

## WE BELIEVE IN TECHNOLOGY ENHANCING A SUSTAINABLE SOCIETY

Science and Technology have transformed the world. Over centuries, we have witnessed significant technological achievements. Some have evolved with society, and, in other cases changes were sudden with high levels of disruption.

These changes have not always been a net positive for our planet, and it has become evident that the challenges we face today in Europe with the climate crisis, global health emergency, economic insecurity, political unrest, the energy crisis, and the skills gap, need technological solutions with a clear focus on societal benefit. Purpose-driven technology corresponds with the twin green and digital transition, with the United Nations Sustainable Development Goals, and should be rooted in values, as referred to in the Treaty of Lisbon.

**Technology itself is not progress, it is a means to positive change.**

ENHANCE, the European Universities of Technology Alliance, brings together ten leading European research-intensive universities with a focus on science and technology. Our universities work towards the common goal of making the European Education Area a thriving space for excellent education, open exchange, and a source for positive impact on society, the economy, and the environment. The Alliance includes

- Chalmers University of Technology (Sweden),
- Delft University of Technology (The Netherlands),
- ETH Zurich (Switzerland),
- Gdańsk University of Technology (Poland),
- Norwegian University of Science and Technology (Norway),
- Politecnico di Milano (Italy),
- RWTH Aachen University (Germany),
- Technische Universität Berlin (Germany),
- Universitat Politècnica de València (Spain), and
- Warsaw University of Technology (Poland).

## ENHANCE VISION AND MISSION

We envision a world where scientists and students work closely with society to develop constructive solutions that tackle our world's most pressing challenges. A crucial driver of this synergy is the European University, which fosters a common values-based European identity, transcending national borders. The European University enables mobility, exchange, and drives innovation, inclusion, equality, digitalisation, creativity, and responsibility. ENHANCE will be a flourishing ecosystem for high-quality higher education in Europe, with an international appeal for students and staff and a strong connection with society and European values.

By 2033, we will have built efficient and robust structures for our "European University": ENHANCE that draws from our combined and extended strengths in higher education, research, and innovation. Since 2019, the founding year of our Alliance, we have been working on establishing an efficient and supporting organisation that enables [One Campus](#), spans across our ten universities, and offers

students, staff, and scientists the best possible experience in education, research, innovation, and administration.

At the heart of ENHANCE lies our mission:

**Rooted in European values, our Alliance of European Universities of Technology will turn global challenges into opportunities by empowering people with knowledge and competencies in science and technology, to drive responsible transformation for the benefit of society.**

We will pursue our mission through transparent, trustworthy, and reliable changes in education, research, and administration, in solid cooperation amongst all member universities and associated partners. Coming from our strength in research, our mission embeds joint education within innovative and sustainable learning outcomes and methods, and it strives for continuous cutting-edge organisational change. In this dynamic development, innovations for, with and within society have a core position within ENHANCE.

## ENHANCE VALUES

ENHANCE is guided by European Values as referred to in the Treaty of Lisbon. We shape common European education and research whilst upholding respect for human dignity, freedom, democracy, equality, the rule of law and respect for human rights. A key aspect of our activities will be to operationalise these values for all the activities within our Alliance.

- **Human Dignity:** The value of the human being has characterised much of European philosophical thought and is something that must be central to the advancement of technology, science, and economic innovation. The human dimension, fostering well-being, driving individual ownership for positive change and innovation, and equipping people with tools to become more resilient in an ever-changing world has become an important aspect of our work.
- **Freedom:** Freedom of thought and the integrity and ability to think critically are crucial to developing science and technology in the service of humanity. This fosters progress and innovation, going beyond existing knowledge. With an eye for global developments, we increase our efforts where academic freedom is at risk.

Freedom also means allowing our students to complement their studies with knowledge, perspectives, and methodologies from other fields of their choice. Furthermore, we want to promote an enhanced freedom of movement between our institutions to shape a common European identity.

- **Democracy:** The European University is characterised by openness, mutual respect, and broad participation. We practice participatory governance that includes the cross-cut of our universities: our students, our professors, and our scientific and administrative staff. Furthermore, we involve societal stakeholders in our decision-making processes and support

the co-creation of knowledge through transdisciplinary research and the development of lifelong learning offers.

- **Equality and Human Rights:** Equal rights for all citizens are the foundation of European integration, underpin all policies and apply to all areas. Human rights include the right to be free from discrimination. Educational opportunities and exchange within the European University will be accessible to all on equal grounds, independent of economic background, special needs, or family circumstances. We are committed to considering gender, social and cultural background, and special needs.
- **Rule of Law:** The concept of the rule of law is a cornerstone of our society and ENHANCE builds on those fundamental concepts. Our cooperation is based on a clear and transparent set of rules which can be invoked by all members of the Alliance. Our values will be transparently communicated, ensuring a broad understanding of the overall guiding principles that all actions in ENHANCE must comply with.

## THE CHALLENGE – REACTING TO A VOLATILE WORLD

ENHANCE responds to a volatile, uncertain, complex, and ambiguous world. We are facing many crises, interferences, interdependencies, and an ever-changing world: the sustainability crisis, most prominent in climate change, the loss of biodiversity, the aftermath of a global pandemic; the war in Europe and new systemic rivalry at a global stage. At the same time, technological disruptions in the field of digitalisation and life sciences are transforming our societies and economies. The innovation gap in Europe and the demographic challenge of an aging society increases the current economic crisis.

There is an urgent need for sustainable innovation and transformation. At ENHANCE, we believe this can only be achieved if we pool our resources, finally breaking down the barriers which keep European students, alumni, and researchers from fully and jointly contributing to the European future and beyond.

Innovation for society is at the heart of what ENHANCE stands for. Our graduates have the competencies to drive innovation, be it in local small and medium-sized enterprises, in multinational corporations or in start-ups. Our researchers develop new knowledge at the forefront of innovative technology, with a deeper understanding of its connection to society and the environment. We also support their personal growth and well-being, to facilitate their best development. Our innovators think sustainably, base their research on European values, address value creation as well as societal needs and readiness. They all acquire the skillsets needed to navigate within a volatile world, with a deeper understanding of digitalisation or sustainability.

For ENHANCE to achieve its full potential our students need access to complementary courses available across the Alliance. Researchers and academic teachers should be able to move freely between our partner universities and societal stakeholders to conduct research and teaching, using research infrastructure as needed. Through our commitment to open science we want to ensure that knowledge is accessible to researchers and society.

ENHANCE provides its member institutions with an agile organisation to react quickly to a changing environment. It is a testbed to drive institutional change in learning and research with society. It

enables students and researchers to form a European community that addresses global challenges with strategic autonomy.

The European integration has transformed higher education through the Bologna Process, Erasmus mobility and joint research. We want to take the next step forward.

## ENHANCE 2023–2033 – OUR GOALS FOR THE NEXT TEN YEARS

We are building on two years of successful and deepening cooperation. In this period, we have set up an effective governance structure, developed a joint education strategy, and established the first pilots in the European Education Pathways and micro-credentials. We have mapped our efforts in diversity and gender equality and are now, as a collective, developing new solutions to make our universities more inclusive environments. We have developed new formats in transdisciplinary research and teaching. Sustainable Entrepreneurship and Innovation has been established as a concept, and experts are engaged in a constructive exchange to drive the entrepreneurial spirit within our universities.

Now, we are expanding our Alliance to ten partner universities, further diversifying our association, and making ENHANCE a European powerhouse of research-intensive universities and a broad network of innovators.

While education is at the heart of the ENHANCE mission, research and innovation are strongly connected. Through our inclusive governance structure, we create a mechanism to strengthen European research and innovation within our Alliance, enabling synergies with teaching. ENHANCE aims to strongly contribute to the European Innovation Agenda while being a central element in building the European Higher Education Area and the European Research Area, creating an association that strengthens its members across all aspects of their university's mission.

ENHANCE has and will continue to drive its pilot topics of Digitalisation and AI, Climate Action, and Smart and Sustainable Cities and Communities. These pilot topics reflect our common and complementary research strengths as well as regional priorities and contribute to Europe's priorities and the United Nations Sustainable Development Goals. They are guiding elements in our activities.

We start with our deep collaboration in education. Together, we will set ourselves the following goals in the next ten years:

### 1. European Education Without Barriers

ENHANCE as an agile organisation working towards a deep integration of our educational offer and administrative procedures, forming a platform for new developments, we will contribute significantly to the sustainable development of the European Education Area. ENHANCE One Campus will remove administrative barriers to access the knowledge created in our institutions. In the next ten years our students will be able to learn from all member institutions. We will continuously develop our joint education strategy further to incorporate new forms of learning: learner-centred and challenge-based. We will jointly develop and implement new ways of learning with micro-credentials and other formats, also for lifelong learning. We will accelerate joint teaching and research by enriching research careers and structures and fostering our excellence in research, enabling, and motivating academic staff to move freely within our innovation ecosystems. By 2033, 50%

of our students will have the opportunity for mobility and 100% will benefit from our international educational content.

## 2. European University for the Future of Europe

ENHANCE will be an Alliance for the Future of Europe. We produce the knowledge and talent for Europe to remain an innovation leader, focusing on green and digital transformation skills. Our basic premise is that education, research, and knowledge transfer are closely interrelated: **a)** We enable our students to benefit from the European research networks of our Alliance and to think with an entrepreneurial mindset. **b)** We enable the creation of new knowledge and an in-depth understanding of new technologies to benefit society, focusing on deep technology. **c)** We foster innovation ecosystems. This influences the competencies we teach and how we teach them. ENHANCE will connect science with society by improving conditions to allow researchers to experiment with innovative ideas while simultaneously teaching and embracing industry and societal stakeholders. Society plays an essential part in the creation of new knowledge, and we want to strengthen citizen involvement.

Furthermore, as a powerhouse of knowledge creation with strong industrial links, we will involve the innovation industry and build a strong network of academics and entrepreneurs to make Europe a thriving ecosystem where talents and companies work together to develop breakthrough solutions to tackle our world's most pressing challenges.

## 3. European University for a Resilient Society

The European Values we uphold are at the core of how we do things and why we do them. We want to lead by example to help foster resilience amongst our students, staff, and societal stakeholders. Europe needs to attract, develop, and retain talent, irrespective of social background, gender, sexual orientation, or age. We create learning environments that make STEM subjects accessible to all. A volatile world means that access to reliable knowledge is crucial. This also means understanding how new knowledge is created and what contribution it can have to society.

As an Alliance of European Universities of Technology, we want to provide the best conditions to train excellent tech talents and enhance deep tech skill sets with gender and diversity sensitivity, an understanding of societal connections and an entrepreneurial mindset. In a volatile world we want our talents to develop future-proof skills to foster a more resilient society, and to become inspiring leaders of positive change.

## CLUSTERS OF TRANSFORMATION – ACHIEVING OUR GOALS FOR THE NEXT TEN YEARS

To achieve our mission in the next ten years, we will work through three transformation clusters until 2033:

1. Innovative Organisation
2. Future Knowledge
3. One Campus

We will establish mechanisms that involve our education, research, innovation, and knowledge transfer dimensions to drive progress in all our missions and to integrate them sustainably and constructively.

The three Transformation Clusters collectively form an agile innovation pipeline.

1. **Innovative Organisation** creates the basis for an agile, innovative, and inclusive European University. It develops a results-oriented governance structure. This cluster upholds our commitment to European values and promotes them within our Alliance and beyond. Our Alliance is a strategic and organisational ecosystem. We therefore emphasise active EU (European Union) policy engagement, the development of a culture of impact awareness and communication of our impact to inspire new action. From an organisational standpoint, we will further develop our governance structure to become more agile and robust. We will drive our efforts in staff development, diversity, inclusion, and gender equality, to empower the people behind the organisation and make them inspiring agents of positive change.
2. Anticipating **Future Knowledge** enables ENHANCE universities to better understand and address the needs of European society and innovation ecosystems, in terms of talent (and research). This cluster drives research and the application of cutting-edge pedagogical innovation. It tackles the need for a deeper understanding of how future and current generations learn using disruptive technologies, where knowledge security is an important precondition. It identifies and develops skill sets and values to serve current and future job markets. A particular focus lies in enabling all our students and staff to become sustainable entrepreneurs and intrapreneurs. Future Knowledge actively promotes a transdisciplinary approach to research and education through continuous interactions with society. Alongside science and technology, social sciences and the humanities will be key elements in the learning experiences of ENHANCE learners.
3. **One Campus** creates the deep integration at the structural level, removing administrative barriers for all members of the university and building a connected and modern IT-infrastructure that ensures safe and efficient interoperability. One Campus creates the frameworks for innovative teaching formats, through which future knowledge can be made available to all students, staff, and lifelong learners. Furthermore, it delivers the three main objectives of our joint education strategy: **a**) we will build on the European Education Pathways pilots and expand them as a system for cross-alliance access to courses, **b**) we will develop a joint learning offer, micro-credentials, and other forms of short-term offers which are flexible and learner-centred, **c**) we will address the needs of learners through a variety of topics, including the digital and green transition. This will enable us to increase the mobility of students in the long run to 50%.

Our transformation goals aspire to make ENHANCE and its ten member universities an alliance that cooperates from a position of strength. We are working towards maximum preparedness for a volatile world, not just to withstand the implications of uncertainty, complexity, and ambiguity, but to use them to our best advantage, and make our institutions, our people, and our societies strong, resilient, and constructive sources of positive change.