

## Best Practice for University Education

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The identified best practices in deliverable D4.3 consist of 5 master programs targeting Bachelor students in Europe. These master programs stand out on one hand through their educational content addressing the identified skills needed for the digitalization of the energy sector. On the other hand, the programs include some interesting structural and transferable practices. These practices focus mainly on educational programmes with industrial connections and programmes within the framework of pan-European exchange like EIT InnoEnergy and Erasmus Mundus.

Master Program	University	Involved Stakeholders	Practice
Specializing Master in Smart Grids	POLIMI	Enel Group	Industry collaboration, talent recruiting, use of digital tools, laboratory work
Master's Degree in Smart Grids	UOS, COMILLAS	Iberdrola, Minsait/Indram, UFD	Industry collaboration, international education, double degree program,
Master's Degree in Digital Energy and Business	HS-Albsig	Companies in the German energy industry	Hybrid teaching, project work with industry, energy business education
Master's Degree in Decentralized Smart Energy Systems	KTH, UL	EIT InnoEnergy, EUA, PoliTO, UPC	Use of digital tools, European network, double degree program, industry/research collaboration, education certificate
Master's Degree in Smart Electrical Networks and Systems	KTH, TU/e, KU Leuven, Grenoble INP, UPC	EIT InnoEnergy, ESADE Business School	Use of digital tools, European network, industry/research collaboration, energy business education, double degree program, education certificate

## Good Examples for University Education

Apart from the Best Practices, during our research for D.4.3, some other examples that support the analysis of the university education were identified, while not directly related to energy digitalization or not fulfilling the requirements completely. To expand our research and provide a more comprehensive view, these are also presented and analyzed as good examples. These examples complement both our research and the identified Best Practices and include also different types of programs connected to universities. In Contrast to the Best Practices, the Good Examples other program types that target a wider range of audiences. These programs include workshops, conferences, research institutions and cooperation, summer schools targeting students, PhD students, researchers, young professionals, and lectures. Overall, Good Examples provide valuable insights into methodology and important lessons learned that can be applied in the university sector.

Program Name	Organizer	Involved Stakeholder	Program type	Target
Re-Generation	International Telematic University Uninettuno	ENEL	Short E-Learning courses	Students
The project ENERSOL	NPI DigiKoalice	Several Czech ministries, educational agencies and institutes, association of regions and industry association	Higher School Program	Graduates
<b>Centre for Digital Energy</b>	Fraunhofer Institute for Applied Information Technology (FIT)	RWTH Aachen University	Research projects, PhD program	PhD students, students, professionals
<b>Summer School Energy Technology, Policy and Politics</b>	Energy Science Center (ESC); Institute of Science, Technology and Policy (ISTP)	ETH Zürich	Summer school	PhD students, postgraduate students
<b>SEEEP PhD Summer School</b>	Royal Institute of Technology (KTH), Eindhoven University of Technology (TU/e)	European network of technical universities (CESAER), CLUSTER and the Chinese Network, Sino European Engineering Education Platform (SEEEP)	Summer school	PhD students
<b>Iberdrola University Programme</b>	Iberdrola University	MIT, Comillas, USAL, UOS, ITESM, HBKU, YU, UNM, UFRJ	University-industry agreement	Students, grant recipients, teachers, researchers, employees
<b>HHL Energy Conference</b>	HHL Leipzig Graduate School of Management	Energy industry sector	Case study competition, workshop	students, young professionals
<b>International Workshop on Energy Data and Analytics e-Energy Workshop</b>	KIT	University and industry partners	Virtual conference/workshop	PhD students, students, professionals
<b>Digital Energy Conference</b>	Bitkom	DKB, Enpal., PPC, techem	Conference	PhD students, students, professionals
<b>IEEE International conference on Energy Technologies for Future Grids</b>	ARC, ITTC	IEEE IAS, IEEE IES, and IEEE PES, ITRP, Universities and Industries	Conference	PhD students, students, professionals



<b>Future Energy Systems</b>	University of Alberta	Canada First Research Excellence Fund	Collaboration of universities, industry, policy makers and public institutions	PhD students, students, professionals
<b>European Master in Renewables Energy</b>	EUREC	EUREC EEIG, NTUA, Mines Paris, University of Zaragoza, Hanze UAS, IST, UOL, Northumbria University, UPVD	Master program	Master students
<b>Joint Programme in Digital Transformation</b>	University of Mannheim	SAP	Add-on certificate (honours programme)	Students
<b>International conference on energy, environment, and digital transition</b>	AIDIC	UniPa, UCL, EPFL, ENGIE Research & Innovation	Conference	PhD students, students, professionals
<b>Workshop Modeling and Simulation of Cyber-Physical Energy Systems</b>	IEEE	TU Delft, WVU, AIT	Workshop, Conference	PhD students, students, professionals