










Industry Perspective & Top Priorities for Engineering Education

Dora Smith, Senior Director, Global Academic Program

Siemens sectors in need of digital talent



Divisions

Power and Gas  Power Generation Services	Energy Management 	Building Technologies 	Mobility 	Digital Factory 	Process Industries and Drives 	Siemens Healthineers 	Siemens Gamesa Renewable Energy 	Financial Services 
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372,000 people, 200 countries, 289 production and manufacturing plants

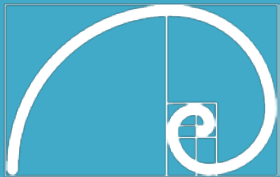
Digitalization changes everything

Including skills in future engineers

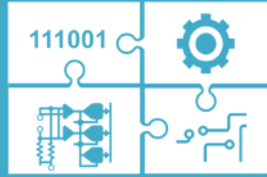
Changing
the way
products
come to life

Changing
the way
products
are realized

Changing
the way
products
evolve



GENERATIVE
DESIGN



SYSTEM OF
SYSTEMS



MACHINE
LEARNING



ADDITIVE
MANUFACTURING



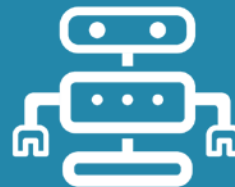
CLOUD
TECHNOLOGY



KNOWLEDGE
AUTOMATION



INTELLIGENT
MODELS



ADVANCED
ROBOTICS

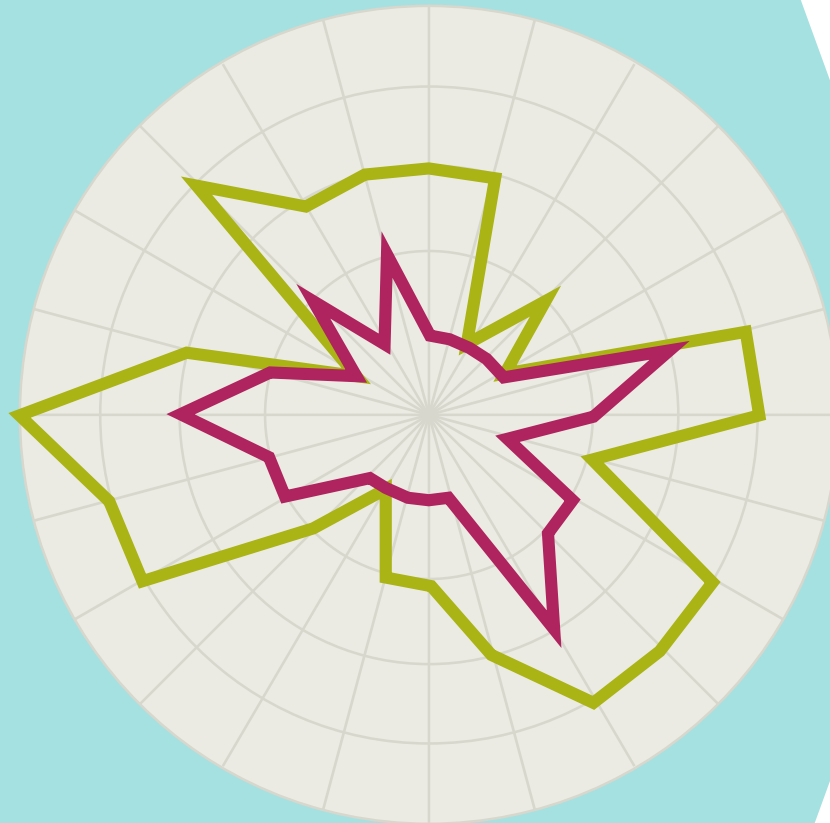
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BIG DATA
ANALYTICS

Industrie 4.0 skills project revealed need to enhance competences of employees

Top 25 competencies affected by "Industrie 4.0"



Information technology

- Cloud Computing
- Databases
- Infrastructure and connection technologies
- IS/DS and security
- Serve- and memory-technologies
- Network protocols/ IP Addressing
- Network engineering
- Virtualization
- Software development
- Application engineering

Soft skills

- Lean management
- Media literacy
- Project management
- Process management
- Self-directed learning
- Self-management
- Systemic thinking
- Knowledge management

Mechanical engineering

- PLM software

Electronics / mechatronics

- Embedded systems
- Identification systems
- Sensor technologies / actuating elements
- Robotics

Business administration

- Data analytics
- Planning and development of business models

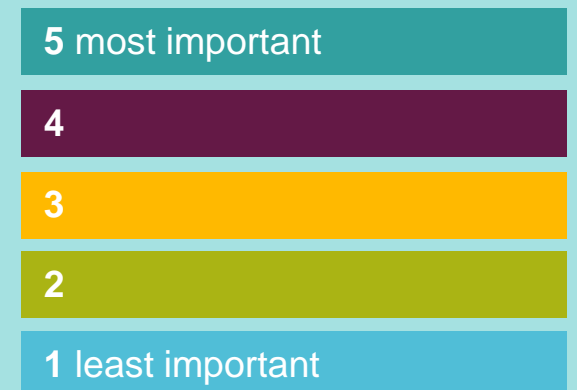
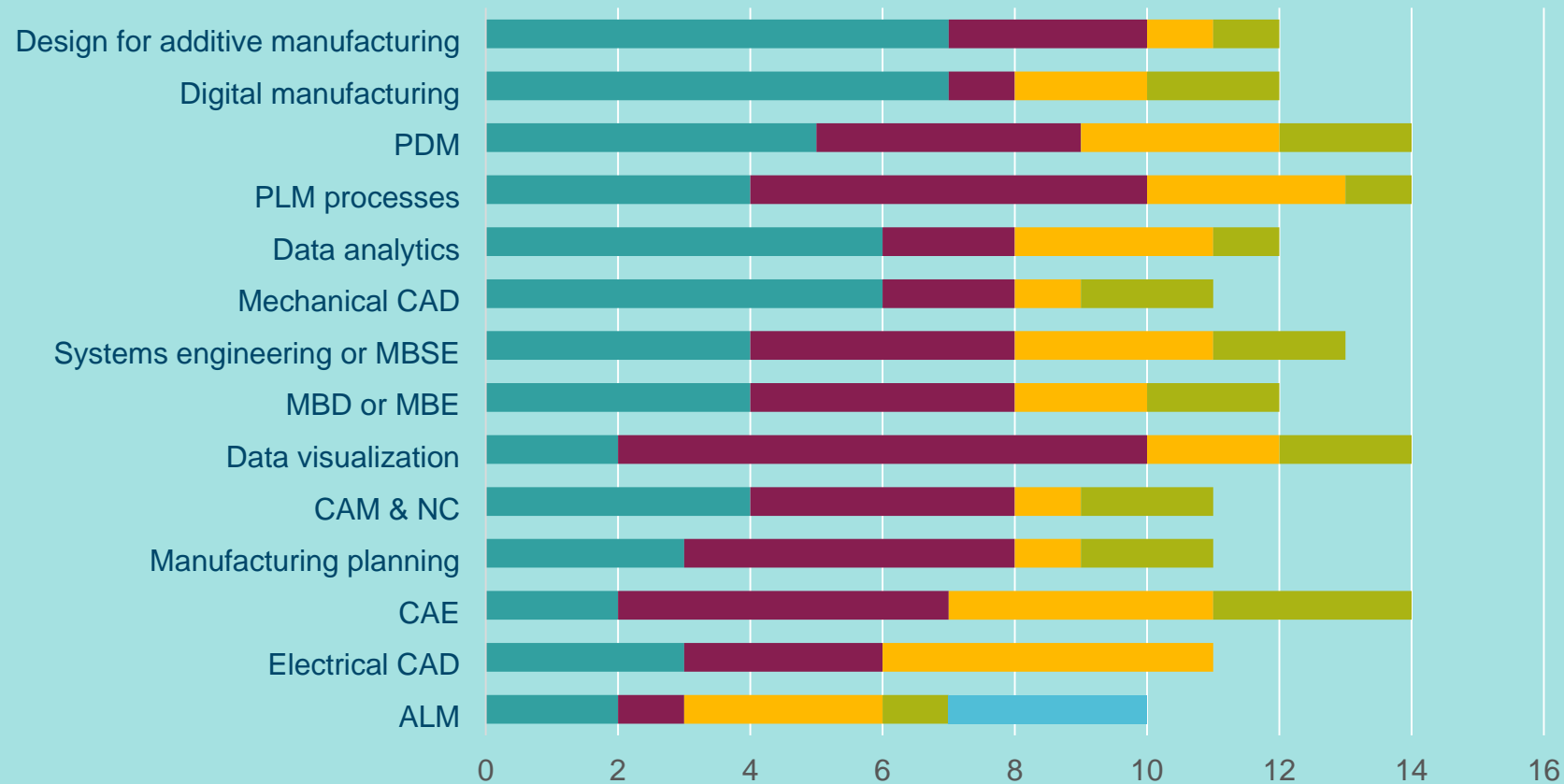
— Status today — Future target

Closing the engineering skills gap

State of Academia

PLM TOPICS EDUCATORS MOST WANT TO COVER IN FUTURE COURSES

In order of importance from top to bottom

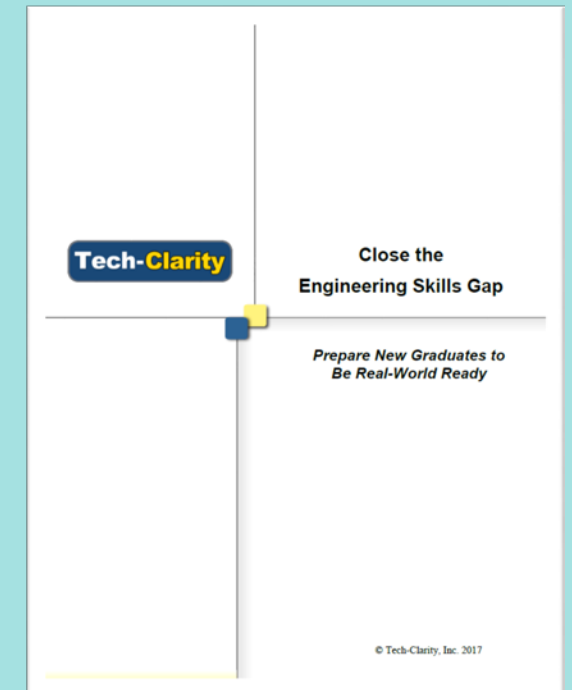
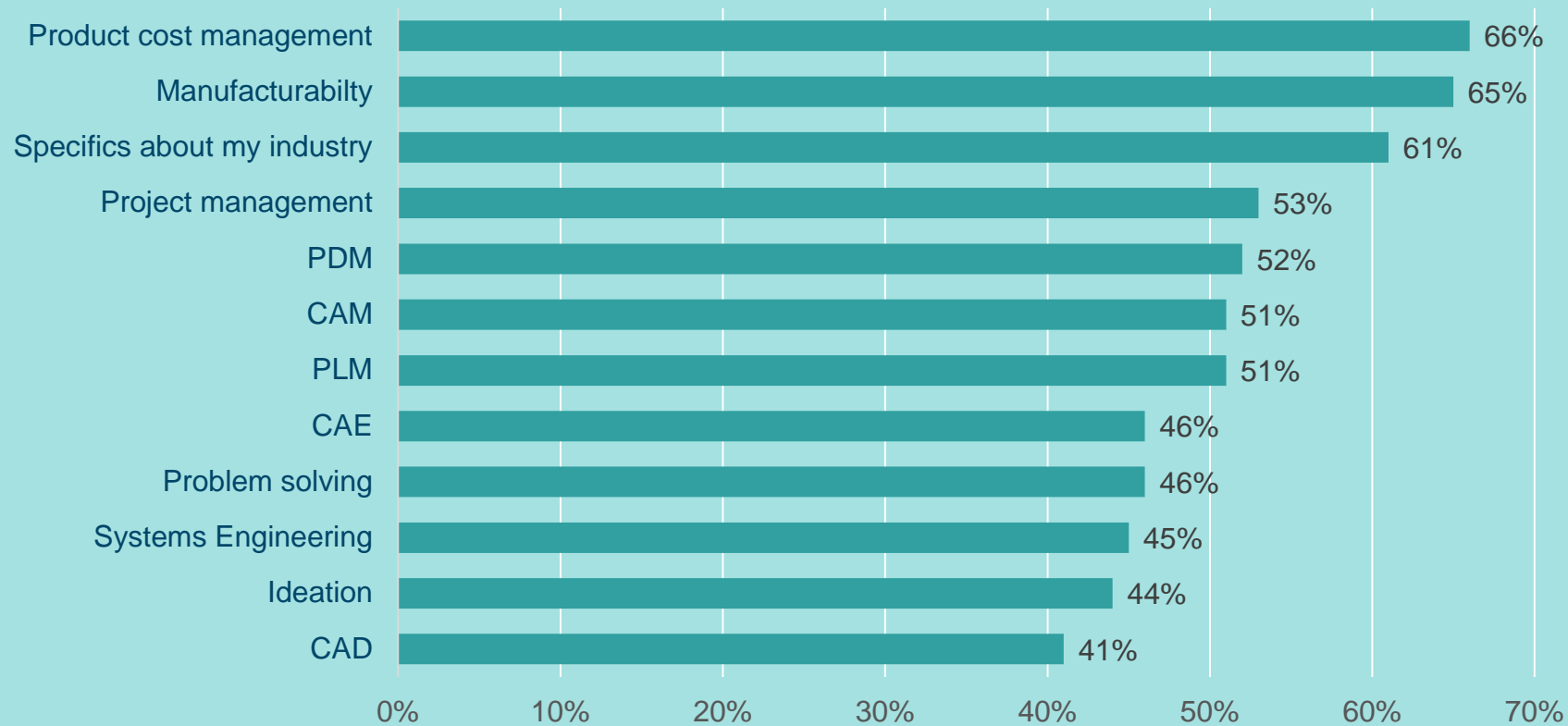


Closing the engineering skills gap

State of Engineering

CLOSE THE ENGINEERING SKILLS GAP

Prepare the new graduates to be real-world ready



Top priorities to prepare students for the digital future

Stronger cross-discipline digital skills

Continuous embedded real-world application

Expanded apprentice, co-op and intern engagement

New credentialing methods and models

Thank you.

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