“Can Europe deliver the qualified engineers it needs for the future?”

Join the conversation @Parlimag | #EEAG
Mrs Cathy SMITH
Moderator

Join the conversation @Parlimag | #EEAG
Mr Ulf BENGTSSON
Treasurer, FEANI

Join the conversation @Parlimag | #EEAG
“Can Europe deliver the qualified engineers it needs for the future?”

Join the conversation @Parlimag | #EEAG
Mr Alexander RIEDL
Deputy Head of Unit Digital Economy and Skills (F4), DG CNECT, European Commission
“Can Europe deliver the qualified engineers it needs for the future?”

Join the conversation @Parlimag | #EEAG
Dr Ekaterina VLADISLAVLEVA
CEO, DataStories International NV

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Preparing the next generation of Innovators and decision takers
In the context of AI and emerging technologies

By Katya Vladislavleva, PhD, PDEng, CEO DataStories International NV

katya@datastories.com
+32 47 638 8497
The Great Myth of the AI Skills Gap

https://singularityhub.com/2019/02/13/ai-wont-create-a-skills-gap-heres-what-will-happen-instead/
We need up-skilling, not re-skilling
DATA DRIVEN

How does it work?

One of the innovation practices high-growth companies use to be data driven is to apply advanced analytics to identify cost savings. Chevron, the world’s third largest publicly traded oil producer, is spending $4.3 billion this year on shale basins, approximately a fifth of its global spending. It is using data-analysis expertise gained at its offshore wells to make horizontal drilling more efficient. This analysis is based on a proprietary database of over five million well attributes, supplemented by data analytics of petrophysical properties.\(^7\)

The insights gained helped Chevron reduce the time to drill a shale well from 27 days, to just 15 days, for longer and more complex wells.\(^7\)

---

*Figure 10:*

Respondents that plan to adopt an innovation practice to a significant extent over the next five years

<table>
<thead>
<tr>
<th>Practice</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use advanced analytics to discover insights and make recommendations</td>
<td>65%</td>
</tr>
<tr>
<td>Predict our customers’ future demands by analyzing multiple data sources</td>
<td>59%</td>
</tr>
<tr>
<td>Use data-driven behavioral insights to influence customers</td>
<td>57%</td>
</tr>
</tbody>
</table>

## The Future of Jobs Report 2018

### Table 3: Examples of stable, new, and redundant roles, all industries

<table>
<thead>
<tr>
<th>Stable Roles</th>
<th>New Roles</th>
<th>Redundant Roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing Directors and Chief Executives</td>
<td>Data Analysts and Scientists*</td>
<td>Data Entry Clerks</td>
</tr>
<tr>
<td>General and Operations Managers*</td>
<td>AI and Machine Learning Specialists</td>
<td>Accounting, Bookkeeping and Payroll Clerks</td>
</tr>
<tr>
<td>Software and Applications Developers and Analyst*</td>
<td>General and Operations Managers*</td>
<td>Administrative and Executive Secretaries</td>
</tr>
<tr>
<td>Data Analysts and Scientists*</td>
<td>Big Data Specialists</td>
<td>Assembly and Factory Workers</td>
</tr>
<tr>
<td>Sales and Marketing Professionals*</td>
<td>Digital Transformation Specialists</td>
<td>Client Information and Customer Service Workers*</td>
</tr>
<tr>
<td>Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products</td>
<td>New Technology Specialists</td>
<td>Business Services and Administration Managers</td>
</tr>
<tr>
<td>Human Resource Specialists</td>
<td>Organizational Development Specialists*</td>
<td>Accountants and Auditors</td>
</tr>
<tr>
<td>Financial and Investment Advisers</td>
<td>Information Technology Services</td>
<td>Material-Recording and Stock-Keeping Clerks</td>
</tr>
<tr>
<td>Database and Network Professionals</td>
<td>Process Automation Specialists</td>
<td>General and Operations Managers*</td>
</tr>
<tr>
<td>Supply Chain and Logistics Specialists</td>
<td>Innovation Professionals</td>
<td>Postal Service Clerks</td>
</tr>
<tr>
<td>Risk Management Specialists</td>
<td>Information Security Analysts*</td>
<td>Financial Analysts</td>
</tr>
<tr>
<td>Information Security Analysts*</td>
<td>E-commerce and Social Media Specialists</td>
<td>Cashiers and Ticket Clerks</td>
</tr>
<tr>
<td>Management and Organization Analysts</td>
<td>User Experience and Human-Machine Interaction Designers</td>
<td>Mechanics and Machinery Repairers</td>
</tr>
<tr>
<td>Electrotechnology Engineers</td>
<td>Training and Development Specialists</td>
<td>Telemarketers</td>
</tr>
<tr>
<td>Organizational Development Specialists*</td>
<td>Robotics Specialists and Engineers</td>
<td>Electronics and Telecommunications Installers and Repairers</td>
</tr>
<tr>
<td>Chemical Processing Plant Operators</td>
<td>People and Culture Specialists</td>
<td>Bank Tellers and Related Clerks</td>
</tr>
<tr>
<td>University and Higher Education Teachers</td>
<td>Client Information and Customer Service Workers*</td>
<td>Car, Van and Motorcycle Drivers</td>
</tr>
<tr>
<td>Compliance Officers</td>
<td></td>
<td>Sales and Purchasing Agents and Brokers</td>
</tr>
<tr>
<td>Energy and Petroleum Engineers</td>
<td></td>
<td>Door-To-Door Sales Workers, News and Street Vendors, and Related Workers</td>
</tr>
<tr>
<td>Robotics Specialists and Engineers</td>
<td></td>
<td>Statistical, Finance and Insurance Clerks</td>
</tr>
<tr>
<td>Petroleum and Natural Gas Refining Plant Operators</td>
<td></td>
<td>Lawyers</td>
</tr>
</tbody>
</table>


*Note: Roles marked with an asterisk (*) appear across multiple columns. This reflects the fact that they might be seen as stable or declining demand across one industry but be in demand in another.*
1. People matter
2. Context matters
3. Domain experts matter and take final decisions
Critical Needs

1. Augment domain experts with easy-to-use advanced analytics tools
2. Enable data scientists & data engineers communicate effectively to stakeholders
3. Pursue outcome-led initiatives
Goal is to help industries ascend towards data-driven culture

DEGREE OF ANALYTIC MATURITY

IMPACT ON COMPANY PERFORMANCE

AWARE & REACTIVE
- No systematic approach to handling or even looking at data within R&D or production
- Thinking about capturing the data
- Reactive measures in fire-fighting mode

EXPERT-LED
- Local improvements led by experts/champions
- Several successful PoC implementations with value captured

DATA-DRIVEN EXCELLENCE
- Roll-out of data-driven improvement projects embraced by domain experts
- Predictable ROI and timing for each PoC
- Functioning eco-system of external suppliers

END-TO-END INTEGRATED DATA-DRIVEN CULTURE
- Structured integration of data-driven decision making
- Data-driven approach is a part of onboarding trainings just like safety training

End-to-end timeline:
- 6-12 months: AWARE & REACTIVE
- 12-48 months: EXPERT-LED
- 24-48 months: DATA-DRIVEN EXCELLENCE

Goal is to help industries ascend towards data-driven culture
Trainings need to be hands-on and teach a complete end-to-end capability. Below some examples from us

1. Data science as a hypothesis generation tool for engineers
2. Symbolic regression as a “white-box” modeling tool for engineers
3. Intro to DS for data engineers – How data quality impacts analysis results
4. Business-driven data science for data scientists
5. A hands-on guide on dimensionality reduction for engineers
6. Managing expectations – common pitfalls in data-driven modeling and how to avoid them
7. Model-guided experimentation – turning experimental data into assets
8. How to build an internal data science capability for executives
Summary

- Up-skill engineers and domain experts in taking data-driven decisions
- Foster business context
- Up-skill data scientists in soft skills and the critical need of business goals
- Prepare: Building a culture takes time
“Can Europe deliver the qualified engineers it needs for the future?”

Join the conversation @Parlimag | #EEAG
Mr Frank HEEMSKERK
Secretary General,
European Round Table of Industrialists
Securing Europe’s Place in The World

Meeting organised by FEANI and The Parliament Magazine

Thursday 7 March,
Residence Palace, Rue de la Loi, Brussels

Frank Heemskerk – Secretary General
European Round Table of Industrialists
European Round Table of Industrialists (ERT)

- Forum of around 55 Chief Executives and Chairpersons
- Personal Membership
- Major multinational companies of European parentage
- Wide range of industrial and technological sectors
- Combined revenues > €2,250 billion
- Sustaining around 7 million jobs in the region
- €50 billion/year in R&D

“ERT strives for a strong, open and competitive Europe, with the EU, including its Single Market, as a driver for inclusive growth and sustainable prosperity.”
European Round Table of Industrialists

- Created in 1983 by 17 businessmen
- “Driving force behind the Single Market” (cfr. Jacques Delors)
- Contributions to various European projects:
  - Infrastructure
  - European Monetary Union
  - Digital Single Market
ERT Members will actively communicate Europe’s achievements

**Peace and Democracy**

**The Euro**

A single currency used by >330 million people in 19 countries

**Free Movement of People for Work, Leisure and Study**

**The Single Market**

500 million people generate €14 trillion

The largest economy in the world with GDP of €25,000 per person
Opportunities and Challenges

ERT Industrial Confidence Index: overall declining business outlook – more positive outside Europe

<table>
<thead>
<tr>
<th></th>
<th>OCT-17</th>
<th>MAY-18</th>
<th>NOV-18</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SALES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Europe</td>
<td>3.50</td>
<td>2.94</td>
<td>2.24</td>
</tr>
<tr>
<td>Outside</td>
<td>5.10</td>
<td>5.10</td>
<td>4.38</td>
</tr>
<tr>
<td><strong>INVESTMENT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Europe</td>
<td>1.80</td>
<td>1.47</td>
<td>0.92</td>
</tr>
<tr>
<td>Outside</td>
<td>3.10</td>
<td>3.82</td>
<td>2.50</td>
</tr>
<tr>
<td><strong>EMPLOYMENT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Europe</td>
<td>-0.40</td>
<td>1.06</td>
<td>0.00</td>
</tr>
<tr>
<td>Outside</td>
<td>1.90</td>
<td>2.79</td>
<td>1.63</td>
</tr>
</tbody>
</table>

- Fundamental changes in rules-based international system (e.g. US, China, ...)
- Increased nationalism & eroding citizens’ trust
- Potential of digitalisation and globalisation undervalued
- Geo-economic shifts require more than ever a comprehensive EU industrial strategy
Drivers for more competitive and successful Europe

6 priority issues for Europe:

1) Complete the Single Market – energy, capital and digital
2) Improve European companies’ competitiveness – by increasing R&D, innovation friendly fiscal policies & permit ‘European champions’ to develop healthily and compete globally
3) Address opportunities and challenges from digitalisation, the data economy, artificial intelligence and cybersecurity
4) Address the skills gap and promote lifelong employability
5) Ensure fair and rules-based global trade
6) Deliver an effective energy transition and tackle climate change
Leveraging the power of industry for the benefit of Europe

ERT Members commit to a strong, inclusive and united Europe

And are ready to pledge to:

1) Invest more in Europe
2) Creating value to society, support inclusion and diversity
3) Accelerate their company’s digitalization strategies & share best practices
4) Contribute to developing skills & business-education partnerships
5) Support fair and free trade & effectively conduct diplomacy on WTO reforms
6) Help delivering the energy transition and reach the Paris Climate Goals
“Can Europe deliver the qualified engineers it needs for the future?”

Join the conversation @Parlimag | #EEAG
Mr Stefan DEIX
Director,
European Council for Automotive R&D, EUCAR

Join the conversation @Parlimag | #EEAG
EUCAR Perspective

Connected Automated Vehicles

Stefan Deix
Director of EUCAR
About the industry

- 13.3 million, direct and indirect, jobs in Europe
- 19.6 million motor vehicles produced in 2017 (EU28)
- Generating a trade surplus of €90.3 billion
- Investing more than €53 billion in R&D per year
EUCAR Perspective: Connected Automated Vehicles

CAV technologies will support the Vision Zero targets set for 2050 by decreasing the number of road fatalities and accidents.

CAV contributes to reducing transport emissions and congestion while ensuring inclusive mobility for persons and goods.

CAV will enable new mobility concepts shifting design & development from a driver-centred to mobility-user-centred approach.
Safety is key. CAV offers enormous potential to improve road safety by addressing human errors.

Secure and trustful communication between the vehicles and infrastructure is essential.

The success of CAV depends on user adoption and social acceptance.

AI plays a major role not only in CAV but also in intelligent mobility services.
Safety is key. CAV offers enormous potential to improve road safety by addressing human errors.

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CAV offers enormous potential to improve road safety by addressing human errors.

Safety is key

- Adapt and advance active safety functions so that CAV safely navigate expected and un-expected scenarios;

- Develop systems to anticipate and minimize risks, avoiding collision and to reduce the consequences of unavoidable crashes;

- Develop advanced passive safety systems protecting passengers in new, non-traditional seating positions;

- All safety and automated driving functions need to be tested, validated, and verified. For this we develop specific methods, design guidelines, as well as real world and virtual testing techniques.
WE INTEGRATE
safety by design
safety on each system aspects level and every development stage, from design to testing and validation.
Scope

Safety is key. CAV offers enormous potential to improve road safety by addressing human errors.

Secure and trustful communication between the vehicles and infrastructure is essential.

The success of CAV depends on user adoption and social acceptance.

AI plays a major role not only in CAV but also in intelligent mobility services.
CAV technologies and new business models involve producing and communicating huge sets of data.

Secure and trustful communication is essential

- Interoperability (EU/global) between vehicles and infrastructure is fundamental while ensuring economies of scale.
- ICT technologies evolve at a different pace than vehicle development and product lifecycles.
- Co-existence of different communication technologies for vehicles to share and use.
- We need innovative compatibility and interoperable solutions for all technologies deployed.
we actively develop security and privacy functions/systems for safe, secure and trusted communication between vehicles and the digital infrastructure. Efficient security solutions are necessary from the beginning to ensure scalability.
Safety is key. CAV offers enormous potential to improve road safety by addressing human errors.

Secure and trustful communication between the vehicles and infrastructure is essential.

The success of CAV depends on user adoption and social acceptance.

AI plays a major role not only in CAV but also in intelligent mobility services.
The success of CAV depends on user adoption and social acceptance.

- Human-CAV interaction (in-vehicle and outside vehicle) at different levels of automation needs to be self-explanatory, intuitive and inclusive for all road actors;
- We are working on design solutions and standards to evaluate human misuse, skill degradation, level of trust, motion sickness and measures to further compensate;
- The translation of technical complexity to humans (in- and outside the vehicle) is crucial to create trust and social acceptance;
- We set requirements for our “vehicle internal and external” Human Machine Interactions and Interfaces to be self-explanatory, intuitive and inclusive.
EUCAR IS COMMITTED TO EVOLVE
from a driver-centred to a mobility-user-centred design and development
Safety is key. CAV offers enormous potential to improve road safety by addressing human errors. Secure and trustful communication between the vehicles and infrastructure is essential. The success of CAV depends on user adoption and social acceptance.

AI plays a major role not only in CAV but also in intelligent mobility services.
AI plays a major role not only in CAV but also in intelligent mobility services.

- AI as functionally competitive and affordable CAV technology enabling safe autonomous driving in a more complex traffic environment;
- Specific automotive requirements (safety, security, real-time functionality...) demand the reinvention of AI for CAV in a European context;
- Development of an adequate and effective consolidating framework, integrating the most promising approaches from all over the EU;
- Implementing AI in automotive products, in particular in CAV, presents a variety of challenges, e.g. industrialisation, requirement-based development, continuous improvement of trained modules for application in safety critical domains.
AI is essential for CAV to operate in more complex urban traffic scenarios. We need a robust and reliable European framework. Beyond European harmonisation we strive for alignment on a global (UN) level.
EUCAR Projects
CONNECTED AUTOMATED VEHICLES
**L3PILOT**

**Piloting Automated Driving on European Roads**

<table>
<thead>
<tr>
<th>Objective</th>
<th>Demonstrate automated driving in complex traffic environments.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Expected Achievements</strong></td>
<td>Optimal design and handling of Automated Driving functions and knowledge about the most effective way of their implementation. Valid data on impact of Automated Driving on safety &amp; traffic efficiency. Code of Practice for Automated Driving with guidelines for systematic development of Automated Driving functions.</td>
</tr>
<tr>
<td><strong>Benefits for society</strong></td>
<td>Accelerating the implementation of level 3 automated driving by addressing technical and legal constraints.</td>
</tr>
</tbody>
</table>

**Partners:** 34 (11 Members)

**Budget:** 68 M€

**Funding:** 36 M€
**ENSEMBLE**  
**Enabling Safe Multi-brand Platooning for Europe**

<table>
<thead>
<tr>
<th>Objective</th>
<th>Pave the way for the adoption of multi-brand truck platooning in Europe to improve traffic safety, throughput and fuel economy.</th>
</tr>
</thead>
</table>
| Expected Achievements | Develop solutions to ensure robustness, reliability and interoperability of the platoon operation in real road conditions.  
Promote multi-brand platooning by demonstrating in real traffic conditions across national borders. |
| Benefits for society | Making road transport more efficient and safer. |

**Partners:** 20  
(6 Members)

**Budget:** 26 M€

**Funding:** 19 M€
EUCAR CAV Perspective Video
Conclusion

- EUCAR is committed to guide the transformation of road transport into connected, automated and integrated vehicles and services.
- Ensure economic productivity, jobs and growth by establishing leadership for European value chains through research and innovation.
- Invest in research and innovation and address the key challenges for 2030 to provide benefits to society.
- EUCAR recommends for future public-private partnerships (PPPs) in FP9:
  - lean administration, strategic planning and industrial relevance
“Can Europe deliver the qualified engineers it needs for the future?”

Join the conversation @Parlimag | #EEAG
Ms Julia STÖCKERT
Founder, Skillary GmbH

Join the conversation @Parlimag | #EEAG
SKILLARY.
Digital talent and task Platform for the built environment.
VISION

SKILLARY® is revolutionizing the job market for talent and experts creating the built environment.
**SKILLARY** matches **subject-matter specialists** within the built environment, including architects, engineers as well as adjacent corporate clients and service providers.

Choose from **250+ options** to describe your **areas of expertise** & identify collaboration opportunities between companies.
Because of imprecise description options architects and engineers are not traceable online.

WHERE DO TALENTS SHOW THEIR SKILLS ONLINE?
Only 30% of the questioned architects and engineers are listed on a Job- / Career Platform like LinkedIn or Xing.

NO ONLINE VISIBILITY AS ENGINEER.
Cities grow and get smarter every day! But how and where do these challenges meet with the right skills and talents?

WHERE DO COMPANIES START TO LOOK FOR TALENTS?
WHERE DO COMPANIES REALLY ATTRACT NEW TALENTS?
How **SKILLARY** contributes to the transformation of the talent and job market within the built environment.
6 MONTHS UNTIL A NEW EMPLOYEE IS HIRED

VACANCY

STAFFING

FLEXIBLE WORKING MODELS
KNOWLEDGE TRANSFER & DIVIDING WORK VIA COLLABORATIONS
EVALUATION SURVEY
SKILLARY Talent Survey 11/2018

- Industry Specific Portal: 80%
- Company DNA: 93%
- Autom. Matching: 88%

Source: SKILLARY Talent Survey 11/2018

3 SHOW YOUR PROFILE & WORK DNA ONLINE

copyright by SKILLARY
GENDER PAY GAP

der angestellten Architekten und Ingenieure in Deutschland 2017

ENGINEERING PROFESSIONS: 16.9%
ARCHITECTURE & PLANNING OFFICES: 20%

Source: BTK, www.btkangement.de

4

COMMUNICATE SALARY

Copyright by SKILLARY
NEW SKILLS AND CAREER DEVELOPMENT

FOSTER YOUR SKILL-SET
INCREASE REACH OF SKILLED PROFESSIONALS INTERNATIONALLY

CROSS BORDER RECRUITMENT
HOW SKILLARY MATCHES TALENTS AND COMPANIES

FREEMIUM PROFILES
FOR TALENTS

USE PROFILES FREE

TALENT GALLERY

PREMIUM PROFILES
FOR COMPANIES

USE PROFILES with annual fee
SUBSCRIPTIONS

TASK GALLERY
Max Mustersmann
Architect

„Realizing the construction of a skyscraper would be a dream come true for me.“
Currently seeking new challenges both domestic and international. To acquire a fourth language is on top of my priority list.

Bachlor: Architecture II
- Project size: 110.000 m²
- Professional experience: 10 years
- Languages: English, German, Spanish

Languages
- English
- German
- Spanish

Professional experience
- Team leadership: 2 years, team of 3
- Languages: English, German, Spanish

References
- Professional experience
- Languages

Special skills
- Corporate Architecture
- Interior Design
- Monument protection

Skills
- IT skills
  - ArchiCAD
  - Revit

Contact talent
Profile summary
My strengths & aptitudes
- Team leadership, curious, motivated, Akademie and laboratory construction
- My skills
  - 11 professionals
  - 3 languages
  - 2AutoCAD

Profile focus
- 35
- 3
- 2
- 3

For talents
TALENT MANAGER
Our talent manager tool will administer all your talents and profiles identified

TALENT GALLERY
Describe tasks and actively seek talents

NEW WORK
Flexible Work and Cooperation Models

PROFILE
Company profile based on your company DNA
Current job vacancies

We are looking for an assistant for our team! The position is available, specifically to architects with a focus on interior design.

What makes us unique

Architecture is meant to inspire. YAY Architects' principle is congruence right throughout realization - to let it be the interior space or within the urban context.

We are YAY! Everybody is and can become part of YAY!

Friday working hours end at 12:00. Twice a week, we cook lunch for the team.

Office

Team & Social

Statistical

Vegetarian.

Working models

We do not have or believe in core working hours, especially with young families. Core working hours will not always work.

Team

YAY should become a part of you.

Leave days:

28

Values:

Honesty, Trust.

Further education

Everybody should have the possibility to further education and training. We offer ongoing training modules in which we invite expert speakers who can assist you on your specific needs - e.g. BMI management, visualization courses etc.

Tea Kitchens

Coffee and other beverages are complimentary.

Sports team

Soccer team - every last Friday of the month we practice our soccer skills together. We make the respective bookings for the soccer pitch.

Social construction projects

We support "Brannen beweert a".

Team events:

We gather for a team meeting once a week to discuss the current status of projects and issues concerning the team.

Christmas party:

In house trainings.
COOPERATION PARTNERS.
INTERNATIONAL COOPERATION PARTNERS.
INTERNATIONAL CLIENTS.
INTERNATIONAL TALENTGALLERY.

WHAT SKILLARY IS LOOKING FOR
SKILLARY.

THANK YOU

www.skillary.de
Roundtable Discussion

Can Europe deliver the qualified engineers it needs for the future?
This session is moderated by Mrs Cathy SMITH

Dr Ekaterina VLADISLAVLEVA,  
CEO, DataStories International NV

Mr Stefan DEIX  
Director, European Council for Automotive R&D – EUCAR

Mr Frank HEEMSKERK  
Secretary General, European Round Table of Industrialists

Ms Andrea KAISER  
Founder, Skillary GmbH

Mr Hans VAN DER LOO  
Chairman, Institute for Integrated Economic Research

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“Can Europe deliver the qualified engineers it needs for the future?”

Join the conversation @Parlimag | #EEAG
Mr Peter VAN DER HIJDEN
Independent Expert

Join the conversation @Parlimag | #EEAG
FEANI
EUROPEAN FEDERATION OF ENGINEERS
* 1951
CENTRAL SECRETARIAT
Schuman Square 6,
1040 Brussels
http://www.feani.org
33 National Members (EHEA)
+/- 6 million engineers
1. Engineers Europe Monitor (EEM)

For a continuously updated source of information and inspiration for university-business interaction on engineering professionals

- An online platform with: hardware infrastructure, software framework applications and a growing data content
- 6 pilot countries (SE, IE, DE, FR, IT, PT)
- Surveys on: Students, Graduates, Active Engineers, Employers
1. Engineers Europe Monitor (EEM)

For a reflection of engineering professionals inputs focusing on 4 aspects:

- **Personal background**: age, gender, educational attainment level of their parents
- **Initial and continuing education**: type and level of engineering studies, uptake and potential of continuing education
- **Career development and mobility**: professional trajectories, career time spent in other sectors or countries
- **Labor conditions**: employment status, salary levels, work life balance
1. Engineers Europe Monitor (EEM)

Visibility of the results

- EEM News Flash: a bi-annual thematic outlook
- EEM Report: an annual in-depth coverage
- Growing media presence
- Short videos
2. Engineers Europe Education Reform Accelerator (ERA)

To bridge the gap between engineering education and practice

- Provide training institutes with the latest feedback from professional practice
- Ensure programs that are up to speed
- Help learners acquire and renew relevant future oriented competences
2. Engineers Europe Education Reform Accelerator (ERA)

To help accelerate reform in engineering education

- Launching of the Engineers Europe Skills Compass:
  
  3 key dimensions: knowledge, skills, responsibility and autonomy

- Fast feedback loops between education and practice:
  
  - a permanent stream of engineering challenges
  
  - an online learning review
  
  - a tool for speed dating and twinning between educators and practitioners
2. Engineers Europe Education Reform Accelerator (ERA)

Outputs

- Upgrade and re-train to face the challenges of digitalization and artificial intelligence
- Keep track of trends combining scholarly analysis and grassroots experiences
- Help engineering education and practice reinforce and accelerate each other
- Bring learners up to speed with the latest developments in practice
3. Engineers Europe Career Development Services (CDS)

To ensure that engineering professions can put their competences at the service of society and innovation

- A series of career development services in the engineering professions in industry and public service
- Increase enthusiasm for lifelong learning and open new career perspectives for engineering professionals
3. Engineers Europe Career Development Services (CDS)

Engineers Europe Badges

- Acknowledge learning by engineering professionals independent of the educational setting
- Acknowledge extras brought by the candidates, recognized by employers and universities
- Combine self-assessment with peer-validation
- Engineers Europe: a facilitating role with its EEM platform and an Engineers Europe Badges Protocol
3. Engineers Europe Career Development Services (CDS)

Engineers Europe Expert Portal

- Match supply and demand of qualified engineering professionals, project partners, funding opportunities, traineeships, coaching and mentorships
- Stimulate cross-fertilization for talent and expertise
- An asset for the labor market as well as for educational purposes (traineeships, internships, mentorships)
E4E Knowledge Alliance

A unique position to cover both significant actors in academia, employer’s associations and associations of engineering professionals

A constituency of millions of individuals active in the engineering professions

A wealth of experience and a huge potential for cross-fertilization largely untapped so far
“Can Europe deliver the qualified engineers it needs for the future?”

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