BLUEPRINT FOR THE PARADGIMATIC SHIFT TOWARDS INDUSTRY 4.0.

The Blueprint aims to provide a strategic plan including actionable recommendations on how to solve the educational challenges around Industry 4.0. It will give larger-scale strategic directions and related actionable insights on how to prepare for Industry and Education 4.0.

The current version is an initial approach reflecting the findings of the research phase, conducted mostly in Finland, Poland and Portugal, but considering the European and even the global landscape. This includes the insights from the collaborative events implemented with representatives of higher education institutions, industry, and public sector, as well as students.

The continuation of the UoF consortium activities will enable the continuous improvement and further development of the Blueprint, with the objective of delivering a more robust and validated version by the end of 2025.

HIGHER EDUCATION INSTITUTIONS	COMPANIES	PUBLIC BODIES
PORTO DESIGN FACTORY P. PORTO (COORDINATOR)	IKEA INDUSTRY PORTUGAL, LDA.	ANI - AGENCIA NACIONAL DE INOVACAO, SA
AALTO-KORKEAKOULUSAATIO	CONSAIR OY	TEKNIIKAN AKATEEMISET RY
POLITECHNIKA WARSZAWSKA	WILLSON & BROWN WB SP. Z O.O.	POLSKA KOMISJA AKREDYTACYJNA

SUPPORT PARTNERS

PLATONIQ SISTEMA CULTURAL

INOVA+, INNOVATION SERVICES S.A.

AALTO-YLIOPISTON YLIOPPILASKUNTA / BEST – BOARD OF EUROPEAN STUDENTS OF TECHNOLOGY

JUNTA DIGITAL

UNIVERSITIES OF THE FUTURE

COLLABORATIVE DIGITAL SHIFT TOWARDS A NEW FRAMEWORK FOR INDUSTRY AND EDUCATION

BLUEPRINT FOR THE UNIVERSITIES OF THE FUTURE

universitiesofthefuture.eu

Co-funded by the Erasmus+ Programme of the European Union

Universities of the Future is a Knowledge Alliance Project (588409-EPP-1-2017-1-PT-EPPKA2-KA). This project has been funded with support from the European Commission. This document reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

Industry 4.0 Challenges

Challenge 1: Lack of understanding of how to prepare for future work - Knowing how to prepare for future work requires an understanding of what the future work could be like, organisational structures that allow for it to emerge, and the legislation to support it.Labour and workforce legislation need to be updated to protect the new types of workers, and to allow a new type of agile work to bloom. Additionally, rigid structures within corporations prevent people from working in a flexible way, much like outdated legislation does.

Challenge 2: Lack of skilled workforce - The lack of skilled workforce manifests as specific challenges such as a lack of understanding technology, a lack of knowledge of strategic use of information and a lack of abilities to create new business models.

Challenge 3: Lack of vision on technology - The greatest cause for a lack of vision on tech is the lack of a skilled workforce. The lack of vision is further amplified by resistance to change, as people are unwilling to take steps away from their comfortable situation, and homogeneous cultures. The lack of vision causes an inability to choose and invest in the right tech as well as an inability to achieve systems integration.

Skills needed for Industry 4.0

Domain-specific skills refer to the skills needed to perform a specific professional occupation. These skills are further divided into engineering, business and management, and design and innovation specific skills. Some examples of these skills can be

- **Engineering,**
- **Business and management,**
- **Design and innovation.**

Transferable skills refer to the skills that can be applied in different settings and contexts. These are the focus of this Blueprint, as a set of domain-specific skills apply only to a small part of the workforce, whereas transferable skills can be seen to be relevant across the borders of professions. Some examples of these skills can be

- **Personal skills,**
- **Ability to learn,**
- **Tech literacy,**
- **Understanding the impact of technology,**
- **Digital skills,**
- **Entrepreneurial mindset,**
- **Project management skills and methods,**
- **Business thinking,**
- **Systems thinking,**
- **People skills**
- **Problem-solving skills.**

Evolution Scenario

The challenges presented earlier need to be overcome, to reach a world in which new ways of working are supported both by employers and the societal structures in place, to guarantee that there is enough of skilled workforce who have an opportunity for continuous learning, and to assure that people are able to understand the effects and potential of technologies on societies and on a sustainable world.

Imagining the Future

It is the year 2040, and after two decades of research and learning by doing, Europe has reached a point where Industry 4.0 is booming. The industry has taken the new technologies to use and the technological, economic, and social transformation are benefiting society as a whole. Education is scalable, effective, of high quality, and available to all. The governments have developed Industry 4.0 enabling legislation for new technologies, like autonomous systems, and business models, including legal structures around new types of work, such as platform economies.

Recommendations

- **Creating a shared vision and a will to act**
- **Supporting new ways of working**
- **Ensuring a skilled workforce**
- **Having a vision on and understanding the impact of technology**

Find out more about each recommendation on the **Briefing "Blueprint for the Universities of the Future"** that is available on our website: **https://bit.ly/3xCzosN**