

# NUCLEI Open Seminar

## BIG DATA AND DIGITALIZATION IN THE ERA OF INDUSTRY 4.0

22 11 2018



**NUCLEI**

### Agenda

### Speaker

Agenda		Speaker	
13:00	Lunch + registration		
14:00	Welcome and presentation of NUCLEI project	15 min	CRIT / Wrocław University of Science and Technology
14:15	Virtual Prototyping Tools and Digital Twins for Industry 4.0	45 min	Giovanni Berselli University of Genova
15:00	Process 4.0	45 min	Karol Kozak Fraunhofer IWS
15:45	Coffee break	15 min	-
16:00	Data Science for Industry 4.0	45 min	Przemysław Kazienko Wrocław University of Science and Technology
16:45	Agile education in the era of digitalization	30 min	Lucía Díez Robles ITQ GmbH
17:15	Networking	45 min	-



Giovanni Berselli, *University of Genova, Department of mechanics, energetics, management and transportation*

## **Virtual Prototyping Tools and Digital Twins for Industry 4.0:**

### **State-of-the-art Overview and Future Challenges**

- ✓ tools for integrated design (CAE-centric design VS CAD-centric design)
- ✓ co-simulations (case study: eco-design of robotized plants – integration with state-of-the-art digital manufacturing tools)
- ✓ virtual commissioning & virtual training (case study: an automated manufacturing system)

Karol Kozak, *Fraunhofer IWS, Image Processing and Data Management*

### **Process 4.0:**

- ✓ Is it efficient to start Deep Learning without database infrastructure?
- ✓ Do we always need a Deep Learning in industry?
- ✓ How to benefit from digital twin in simply data flow strategy?
- ✓ How to share digital twin in project consortium?

Przemysław Kazienko, *ENGINE - The European Centre for Data Science, Wrocław University of Science and Technology*

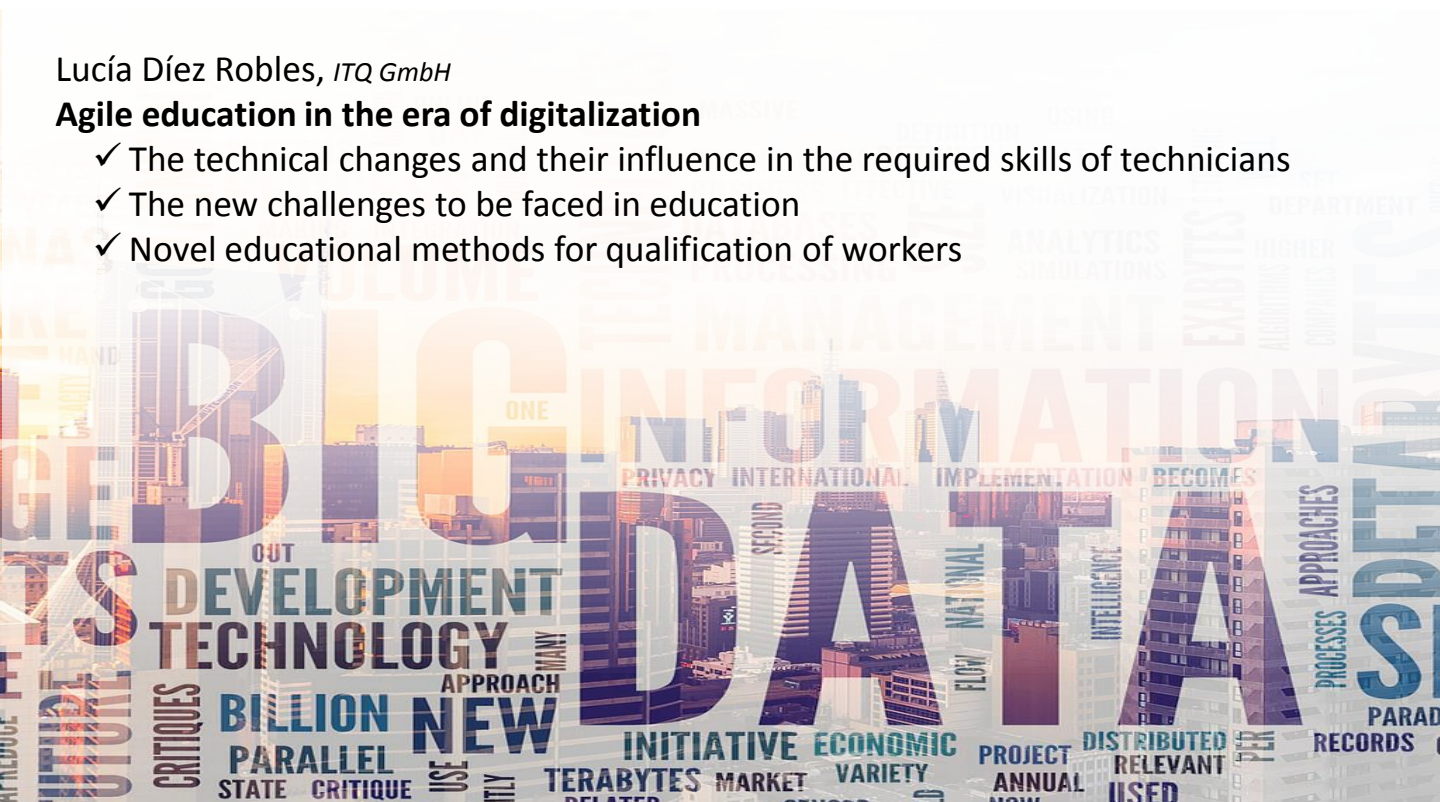
### **Data Science for Industry 4.0**

- ✓ AI, data science, big data and machine learning
- ✓ 6Cs and 4Vs
- ✓ data sources and types
- ✓ challenges, applications and benefits
- ✓ data eco-system for Poland
- ✓ what next?

Lucía Díez Robles, *ITQ GmbH*

### **Agile education in the era of digitalization**

- ✓ The technical changes and their influence in the required skills of technicians
- ✓ The new challenges to be faced in education
- ✓ Novel educational methods for qualification of workers



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**Interreg**  
CENTRAL EUROPE



European Union  
European Regional  
Development Fund

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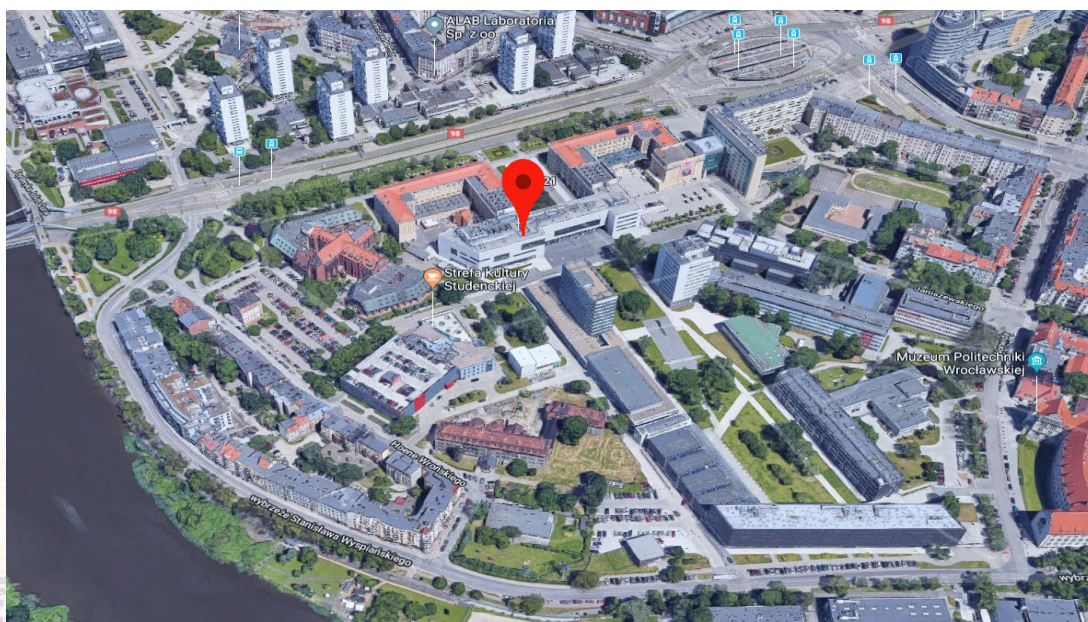
**Registration for the meeting: [nuclei@pwr.edu.pl](mailto:nuclei@pwr.edu.pl)**  
**Deadline 19<sup>th</sup> November 2018**

Participation in the meeting is free.  
The number of places is limited - the order of applications decides!

Open Seminar will take place at:

Centrum Wiedzy i Informacji Naukowo - Technicznej  
Politechnika Wroclawska  
Budynek D-21  
Plac Grunwaldzki 11, Wrocław

Center For Scientific and Technical Information  
Wrocław University of Science and Technology  
Building D-21  
Plac Grunwaldzki 11, Wrocław



Seminar will be organized within the project **NUCLEI - Network of Technology Transfer Nodes for Enhanced open Innovation in the Central Europe advanced manufacturing and processing industry**, co-financed by Interreg Central Europe programme.

NUCLEI ([www.interreg-central.eu/Content.Node/NUCLEI.html](http://www.interreg-central.eu/Content.Node/NUCLEI.html)) aims to establish a transnational innovation management model in Central European regions and to create a transnational pool of knowledge that supports advanced manufacturing innovation beyond regional borders. This will increase economic interdependencies among seven regions and encourage more effective transnational value chains in automotive, electrical industry, IT sector, robotic and mechanic automation.