

LAUNCH THE FUTURE – WHITE PAPER

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ENHANCE-ING THE POST-COVID-19 UNIVERSITIES OF TECHNOLOGY

HYBRID FUTURES, STRONG COMMUNITIES – NEW PERSPECTIVES FOR EUROPEAN UNIVERSITIES

CHALLENGING FUTURES

Shaping the future is fundamental for every technology-oriented university. The current pandemic is a significant global disruption, creating an increased sense of uncertainty and volatility for our future. As a pandemic it has gone beyond international borders, and while different countries have chosen different approaches to deal with the situation, far-reaching changes to almost all aspects of life have resulted across the world. As far as universities are concerned, COVID-19 has changed the notions of when, where, and how we deliver higher education and research. The pandemic challenges all higher education institutions – and especially university alliances such as ENHANCE – to reimagine their strategic direction.

This paper builds on the outcome of the exchanges that have been had during the ENHANCE Launch Event on 12 March 2021 and its consecutive workshops. More than 600 students, academics and key stakeholders from society and partner universities around Europe discussed challenges and opportunities in digital education, smart working, international research and mobility.

ENHANCING the Future

ENHANCE has identified **five principles** for European Higher Education and Research in the future, which it will apply to the ENHANCE Alliance:

- Continuously evolving hybrid solutions will be driving Higher Education and research as the new normal: Our technical and given infrastructure needs to be adapted to hybrid delivery.
- The European University needs to embrace its crucial role as a facilitator of digital and physical space for interaction, to create an exchange amongst different cultures and social groups.
- Aim towards a 100% mobility rate: Physical and virtual exchange should be established as the norm for every student in Europe.
- More platforms are created for young researchers: They allow to train transferable skills, intra-scientific and professional development, and networking.
- European Universities of Technology should be significant actors in facilitating sustainable recovery after the Pandemic, through research, learning and social entrepreneurship.

MOMENTUM FOR CHANGE

The pandemic has forced change upon universities at an unprecedented speed. This has demonstrated that university systems, which often seem tied up in the traditions and restrictions of public administration can move rapidly. This will create momentum as we go forward in the future.

With the various contact restrictions implemented in most countries in response to Covid-19, a lot of teaching has moved to virtual formats. This has shown that change is possible, and that moving forward, significant hours of teaching could be delivered in virtual formats. However, the recent developments have also highlighted the limitations when there is a lack of in-person teaching and learning. Recent developments have also shown that a purely

virtual learning environment is not feasible for all courses or even desirable. In addition, the lack of social contact can have a detrimental effect on students and their academic experience.

THE PANDEMIC HAS COMPLICATED SOCIAL INTERACTION AND SHARPENED SOCIAL DIVIDE

Universities have long been a melting pot where academically gifted people of varied cultural, economic, and social backgrounds, could meet and pursue their interests. Moreover, through various extra-curricular activities, students at higher education institutions have had the opportunity to connect and build friendships with people from different backgrounds, and to experience and learn from different ways of life.

Keeping this in mind, universities need to enable those from less privileged backgrounds to have access to teaching and to gain qualifications that would level the playing field for graduates.

While some students and staff have been able to quickly switch to new modes of interaction, the lack of curricular and extra-curricular interaction has had a negative impact on students' ability to make new connections. The lack of in-preson teaching has also hindered students' to fully realise their potential. Especially students from disadvantaged backgrounds have not had the same possibilities to participate in virtual teaching offers and have suffered from the

lack of networks which enable informal learning.

The pandemic has created high levels of stress and the feeling of isolation. Lack of access to care has been felt severely, in particular by those at critical junctures in their career.

UNIVERSITIES OF TECHNOLOGY CAN BE DRIVERS OF THE COVID RECOVERY

Universities of Technology have always been an important factor in regional innovation systems. The Covid Recovery Support of the European Union and the member states need support, to enable a sustainable rehabilitation. European Universities of Technology will contribute to this through research, teaching of students and life-long learners, creating impact through entrepreneurship and knowledge exchange.

The Covid Pandemic has revealed the importance of international collaboration in research – the search for a vaccine and medical treatment of Covid-19 has been an international effort despite large-scale travel restrictions limiting our exchange dramatically. Open Science and Open Data facilitates international exchange without physical meetings. Nevertheless, the international research community has suffered. In particular, young researchers have not been able to create the networks which are crucial at this time of their lives, and research with society has become very difficult.

POST-COVID OPPORTUNITIES: REIMAGINING THE STRATEGIC DIRECTION

ENHANCE aims to aggregate long-term university cooperation in education, research and innovation. With seven innovative institutions of Higher Education at its driver's seat and with the valuable support of its Core Associated Partners, ENHANCE wants to meet the needs of the post-pandemic future – a future, where universities are envisioned as hybrid platforms combining analogue on-campus education with remote learning, utilising digital tools and their strength for borderless reach.

1. WHEN IT COMES TO POST-COVID EDUCATION, HYBRID IS A GAME-CHANGER

The pandemic has rapidly accelerated the digitalisation of universities. An important learning of the Covid-Crisis is that Higher Education Institutions need to remain digitally equipped and effectively re-integrate its traditional modes of education to allow for a more in-depth and flexible learning experience. While we must not lose the momentum for change, it is nevertheless important to recognise and integrate those aspects of learning which cannot happen in the virtual space.

Bearing the above in mind, we have the following policy recommendations for the ENHANCE Network:

Plan a Post-Covid transition phase:

During the workshops, the ENHANCE Network reported a significant increase in psychological stress amongst students. First-year students were particularly affected by the pandemic. Universities have always been places of scientific community-building, and have enabled academic and social interaction between people of various backgrounds. Universities have offered spaces of exchange for academia and the general public. Once social distancing measures have been fully lifted, we believe that universities will again will regain their intersectional role. Universities have a responsibility towards their students, to assist them in their transition out of isolation and back into an everyday academic life that allows social interaction and exchange. An orchestrated effort to foster networking amongst students and staff could be a first step into the right direction. Higher Education Institutions should therefore develop a strategy on how to (re-)integrate students to university life.

Create a Post-Covid-Education strategy:

The ENHANCE Network agreed on researching ways to implement the lessons learned from this global crisis, with a clear view to connect analogue on-campus learning with digital modes of education. The Post-Covid19-Education strategy should recognise students as stakeholders and align with their pedagogical, social and psychological needs. Universities should further develop suitable methods and formats for societal interaction, such as service-based learning. Learning and teaching needs to focus not just on learning content but also on general competencies, such as soft and social skills, ethical

understanding as well as European values. These values require physical experience and cannot be entirely transmitted through virtual settings.

- An important part of this strategy is a good balance of on-campus and off-campus education. Putting too much emphasis on remote-learning can lead to weaker student-university interaction and identification which has negative implications for sustainable alumni building. It can also lead to weaker student networks with less hands-on competencies in fields of study which may be problematic when seeking job opportunities.
- Universities are well advised to offer parallel on-campus lectures, streaming lectures, and recording lectures. This means that student-teacher interaction needs to be reshaped. Before the pandemic, engagement and attendance were often synonymous: A student's participation in a course was measured by whether they attended lectures. Hybrid formats require a more output focused style of teaching and learning. This requires more willingness for individual engagement by lecturers and students. Remote studying allows more flexibility for all groups. This can increase inclusivity as it allows for those to attend that may have physical disabilities, mental health issues or caring obligations. It is important to note however that more is required to allow for maximum inclusion of disadvantaged groups.
- ENHANCE is planning to offer a Certificate in Higher Education

Teaching. This will need to include tools for academic staff, to teach in hybrid environments and to promote competency-based learning. It will be crucial to find suitable ways to create interactive and engaging online learning groups and to use digital learning tools that provide enhanced learning experiences.

- The ENHANCE Network will identify digital courses offered by its partner institutions, to provide a broad and interesting educational spectrum for the students of the ENHANCE Alliance (see *International Student Mobility*) to take advantage of. This will allow for an inter- and transdisciplinary learning experience, connecting science and technology with the social sciences and humanities.

2. DIGITALISATION OF LEARNING, RESEARCH AND ADMINISTRATION WILL ENABLE BALANCED AND SMART WORKING

The university of the future needs to rethink its use of space and how it measures input and output of work. Hybrid work and study requires new forms of institutional infrastructure:

- Infrastructure: Once the crisis may pass, hybrid working will remain, meaning offices and lecture halls will not have to be visited daily to complete compulsory attendance, tasks, or study exercises. Since the pandemic revealed a "digital divide" between students (and at times, administrative staff), universities of the

future need to guarantee connectivity, devices, and open access licenses, preferably those, which facilitate no-cost use, reuse, repurposing and adaption. Otherwise, there is a real danger that students who cannot afford the necessary infrastructure will be side-lined.

- Switching between remote-classes and physical attendance should be easy and seamless. In terms of space planning, this has created new opportunities to utilise space both creatively and flexibly.
- Universities should further prioritise open educational resources; public education should not be dependent on digital platforms provided by private companies.
- Time management expectations need to be realistic: While digital tools create the possibility of constant accessibility, constant responsiveness should not be expected by students and staff. It is therefore crucial that academic and administrative staff and students agree on realistic response times and working hours.
- The ENHANCE Network can facilitate this process by offering academic staff, administration, and students the Higher Education incubator (time, space, mentoring or technical equipment), to develop and test new methods of working, learning and education in new administrative processes.

3. INTERNATIONAL RESEARCH MOBILITY EXPECTED TO USE DIGITAL TOOLS IN A MORE TARGET-ORIENTED MANNER

The recommendations for the ENHANCE network are varied when it comes to international research:

- Use Open Science as a driver of transformation of research and co-creation. It is a bottom-up movement with fast developments affecting society on several levels. New digital infrastructures and practices allow more crowdsourcing and crowd-sharing. This also facilitates sharing across the ENHANCE institutions, disciplines, and national sectors because it allows the sharing and reuse of publications, data, software, educational resources, and infrastructure in a much broader sense.
- Stabilise mobility grants: The sudden change to remote research cooperation affected mobility grants. The digital exchange has had its limits when it comes to sharing equipment (laboratories, machines etc.). ENHANCE should facilitate physical research stays as soon as restrictions have been lifted.
- Invest in digital tools as well as physical meetings: Technology can help to prepare and maintain network meetings, but real-life physical gatherings and networking events remain key for young researchers to establish a professional network. Once such a network is established, digital infrastructure can help to maintain it at lower cost.

4. MOBILITY IS KEY: STUDENT EXCHANGE WILL EXPERIENCE A BOOST

An increased mobility across the ENHANCE institutions is key to building the European Universities of Technology Alliance.

This process fosters European identity and enables ENHANCE students and researchers to work with European society.

Policy recommendations for the ENHANCE Network for future student mobility:

- After more than a year of reduced mobility opportunities, the demands for educational mobility are expected to increase significantly, especially within Europe. ENHANCE universities should seize this momentum and provide the infrastructure to match this elevated demand. This can be achieved through better information, stronger support for student mobility and the removal of administrative barriers.
- At the centre of this gradual transformation in student mobility will be the development of the ENHANCE European Education Pathways, i.e., a system of common learning goals and outcomes, a subject and competence mapping tool that allows students to select courses across all the educational offers of the partner institutions, with automatic, mutual recognition guaranteed. The pandemic has not changed the need to have common learning goals and outcomes as well as customised student journeys across the ENHANCE Network. ENHANCE should focus on establishing a recognition database for short- as well as long-term

mobility, including micro-credentials. This recognition database will ensure automatic recognition even of short-term or virtual mobility and will form the basis for both the establishment of mobility windows within degree programmes and for mobility between the different Bologna cycles.

- ENHANCE will aim to shape an environment where student mobility is the norm and staying at home is the exception. Students need to be encouraged to start planning their mobility stay from the first term onwards. Study plans will have to adapt to that – but this should not require any fundamental changes, since hybrid classes will make it possible to follow the courses offered by a student's home-university and from their host university at the same time – independent from the student's physical location.
- Integrate virtual and physical seamless mobility: Have digital intensive language courses at a distance before the semester begins, in small groups of exchange students where it is possible to make new contacts. There is the possibility to voluntarily choose on or off-campus lectures. The university offers more social events to foster networking.
- Students go abroad to gain intercultural experiences. Virtual mobility cannot replace physical mobility, it can complement it. Virtual mobility is a key factor for ENHANCE to achieve its sustainability objectives.

- Once established, these tools, processes and formats will be upscaled step by step to reach the long-term aim to expose 100% of the ENHANCE learners to an international experience – which is possible through the digital infrastructure built during the pandemic. Students will be able to select a course at one of the ENHANCE partner institutions, which fits the learning outcomes of their degree, supported by a machine-learning selection tool, and register for this course under the same conditions as the home students. There should be no need for selection by the home university, no separate registration at the host institution nor any other additional barriers. The ECTS achieved will be automatically transferred onto the student’s study record and be recognised for their final degree. This will lead to customised, innovative joint learning programmes at bachelor and master level.

The COVID-19 Pandemic has created barriers in working together as an alliance but it has also sharpened our minds for the necessity of a European University approach. ENHANCE has learned to transform this crisis into meaningful opportunity.