INTERNATIONAL JOINT POST-GRADUATION IN INDUSTRY 4.0 DIGITAL INNOVATION AND TRANSFORMATION

Universities of the Future

OBJECTIVES

The International Joint Post-Graduation in Industry 4.0 Digital Innovation and transformation, aims to address the existing (and potentially growing) gap between industry and higher education offer by developing new, innovative and multidisciplinary approaches to teaching and learning for upskilling and reskilling of the current workforce, stimulating entrepreneurial mind-set and digital skills, while facilitating the exchange, flow and co-creation of knowledge.

This innovative course offers the possibility to participants to learn in an international environment and in a collaborative way, inspired by real scenarios based in challenges and problems faced by industry.
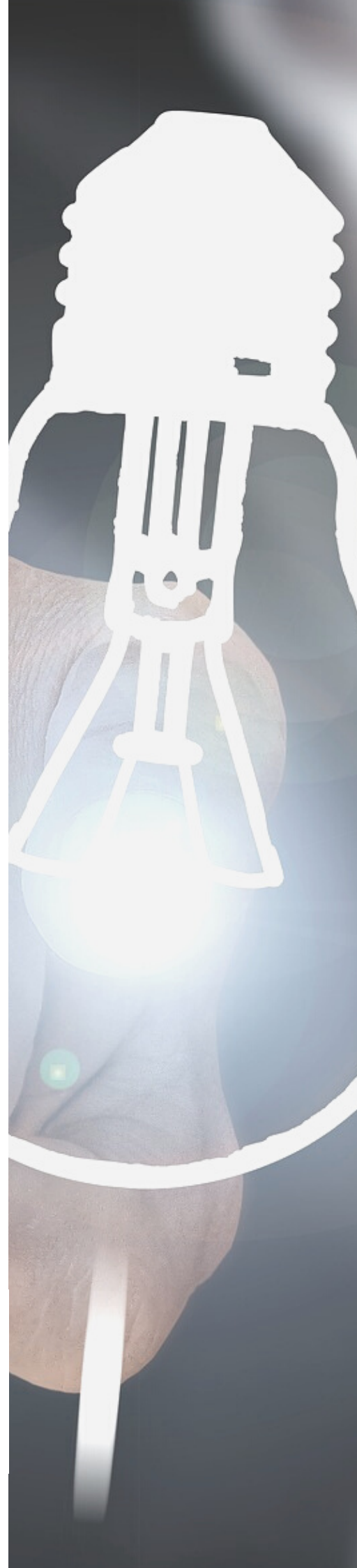
ORGANIZATION

This initiative is a result of the collaborative efforts of the Universities for the Future consortium members. The delivery of this international course is a joint responsibility of P.PORTO, Aalto University and Warsaw University of Technology.
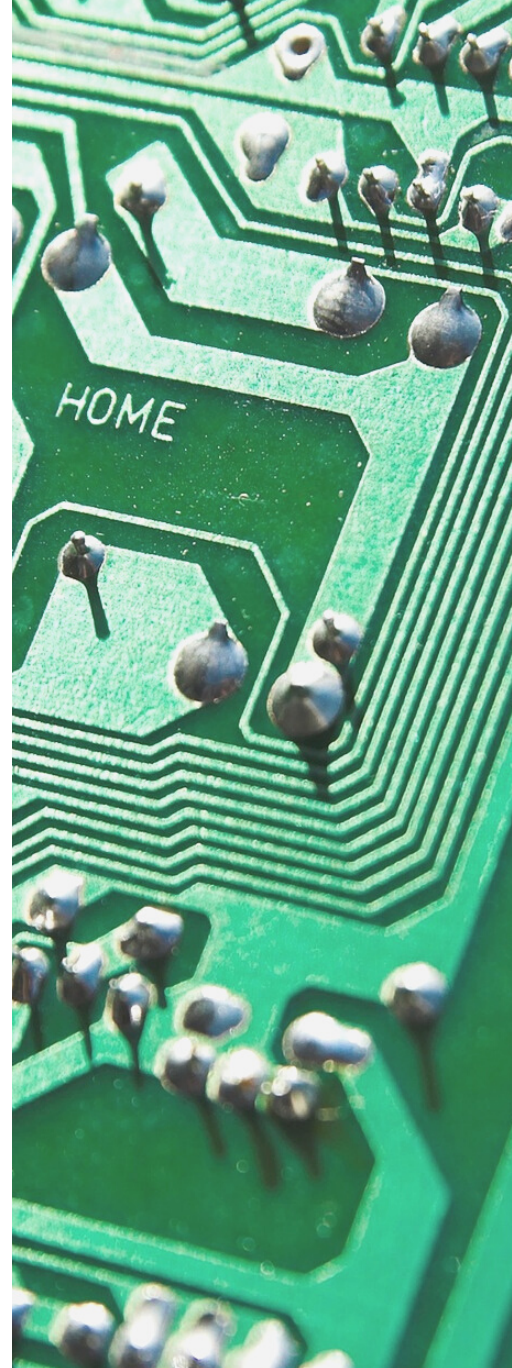
STRUCTURE

Corresponding to 30 ECTS, the Post-Graduation in Industry 4.0 Digital Innovation and Transformation will have the full duration of 750 hours and includes six modules.

This course is divided into 245 contact hours (face to face and online lessons of 2 hours duration and three intensive work weeks in international environment) and 505 hours of participants autonomous work.

The three work weeks will take place in Portugal, Poland and Finland, where all the participants from the three countries will be working together to solve hands-on projects.

The Post-Graduation is supported by a Virtual Factory, based on real challenges and problems from industry (hands-on projects), with joint international students working together as a team using the collaborative platform, streaming, etc.

	Modules	Contact hours	Autonomous Work	ECTS
1	Project	72.5	102.5	7
2	Soft and T-skill	72.5	102.5	7
3	Shifting to I4.0: Change Management and IT Driven	25	75	4
4	Co-creation, New Business Models and Business Analytics	25	75	4
5	Intelligent IS and Decision Support Systems	25	75	4
6	Sustainable Enablers	25	75	4
	TOTAL	**245**	**505**	**30**

CALENDAR

Starting on the next 16 of March 2020, the Post-Graduation will last for 20 weeks, ending by the end of the first week of October 2020 (stopping during the Easter week and the months of July and August).
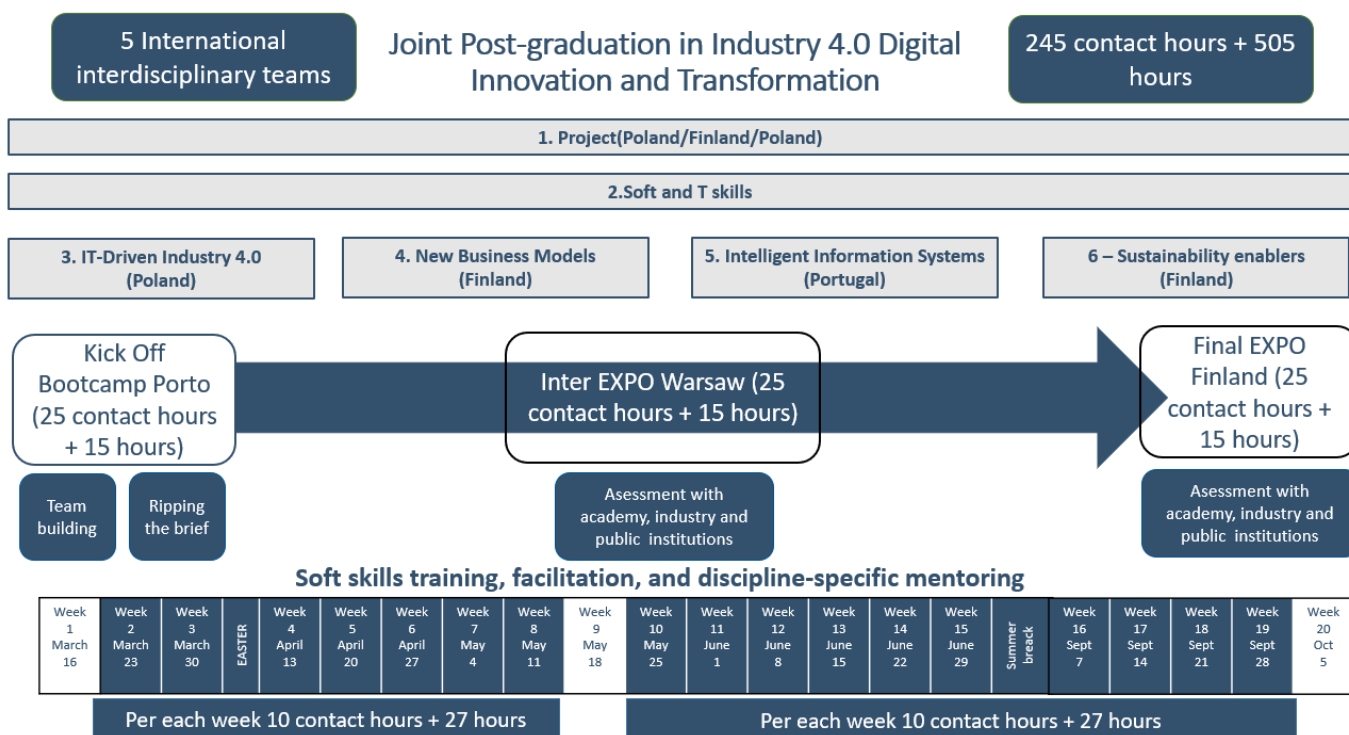
During the first, ninth and twentieth weeks, all the participants will be together **in a work intensive week in Porto, Warsaw and Helsinki** respectively. During five days the group will be working together in face-to-face practical oriented sessions (total of 25 hours), complemented by autonomous work. This work weeks will take place at:
Porto, 16 to 20 March | Warsaw, 18 to 22 May | Helsinki, 05 to 09 October

In all the other weeks, participants will be engaged in classes (2 hours duration each), enriched by 27 hours of autonomous work. The regular classes will be offered face-to-face (at P.Porto, Aalto University and Polytechnic University of Warsaw) with mentoring for the module Project and online for the other modules. The post-graduation uses a digital platform (Virtual Factory) to support the online classes.

All the classes will be delivered in the following schedule.
- **8 to 10 am Monday-Friday (Portugal)**
- **9 to 11 am Monday-Friday (Poland)**
- **10 to 12 am Monday-Friday (Finland)**

5 International interdisciplinary teams	Joint Post-graduation in Industry 4.0 Digital Innovation and Transformation	245 contact hours + 505 hours

1. Project(Poland/Finland/Poland)

2.Soft and T skills

3. IT-Driven Industry 4.0 (Poland)	4. New Business Models (Finland)	5. Intelligent Information Systems (Portugal)	6 – Sustainability enablers (Finland)

Kick Off Bootcamp Porto (25 contact hours + 15 hours)

Inter EXPO Warsaw (25 contact hours + 15 hours)

Final EXPO Finland (25 contact hours + 15 hours)

Team building

Ripping the brief

Asessment with academy, industry and public institutions

Asessment with academy, industry and public institutions

Soft skills training, facilitation, and discipline-specific mentoring

Week 1 March 16	Week 2 March 23	Week 3 March 30	EASTER	Week 4 April 13	Week 5 April 20	Week 6 April 27	Week 7 May 4	Week 8 May 11	Week 9 May 18	Week 10 May 25	Week 11 June 1	Week 12 June 8	Week 13 June 15	Week 14 June 22	Week 15 June 29	Summer breack	Week 16 Sept 7	Week 17 Sept 14	Week 18 Sept 21	Week 19 Sept 28	Week 20 Oct 5

Per each week 10 contact hours + 27 hours

Per each week 10 contact hours + 27 hours

TARGET GROUPS

The Post-Graduation targets the current industry workforce interested in reskilling and upskilling their competences and putting into practice projects to accelerate their company's digital innovation and transformation processes.

Participants will be selected upon the following criteria:

- Bachelor's degree (preferably in Engineering or Management or in any related study areas)
- At least two years of professional experience, assuming currently a decision taking job position
- Involved, conducting or expecting to be in any digitization process
- Fluent in English
- Motivated and willing to invest his/her time in an innovative learning process

The selection committee will guarantee the gender balance between the participants. In case of need, candidates might be invited for a selection interview, to review his/her background and willingness to participate in the Post-Graduation. The participation in this pioneering is limited to 30 participants from Portugal, Poland and Finland (10 participants per each country).
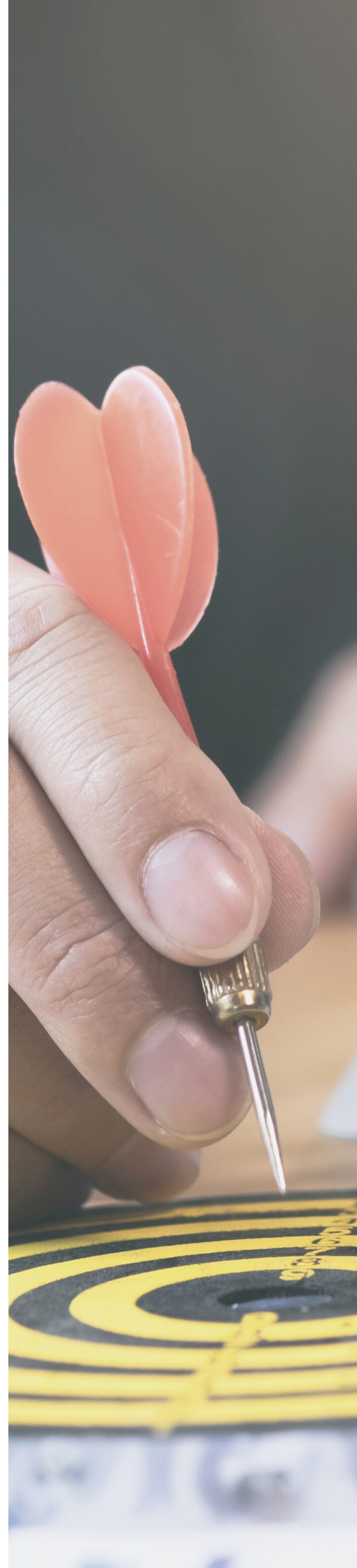
HOW TO APPLY

If you fell motivated to take part of this adventure, please apply sending a **full CV** and a **motivation letter in English** (**deadline 7th February 2020**) to:
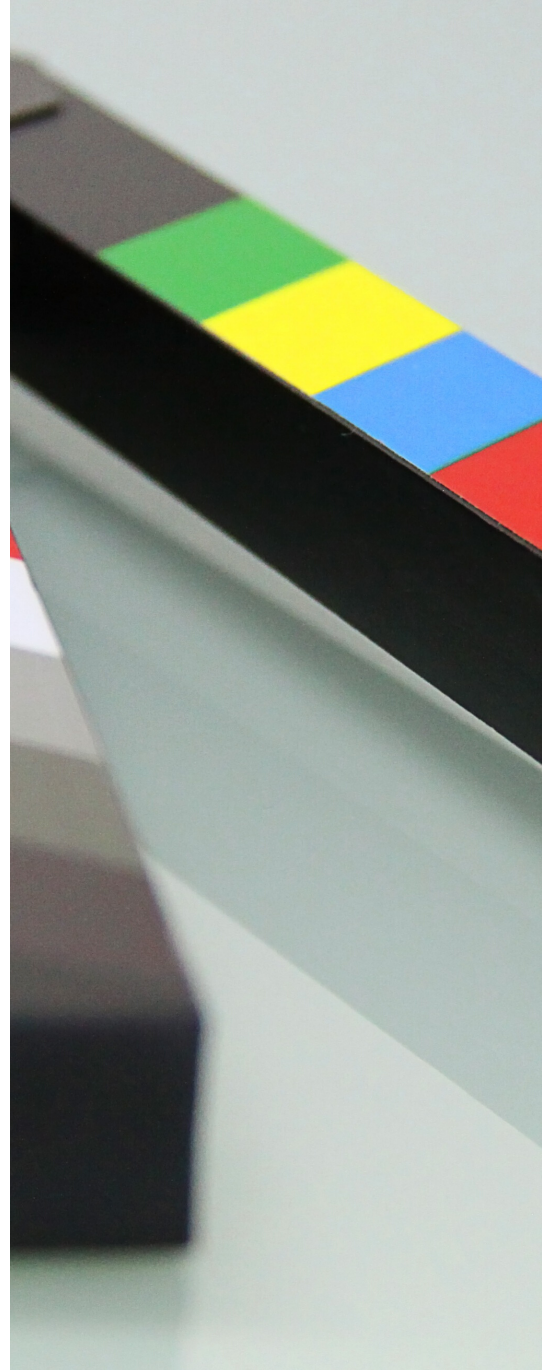**P.PORTO | portodesignfactory@sc.ipp.pt**
Aalto University | marcela.acosta@aalto.fi
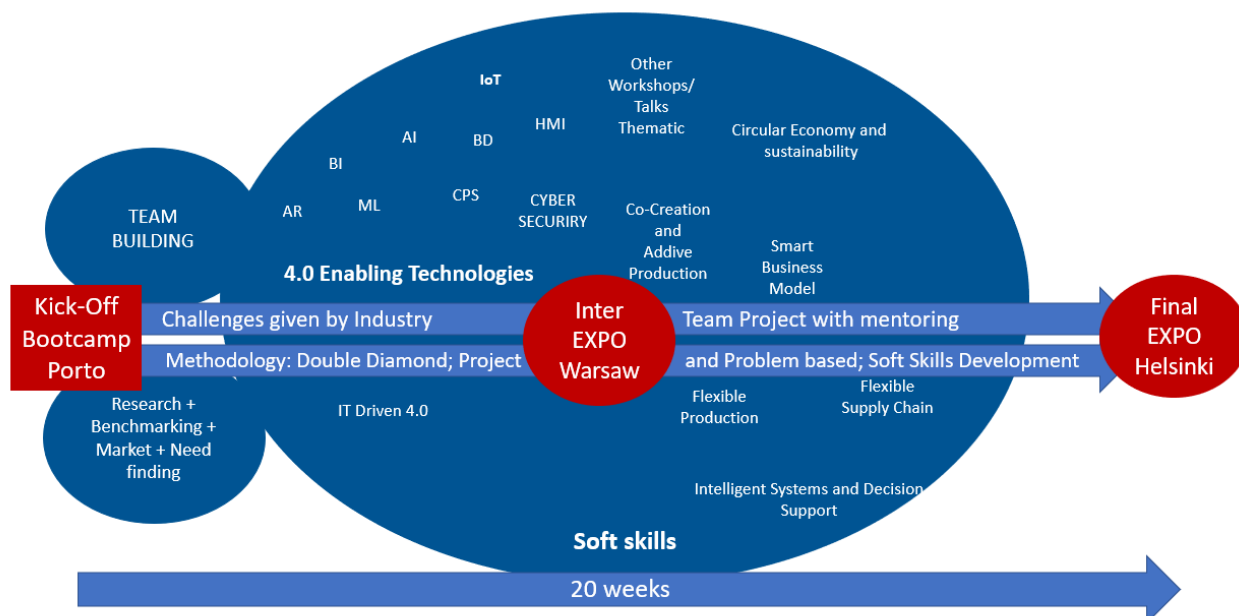**Warsaw University of Technology | wdf@pw.edu.pl**

http://universitiesofthefuture.eu

TOPICS

Modules and Topics		
M1 Project	**M2 Soft and T-skill**	**M3 IT Driven Industry 4.0**
Challenges based project (given by industry) using adapted Double Diamond Methodology	Introduction: Neuroscience and Human Development in VUCA Environments (4.0) Self: Self Awareness and Self Knowledge The other: Interpersonal Relationship The team: Productivity and Positivity The organization: Tune, Sync and Synergy Society: Sustainability, Ethics and Moral Development	Introduction to I4.0 Cyber Physical Systems IOT Cyber Security
M4 Co-creation, New Business Models and business analytics	**M5 Intelligent Information Systems and decision support**	**M6 Sustainable enablers**
Methods and Tools Cases Studies Data analytics and machine learning methods Projects	Decision Support Enterprise architecture – EA Enterprise Applications Enterprise Modelling Systems interoperability	Physical internet Additive Production Circular economy

Joint Post-graduation in Industry 4.0 Digital Innovation and Transformation

ORGANIZATIONAL ASPECTS

A confirmation email will be sent individually to all the selected participants no later than 14th February, 2020. By that time, participants will be asked to provide the following elements (scanned versions):

- copy of ID card or passport
- letter of commitment to secure your involvement in the three joint working weeks.

The participation in the International Joint Post-Graduation **is free of charge!** However, the participation in this initiative includes some costs related to the participation in the joint working weeks abroad (each participant will have to travel twice for two periods of one week each).

The costs of travelling and subsistence that the participants will have to incur will be compensated with the attribution of a grant of 360€ for costs of flight and of 275€ for costs of subsistence and accommodation. These individual grant is attributed following the rules of the Erasmus+ programme.
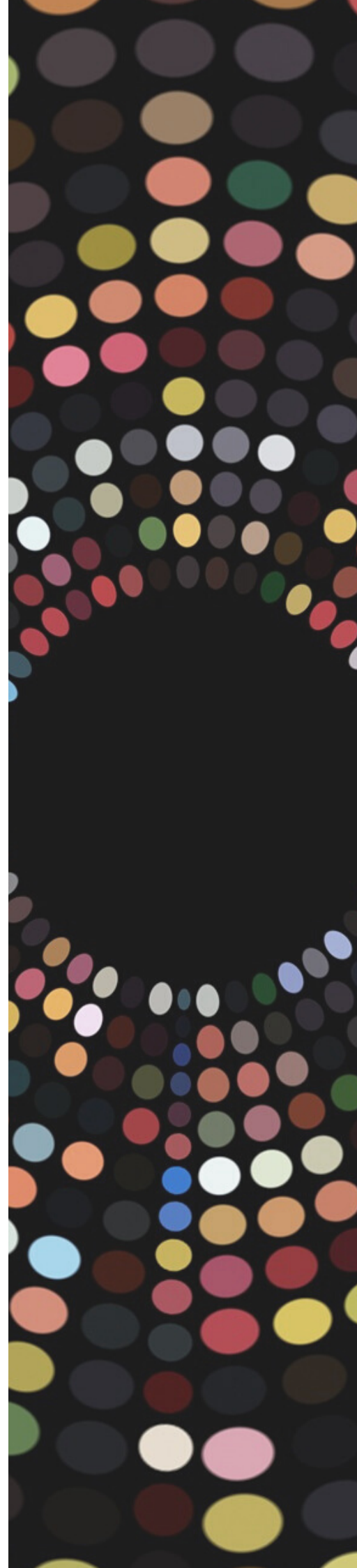
Erasmus+

THE PROJECT

Universities of the Future (UoF) is a Knowledge Alliance Project funded with support from the European Commission through the Erasmus+ programme. UoF is aiming to create a paradigmatic change in the way higher education institutions, industry, and public bodies collaborate around education for Industry 4.0.

The project is a 3-years duration initiative (started in 2018) aimed to address the educational needs arising from Industry 4.0 in Europe by creating innovative educational offers and resources. During the project implementation, a group of 13 institutions from four countries is promoting research in the core topics and organizing collaborative events fostering the creation of a community of practice for the development, implementation, and dissemination of the outcomes.

The consortium produces three research-based reports with a focus on education for Industry 4.0: state-of-the-art, best practices, and a blueprint for the Universities of the Future. Furthermore, the consortium is creating a Virtual Teaching and Learning Factory for Industry 4.0. The Factory provides a virtual platform for supporting the piloting of new collaborative teaching and learning activities around Industry 4.0, that are created as a part of the project.

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UF UNIVERSITIES OF THE FUTURE