SEnDIng

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

Market needs on Data Science and IoT skills and competences

Building the Data Science and IoT skills and competences of IT professionals

14 February 2020
UniCert premises, Athens, Greece

Dr. Vasileios Gkamas
Dept. of Computer Engineering & Informatics
University of Patras, Greece
gkamas@ceid.upatras.gr

# Surveys on DS and IoT skills and competences

- Two surveys took place in April 2018 aiming to gather the market's needs in terms of DS and IoT skills and competences.

- The surveys targeted companies operating in various economic sectors which are running or plan to run DS and/or IoT projects.
  - 43 companies participated in IoT survey
  - 36 companies participated in DS survey

- The companies was mainly coming from EU countries

SEnDIng

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

Profile of participants in the IoT survey
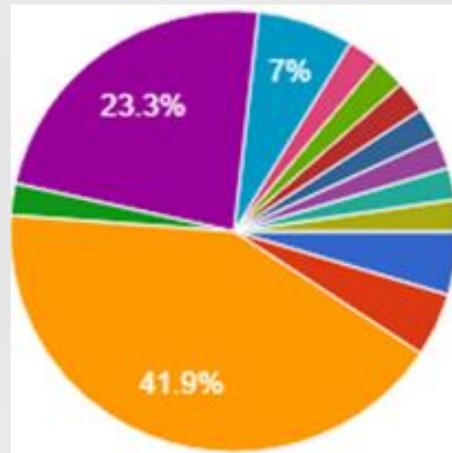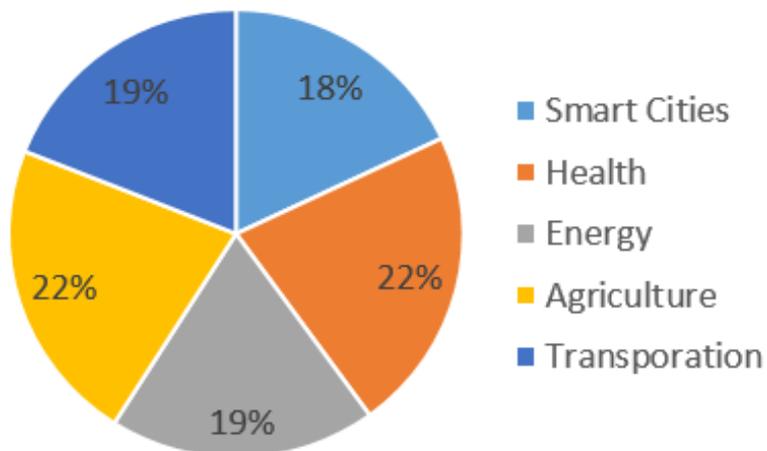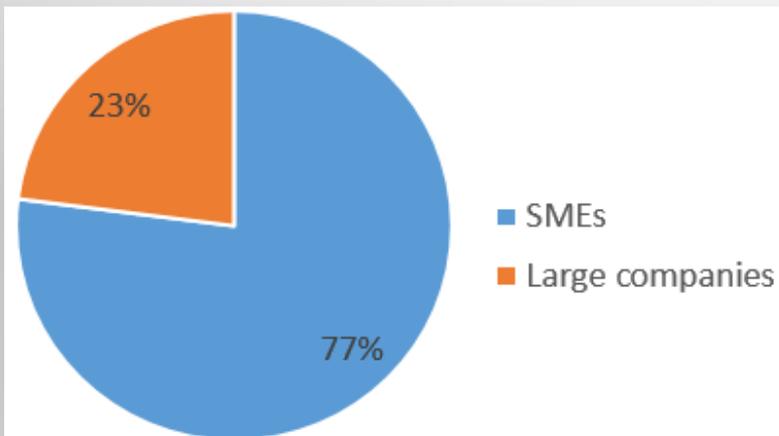
IoT knowledge

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

SEnDIng

IoT skills

Legend: Extremely important · Very important · Important · Not important · Not needed
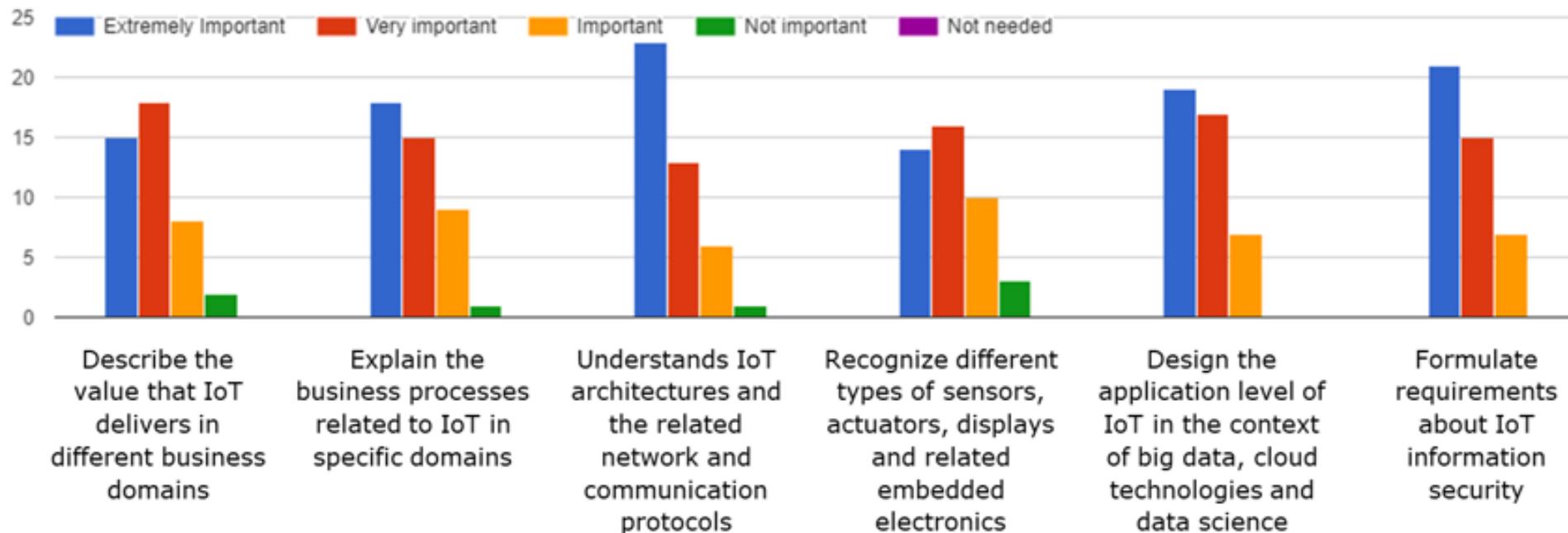
Categories:
- Analyse, argue and describe the business value of a particular IoT system
- Design an IoT system that includes sensors, controllers, actuators and displays connected to a cloud platform through internet connection
- Develop and deploy workflows and dashboards for an IoT system that includes sensors, controllers, actuators and displays connected to a cloud platform through internet connection
- Develop working code for an IoT system that includes sensors, controllers, actuators and displays connected to a cloud platform through internet connection
- Apply IoT information security concepts
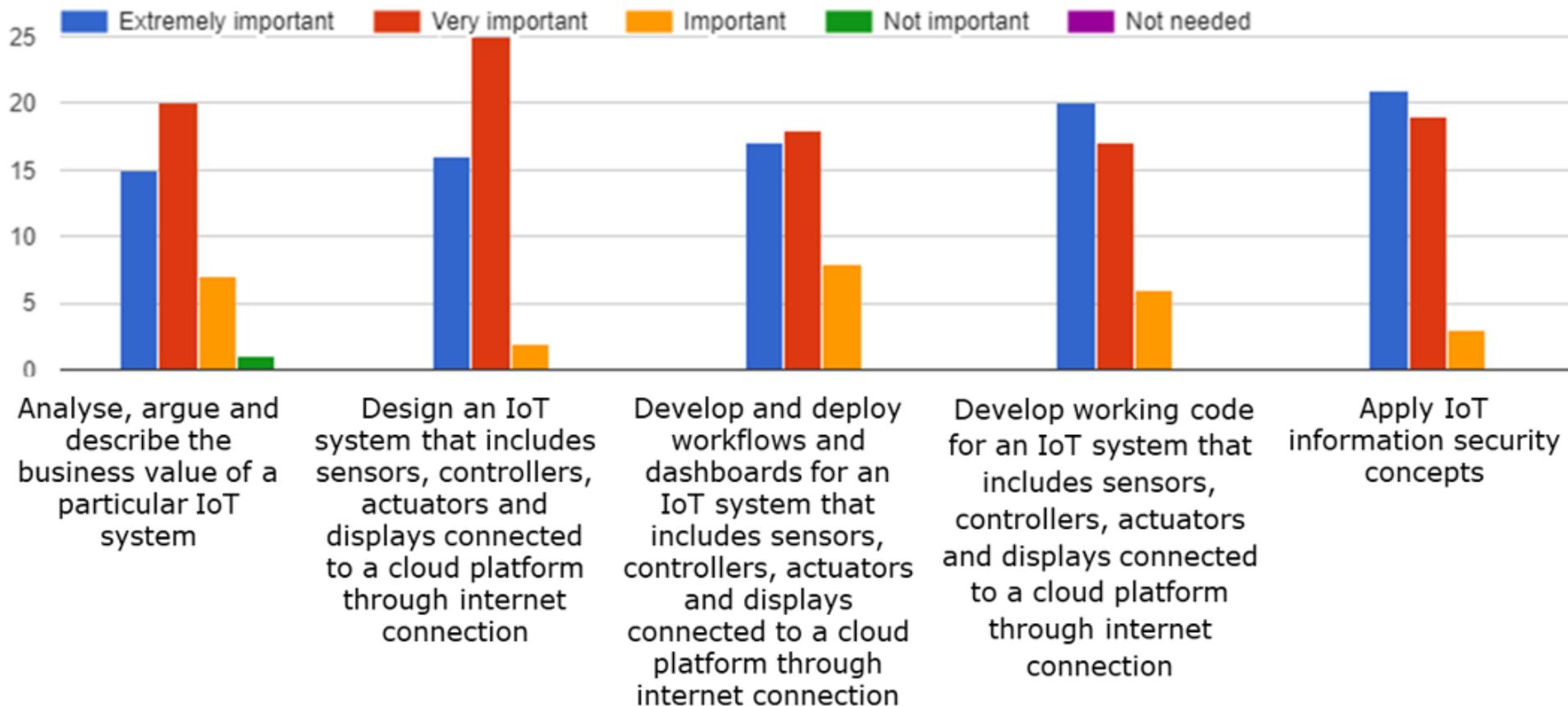
Profile of participants in the DS survey

DS knowledge

SEnDIng

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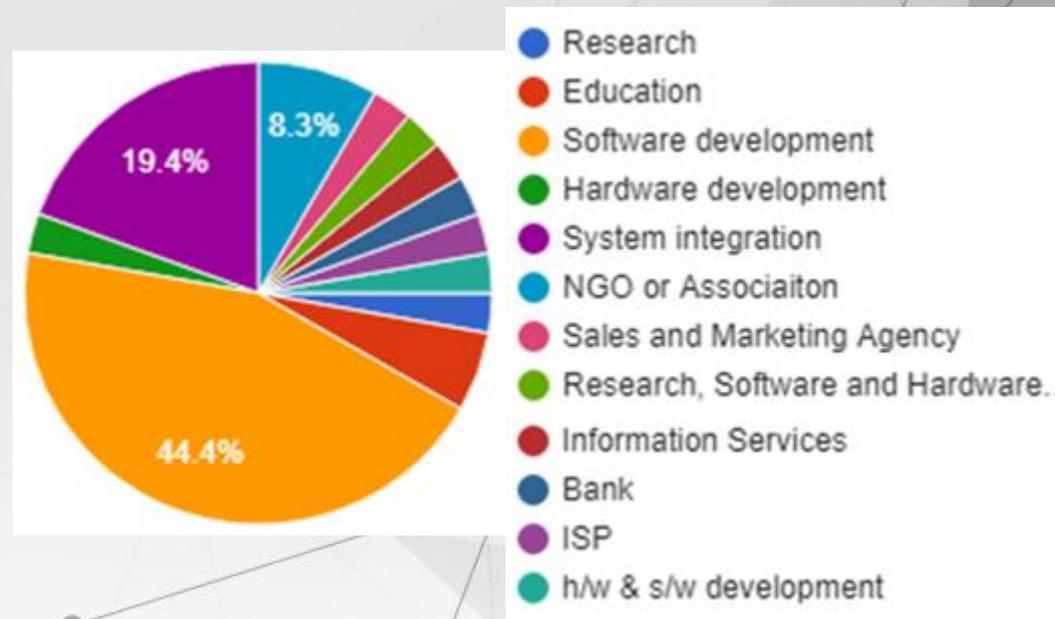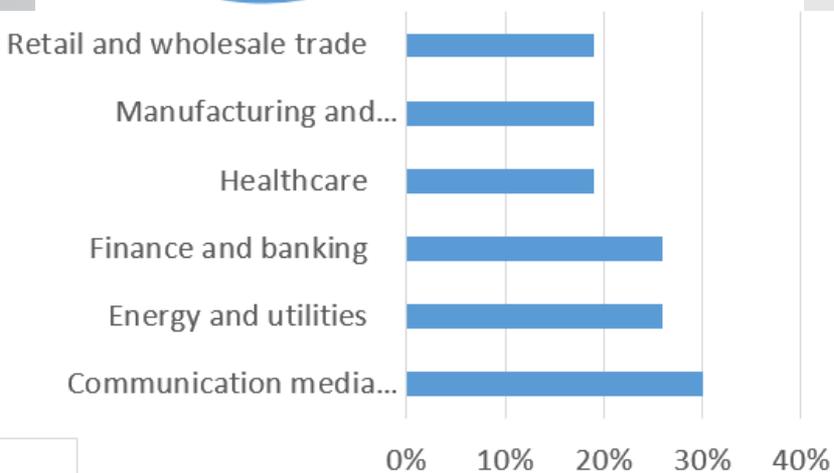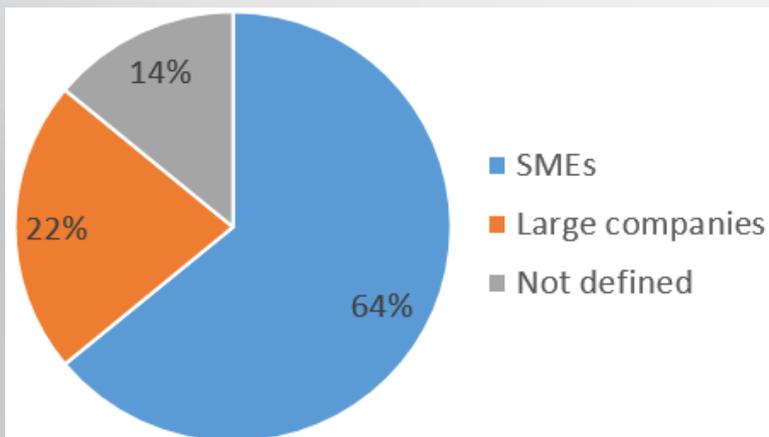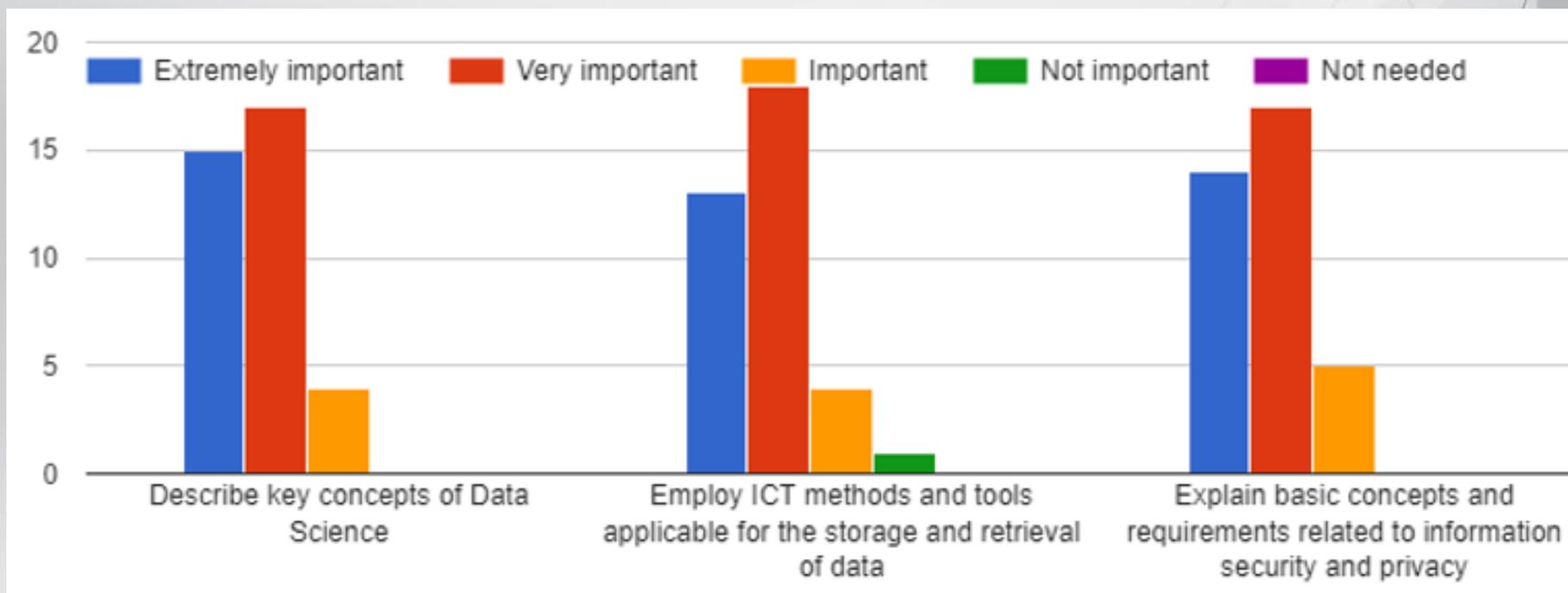
DS skills

Transversal skills

SEnDIng

Co-funded by the
Erasmus+ Programme
of the European Union
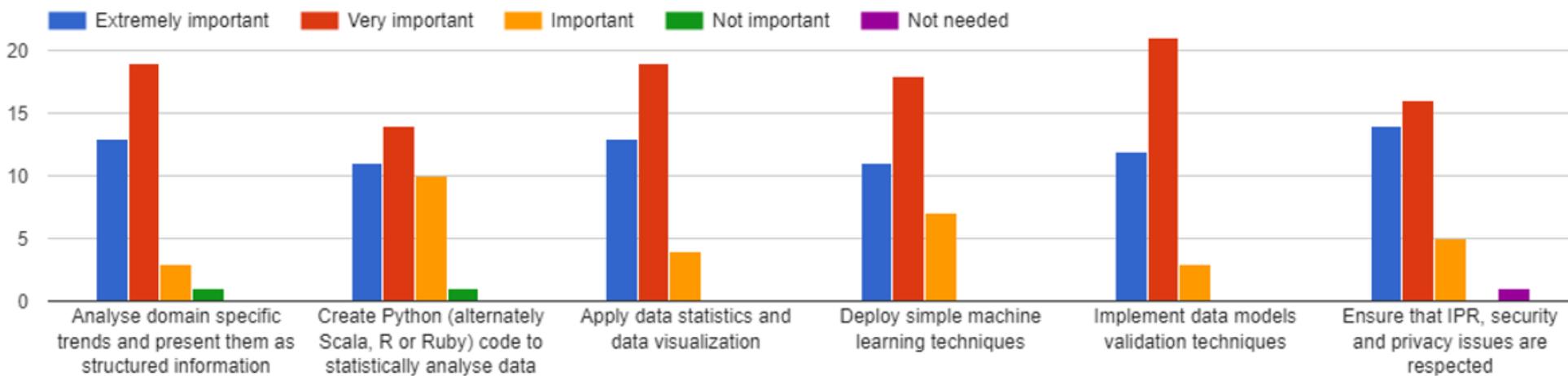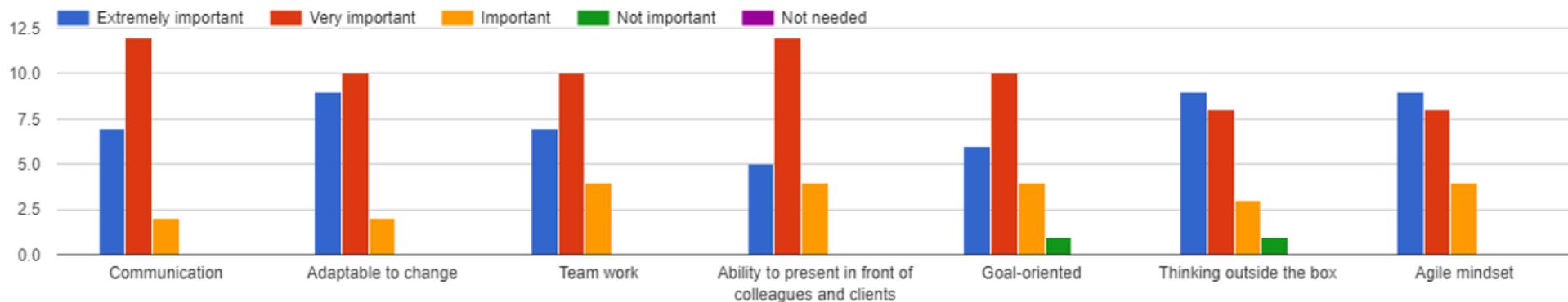
Transversal competences
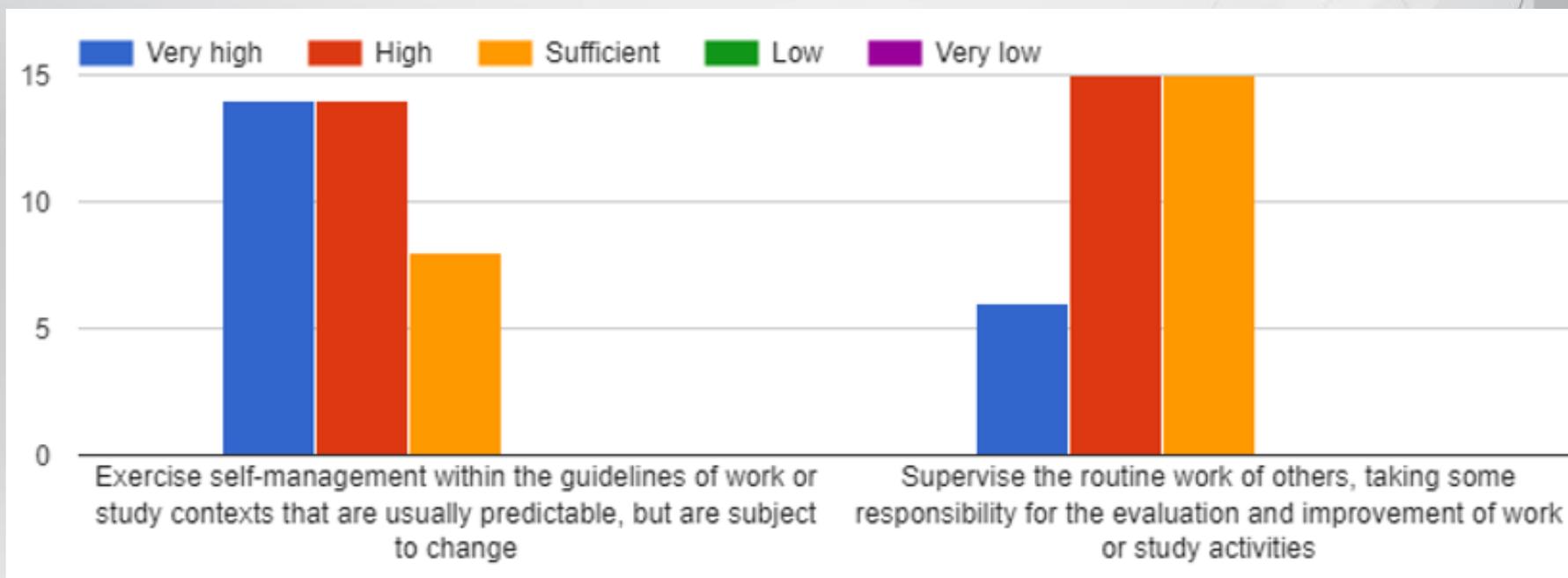
IoT knowledge and skills

Knowledge	Skills
▪ Describe the value that IoT delivers in different business domains	▪ Analyse, argue and describe the business value of a particular IoT system
▪ Explain the business processes related to IoT in specific domains	▪ Design an IoT system that includes sensors, controllers, actuators and displays, connected to a cloud platform through internet connection
▪ Understand IoT architectures and the related network and communication protocols	▪ Develop and deploy workflows and dashboards for an IoT system that includes sensors, controllers, actuators and displays, connected to a cloud platform through internet connection
▪ Recognize different types of sensors, actuators, displays and related embedded electronics	
▪ Design the application level (e.g. use protocols that support different IoT applications) of IoT in the context of big data, cloud technologies and data science	▪ Develop working code for an IoT system that includes sensors, controllers, actuators and displays, connected to a cloud platform through internet connection
▪ Formulate requirements about IoT information security	▪ Apply IoT information security concepts

SEnDIng

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

DS knowledge and skills

Knowledge	Skills
- Describe the key concepts of Data Science - Describe ICT methods and tools applicable for the storage and retrieval of data - Describe methods and tools applicable for the statistical analysis of data - Explain basic concepts and requirements related to information security and privacy (e.g. how to deal with people profiling in the context of GDPR)	- Analyse domain specific trends and present them as structured information - Create code to statistically analyse data - Apply data statistics and data visualization - Deploy simple machine learning techniques - Deploy data storage and retrieval techniques; - Implement data models validation techniques - Ensure that IPR, security and privacy issues are respected

Transversal skills

- Communication skills

- Adaptability to change

- Teamwork

- Ability to present in front of colleagues and clients
  Goal-orientation

- Thinking outside the box

- Agile mind-set

Thank you!

For further information please contact

Dr. Maria Rigou
Project coordinator
University of Patras
rigou at ceid.upatras.gr

Dr. Vasileios Gkamas
Technical Manager
University of Patras
gkamas at ceid.upatras.gr

or visit

http://sending-project.eu