaborate. • You have to know technology. • You have to know data science. • You have to learn computer science. • **Discover Your Passion:** Identify what truly excites you within the field, as passionate individuals tend to benefit more.	opportunities to meet people from across Europe, learn new skills, travel, and engage with various aspects of neurotechnology and neuroscience. • Embrace the Opportunity: Staff members highlight that joining NeurotechEU is a valuable opportunity, especially for universities. It is seen as a significant project to be part of, creating European universities for the future. • Think Differently: Future participants are advised to approach such projects with a fresh perspective. Rather than following conventional methods, they should be open to exploring innovative approaches and adapting to change. • Commitment and Patience: Staff members emphasize the importance of commitment and patience. Participants should be prepared for moments of frustration and setbacks but remain dedicated to the project's long-term goals. • Full Involvement: For those getting involved, it is recommended to fully commit to the project. Administrative staff should focus on NeurotechEU without dividing their attention among other tasks. The project requires dedicated efforts. • Skill Development: Staff members encourage investing time in skill development, particularly in programming, languages like Python, and artificial intelligence fundamentals. These skills will be crucial in adapting to the changing landscape of	travel and broaden their horizons. • Attend summer schools, hackathons, and various project events to expand your skills and network. • Engaging in the project early on provides valuable skills outside of academia and makes one stand out in job searches. • Building a network through the project helps in finding new positions and facilitates collaborations with different universities. • Having connections with people from different backgrounds and life stages is educational and inspirational. • Community and networking are essential regardless of the project's outcome, as they provide long-term benefits in terms of cooperation and friendships. • Participating in the project enhances personal development, expands horizons, and helps develop soft skills. • Joining the project is recommended for both research-related benefits and overall personal growth and communication skills. • **Take Initiative:** Don't hesitate to start early and connect with others in the project. Regardless of your interests, the message is to begin, network, and learn as you go. • **Join Student Clubs:** Consider participating in student clubs, such as Synapses chapters in partner universities, to expand your network and collaborate with like-minded peers.

	technology and enhancing efficiency in tasks. • Adapt to Change: Participants should be willing to adapt to evolving technologies and approaches in their fields. Embracing new tools and methods, such as Chat GPT, can lead to improved job prospects and better user experiences. • Networking is essential for the project, even if the communication structures are not yet in place. • Contacting people within the project and building relationships is important for making the project happen. • Building a network should be more formalized and accessible in the future. • Investing time in getting to know each other and building relationships among the participants is crucial. • The project could benefit from more meetings where all the participants can come together and discuss. • Securing co-financing is recommended as the project is costly and requires significant financial resources. • The project is unique in Europe and encompasses a small thematic field with good ideas and cultural elements from different partners. • Collaboration within Europe reduces travel distances and offers opportunities for researchers and PhD students to work with international colleagues. • The project should be open-minded, inclusive, and transparent, allowing everyone to express their opinions. • Each partner's specific strengths and contributions to	

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	the alliance should be clearly communicated. • Understand that the project is primarily an Erasmus project focused on training and teaching, not a scientific research initiative. Manage expectations accordingly and be open-minded. • Read and comprehend the specific call for proposals and objectives before joining to avoid potential disappointment. • Be prepared for a significant time commitment, which may involve travel and spending substantial time behind a screen.	

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4. APPENDIX

4.1. Fieldwork details

University	Fieldwork start	Fieldwork end	Number of interviews
Boğaziçi University	25 July 2023	28 July 2023	8
"Iuliu Hatieganu" University of Medicine and Pharmacy	10 July 2023	20 July 2023	5
Karolinska Institutet	30 May 2023	01 June 2023	9
Miguel Hernández University of Elche	05 July 2023	11 July 2023	11
Radboud University	08 September 2023	03 October 2023	9
Reykjavik University	19 September 2023	25 September 2023	7
University of Bonn	04 September 2023	28 September 2023	5
University of Debrecen	26 May 2023	08 September 2023	5
University of Lille	28 June 2023	29 August 2023	5
Sum of interviews:			**64**

4.2. The background of the qualitative reserarch methodology

Qualitative research methodology, particularly when it comes to in-depth interviews, is fundamentally different from quantitative research methods. This distinction is crucial, especially in understanding why qualitative methodologies do not typically allow for the generation of quantitative results. Here's a detailed background on this:

Nature of Data: Qualitative research focuses on collecting rich, narrative data that captures the complexities of human experiences and social phenomena. This type of data is typically textual or visual, derived from interviews, observations, or documents. In contrast, quantitative research deals with numerical data that can be statistically analyzed.

In-depth Interviews: A key tool in qualitative research, in-depth interviews are designed to explore participants' perspectives, feelings, beliefs, and experiences in detail. These interviews are often semi-structured or unstructured, allowing for a fluid and flexible conversation that can adapt to the participant's responses. The goal is to gain a deep understanding of the participant's perspective, which can't be quantified in numerical terms.

Analysis Techniques: Qualitative data from interviews is analyzed using methods like thematic analysis, content analysis, or narrative analysis. These techniques involve identifying patterns, themes, and stories in the data. This process is interpretive and subjective, relying on the researcher's insights and understanding of the context, rather than statistical methods.

Purpose and Objectives: The primary aim of qualitative research is to explore and understand the meaning and significance of human experiences, rather than to generalize findings or measure variables. It seeks to answer 'how' and 'why' questions, rather than 'how many' or 'how much' questions that are typical of quantitative research.

Generalizability and Representativeness: Qualitative research does not aim for statistical generalization but rather for transferability. The insights gained are not meant to be extrapolated to larger populations in

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the way quantitative results are. Instead, they provide a deep understanding of the specific contexts, individuals, or groups studied.

Role of the Researcher: In qualitative research, the researcher plays a crucial role in data collection and analysis. Their interpretations, biases, and perspectives can significantly influence the research process and outcomes. This subjective involvement is quite different from the more detached, objective stance often associated with quantitative research.

Outcome and Reporting: The outcomes of qualitative research are descriptive and interpretive, often presented as narratives, case studies, or thematic descriptions. They do not result in statistical data or quantitative conclusions, but rather in a nuanced understanding of the studied phenomena.
In summary, the background of a qualitative research methodology, especially in the context of in-depth interviews, is rooted in a desire to understand the depth and complexity of human experiences and social phenomena, which cannot be adequately captured or expressed in quantitative terms.

4.3. Guideline for the moderators

SURVEY OVERVIEW

Thank you for participating in this survey focused on the NeurotechEU project. Your insights are crucial to understanding the project's goals, impact, results, and opportunities. The survey aims to gather comprehensive feedback and experiences related to various aspects of the project, including expectations, motivations, collaborations, responsibilities, achievements, skills gained, challenges faced, and future aspirations. Additionally, the survey explores the project's alignment with institutional priorities, contributions to the larger scientific community, and the vision for its long-term success. Your responses will help evaluate the project's outcomes, identify best practices, and provide valuable guidance for future participants and stakeholders.
The interviews to last approximately 45-50 minutes, depending on the depth of the answers. To ensure convenience, we will be making audio recordings during the interviews. This will allow us to capture the conversations accurately.
During the analysis of interviews, we anonymize every response to ensure the confidentiality of the answers and the interviewees' identities. The results are evaluated collectively, ensuring the anonymity of individuals.
The following questions serve as a guideline for our moderators. During the interviews, they may not necessarily be asked in this order, and it is possible that based on the respondent's answers, certain areas will be explored in more depth while others may be completely omitted in a given interview. This method is explained by the methodology of the interview: qualitative in-depth interview. These interviews resemble more of a structured conversation rather than a simple series of questions and answers.

STUDENTS' INTERVIEWS

1. Where did you hear about the NeurotechEU project?
2. What were your expectations joining the NeurotechEU project?
3. What specific aspect of the project motivated you to get involved, and how does it align with your personal or professional interests?
4. How did you communicate and collaborate with team members who have different cultural, disciplinary, or linguistic backgrounds, and what strategies did you find effective?
5. Can you describe some of the specific tasks or responsibilities you were assigned in the project, and how did they align with your research interests or skills?
6. Are you / were you involved in any of the work packages? If yes, in which one and what is / were your role and/or responsibilities?
7. How did you balance your project work with your other academic or personal commitments, and what strategies did you use to manage your time effectively?

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8. Have you received any support from your professors or supervisor pertaining to the tasks associated with your project, either within your workplace or at your university? If so, what specific type of support did you receive?
9. How has your involvement in the project contributed to your academic or career goals?
10. What are some of the most valuable skills or experiences you gained through your involvement in the NeurotechEU project?
11. Can you share some examples of how the project has impacted your personal or professional development, and what skills or knowledge have you gained or improved?
12. Can you provide some examples of milestones or achievements that you are particularly proud of, and why?
13. Can you share some examples of how the project has expanded your knowledge or understanding of neurotechnology and its applications, and how do you envision applying this knowledge in your future research or career?
14. Is there any local element of the project that you really liked and would suggest to implement into other universities?
15. What were the most surprising or unexpected things you learned or encountered during the project's first phase, and how did you respond to these challenges?
16. What are some of the biggest challenges you faced during your involvement in the project, and how did you overcome them?
17. What would you like to see the project achieve in the long term?
18. Can you describe some of the lessons learned or best practices you identified during the project?
19. How would you suggest to share or disseminate these insights within your institution or beyond?
20. What would you say to other students who are considering applying to participate in the NeurotechEU project in the future?

RESEARCHERS AND PROFESSORS' INTERVIEWS

1. What do you personally expect from international cooperation, specifically the European Universities initiative?
2. What were your expectations joining the NeurotechEU project?
3. What specific aspect of the project motivated you to get involved, and how does it align with your personal or professional interests?
4. How did you communicate and collaborate with team members who have different cultural, disciplinary, or linguistic backgrounds, and what strategies did you find effective?
5. Can you describe some of the specific tasks or responsibilities you were assigned in the project, and how did they align with your research interests or skills?
6. Are you / were you involved in any of the work packages? If yes, in which one and what is / were your role and/or responsibilities?
7. How did you balance your project work with your other academic or personal commitments, and what strategies did you use to manage your time effectively?
8. Have you received any managerial or leadership support pertaining to the tasks associated with your project, either within your workplace or at your university? If so, what specific type of support did you receive?
9. How has your involvement in the project contributed to your academic or career goals?
10. What are some of the most valuable skills or experiences you gained through your involvement in the NeurotechEU project?
11. Can you share some examples of how the project has impacted your personal or professional development, and what skills or knowledge have you gained or improved?
12. Can you provide some examples of milestones or achievements that you are particularly proud of, and why?

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13. Can you share some examples of how the project has expanded your knowledge or understanding of neurotechnology and its applications, and how do you envision applying this knowledge in your future research or career?
14. Is there any local element of the project that you really liked and would suggest to implement into other universities?
15. Can you describe some of the interdisciplinary collaborations or partnerships that have emerged from the NeurotechEU project, and how have they enriched your research or teaching?
16. How do you see the project contributing to the future of neuroscience or neurotechnology research?
17. How does the project align with your institution's strategic priorities or research agenda, and how do you see it contributing to the larger scientific community?
18. How do you measure the success of the program and what metrics do you use to evaluate its impact?
19. How do you envision the future of neuroscience or neurotechnology research, and what role do you see the NeurotechEU project playing in shaping that future?
20. What were the most surprising or unexpected things you learned or encountered during the project's first phase, and how did you respond to these challenges?
21. What are some of the biggest challenges you faced during your involvement in the project, and how did you overcome them?
22. What would you like to see the project achieve in the long term?
23. Can you describe some of the lessons learned or best practices you identified during the project?
24. How would you suggest to share or disseminate these insights within your institution or beyond?
25. What advice would you give to future students, researchers, or stakeholders who are considering joining or supporting the project?

STAFF MEMBERS' INTERVIEWS

1. What do you personally expect from international cooperation, specifically the European Universities initiative?
2. How did you communicate and collaborate with team members who have different cultural, disciplinary, or linguistic backgrounds, and what strategies did you find effective?
3. Can you describe some of the specific tasks or responsibilities you were assigned in the project, and how did they align with your research interests or skills?
4. Are you / were you involved in any of the work packages? If yes, in which one and what is / were your role and/or responsibilities?
5. What were the objectives and commitments of your WP (Work Package)?
6. How did they manage to achieve them? Did they reach the desired results?
7. How did you balance your project work with your other academic or personal commitments, and what strategies did you use to manage your time effectively?
8. Have you received any managerial or leadership support pertaining to the tasks associated with your project, either within your workplace or at your university? If so, what specific type of support did you receive?
9. How has your involvement in the project contributed to your academic or career goals?
10. What are some of the most valuable skills or experiences you gained through your involvement in the NeurotechEU project?
11. Can you share some examples of how the project has impacted your personal or professional development, and what skills or knowledge have you gained or improved?
12. Can you provide some examples of milestones or achievements that you are particularly proud of, and why?
13. Can you share some examples of how the project has improved the infrastructure, resources, or capacity of your university in the field of neuroscience, neurotechnology or other area?

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14. Is there any local element of the project that you really liked and would suggest to implement into other universities?
15. How do you measure the success of the program and what metrics do you use to evaluate its impact?
16. What were the most surprising or unexpected things you learned or encountered during the project's first phase, and how did you respond to these challenges?
17. What are some of the biggest challenges you faced during your involvement in the project, and how did you overcome them?
18. What would you like to see the project achieve in the long term?
19. How do you see the NeurotechEU project evolving or expanding in the future, and what new opportunities or challenges do you anticipate?
20. Can you describe some of the lessons learned or best practices you identified during the project?
21. How would you suggest to share or disseminate these insights within your institution or beyond?
22. What advice would you give to other staff members or project managers who are considering participating in similar international or interdisciplinary research projects, and what are some of the key success factors to keep in mind?

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4.4. Data Processing Statement

By participating in the NeurotechEU Best Practice Survey, you acknowledge and give your consent for the processing of your personal data and answers for research purposes. The purpose of this statement is to inform you about the collection, use, and protection of your data during the survey.

Data Collection:

During the survey, we will collect personal data, including your name and contact information, solely for the purpose of contacting you regarding the survey and for research analysis. Additionally, we will record audio interviews to capture your responses accurately.

Use of Data:

All data collected will be used solely for research purposes related to the NeurotechEU Best Practice Survey. Your responses and any personal data provided will be used strictly for statistical analysis and academic research. The data will be treated confidentially and will only be accessible to authorized research personnel.

Anonymization and Data Storage:

To ensure your privacy and confidentiality, your responses will be anonymized before being included in any analysis or publication. Any personal identifiers, such as your name or contact information, will be removed or replaced with anonymous identifiers to prevent identification.

All data collected will be securely stored in encrypted and password-protected storage systems. The stored data will be retained only until the end of the grant maintenance period. Once the grant maintenance period concludes, all stored data, including audio recordings and any identifiable information, will be securely destroyed and rendered irretrievable.

Data Security:

We will implement appropriate technical and organizational measures to safeguard your data against unauthorized access, loss, destruction, or alteration. Access to your data will be restricted to authorized personnel involved in the research project.

Rights of Participants:

As a participant, you have the right to access, rectify, or delete your personal data. If you wish to exercise any of these rights or have any concerns regarding the processing of your data, you can contact us at gyarmati.gabor@unideb.hu.

By signing this statement, you confirm that you have read and understood the above information, and you voluntarily consent to the processing of your personal data and responses for research purposes, as described in this document.

Participant's Name: _____Signature: _____

Date: _____

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5. List of Tables

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