Objective

Industry 4.0 refers to the fourth industrial revolution and technological evolution from embedded systems to cyber-physical systems (CPS) in production. The main objectives of Industry 4.0 can be summarized as the introduction of intelligent
systems in production and logistics, the development of highly adaptable and modular manufacturing and logistics systems, the integration of sustainable and advanced manufacturing technologies as well as the promotion of automation technology and human-machine interaction. In the context of Industry 4.0 new ICT and web technologies act as booster or enabler of smart, autonomous and self-learning factories facing the challenges of even more individualized and customized product portfolio.

A great challenge for the future lies in the transfer of Industry 4.0 expertise and technologies in small and medium sized enterprises (SME). SMEs represent the backbone of the economy and have an enormous importance in the development programs of the European Union for strengthening the competitiveness of European enterprises. Although the high potential of Industry 4.0 in SMEs, the main limit lies in a lack of concrete models for its implementation and application in small and medium enterprises. Thus, this research project titled “Industry 4.0 for SMEs - Smart Manufacturing and Logistics for SMEs in an X-to-order and Mass Customization Environment” aims to close and overcome this gap through the creation of an international and interdisciplinary research network. Identifying the needs and enablers for a smart and intelligent SME-Factory, creating adapted concepts and design solutions for production and logistics systems in SMEs and developing suitable organisation and business models will be the three main objectives of this research network. The applicability of the results is ensured through a close collaboration with a European small and medium sized enterprise (non-academic partner) from mass customization industry.

Fields of science

natural sciences

social sciences  >  sociology  >  industrial relations  >  automation

social sciences  >  political sciences  >  political transitions  >  revolutions

social sciences  >  economics and business  >  business and management  >  business models

social sciences  >  economics and business  >  economics  >  production economics  >  productivity

Keywords

Industry 4.0  Cyber-Physical-Systems  Manufacturing Systems  Logistic Systems

Mass Customization  Small and medium sized enterprises  SME  Business Models
Programme(s)

H2020-EU.1.3. - EXCELLENT SCIENCE - Marie Skłodowska-Curie Actions
H2020-EU.1.3.3. - Stimulating innovation by means of cross-fertilisation of knowledge

Topic(s)

MSCA-RISE-2016 - Research and Innovation Staff Exchange

Call for proposal

H2020-MSCA-RISE-2016

See other projects for this call

Funding Scheme

MSCA-RISE - Marie Skłodowska-Curie Research and Innovation Staff Exchange (RISE)

Coordinator

LIBERA UNIVERSITA DI BOLZANO

Net EU contribution
€ 472 500,00

Address
Piazza universita 1
39100 Bolzano
*Italy*  ✪

Region
Nord-Est > Provincia Autonoma di Bolzano/Bozen > Bolzano-Bozen

Activity type
Higher or Secondary Education Establishments

Links
Contact the organisation ✪  Website ✪  Participation in EU R&I programmes ✪  HORIZON collaboration network ✪
Other funding

€ 63 000,00

Participants (3)

TECHNICKA UNIVERZITA V KOSICIACH

Slovakia

Net EU contribution

€ 180 000,00

Address

Letna 9
042 00 Kosice

Region

Slovensko > Východné Slovensko > Košický kraj

Activity type

Higher or Secondary Education Establishments

Links

Contact the organisation
Website
Participation in EU R&I programmes
HORIZON collaboration network

Other funding

€ 108 000,00

MONTANUNIVERSITAT LEOBEN

Austria

Net EU contribution

€ 130 500,00

Address

Franz josef strasse 18
8700 Leoben

Region

Südösterreich > Steiermark > Östliche Obersteiermark

Activity type
ELCOM, SPOLOCNOST S RUCENIM OBMEDZENYM, PRESOV
Slovakia
Net EU contribution
€ 0,00
Address
Jesenna 2695/26
080 01 Presov
SME
Yes
Region
Slovensko > Východné Slovensko > Prešovský kraj
Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)
Other funding
€ 0,00

Partners (4)

CHIANG MAI UNIVERSITY
Thailand
PARTNER

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

United States

Net EU contribution

€ 0,00

Address

Massachusetts avenue 77
02139 Cambridge

Activity type

Higher or Secondary Education Establishments

Links

Contact the organisation
Website
Participation in EU R&I programmes
HORIZON collaboration network

Other funding

€ 0,00

PARTNER

WORCESTER POLYTECHNIC INSTITUTE

United States
Net EU contribution
€ 0,00

Address
100 institute rd.
016092280 Worcester

Activity type
Higher or Secondary Education Establishments

Links
Contact the organisation
Participation in EU R&I programmes
HORIZON collaboration network

Other funding
€ 63 000,00

---

Partner

MAZURUI AYIRA VAISYAR MANJAPUTHUR MAHAJANA SABAI
India

Net EU contribution
€ 0,00

Address
17 east marrat street
625301 Madurai

Activity type
Research Organisations

Links
Contact the organisation
Participation in EU R&I programmes
HORIZON collaboration network

Other funding
€ 108 000,00

Last update: 8 December 2023

Permalink: https://cordis.europa.eu/project/id/734713