

# Professional Roles and Employability of Future Engineers



Photo: © PREFER

## PREFER

“ It would have been useful if we learned about this professional roles model before we visited companies last week. The opportunity to meet an engineer in each of the three possible roles in an early stage of our educational career would be a valuable experience.

*2<sup>nd</sup> year student Engineering Technology, KU Leuven*

The PREFER project aims to make engineering students more self-aware regarding their strengths and weaknesses in the broad field of professional skills. This will support graduates' employability and job satisfaction and it will also reduce the skills mismatch since not all jobs need all professional skills with the same intensity. 'Negotiation' is for example much more important in a job where contacts with customers or colleagues is essential.

Therefore the PREFER-team has developed three instruments: (1) a Professional Roles Framework that describes the three professional roles engineers can take on in the beginning of their career, characterized with an associated set of professional skills. (2) two tests that enable students to become aware of the professional role(s) that coincides most with their interests and skills. (3) three innovative plug-and-play curriculum elements in order to train specific professional skills.

Curriculum elements:

- A 'communication' curriculum element has been validated and tested in the 3 engineering institutions.
- A workshop 'write and pitch your research' is developed and researched by the colleagues at TU Delft.
- An innovation bootcamp in CDIO-style is implemented.

### More information

Project website  
[www.preferproject.eu](http://www.preferproject.eu)

The Erasmus+ Project Results Platform  
<https://ec.europa.eu/programmes/erasmus-plus/projects/eplu-project-details/#project/da4f3d94-032d-493f-9278-205c371f10e4>

## Erasmus+

Field: Higher Education

Action: Knowledge Alliances

### Key facts and figures

 Partners:	13	 Countries:	3
 EU grant:	€ 988,462	 Project duration:	2017 - 2020

### Professional Roles and Employability of Future Engineers



### Lead organisation

KATHOLIEKE UNIVERSITEIT LEUVEN

Location: Belgium

### Project countries

Belgium, Ireland & Netherlands

## Partners

**.AGORIA**



**BDO**

**ENGIE**

**ENGINEERS IRELAND**



**ie-net**  
INSPIRED BY ENGINEERS



**KU LEUVEN**

**SIEMENS**

**TU Delft**

**SEFI** European Society for Engineering Education  
Europäische Gesellschaft für Ingenieur-Ausbildung  
Société Européenne pour la Formation des Ingénieurs

## Social Media

The links of social media platforms will be available soon!

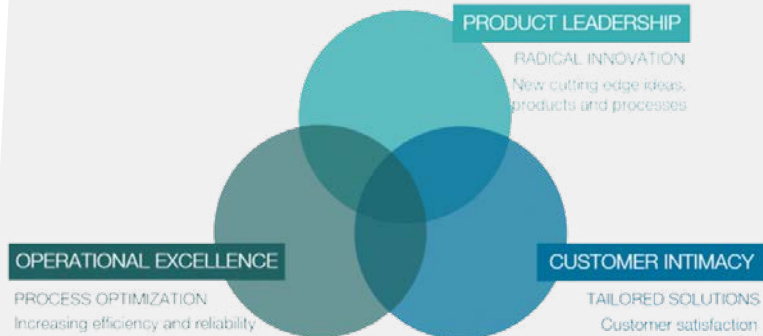


Image: © PREFER

## Sustainability

Our professional roles framework has been extensively validated with both engineering students and industry professionals. Please find below the most salient findings:

- A large industry survey (N=188) shows that 2/3rd of the respondents recognize the roles model in their company
- Most engineering positions require a combination of two roles.
- First-year students at KU Leuven, TU Dublin & TU Delft are predominantly attracted by the Product Leadership role

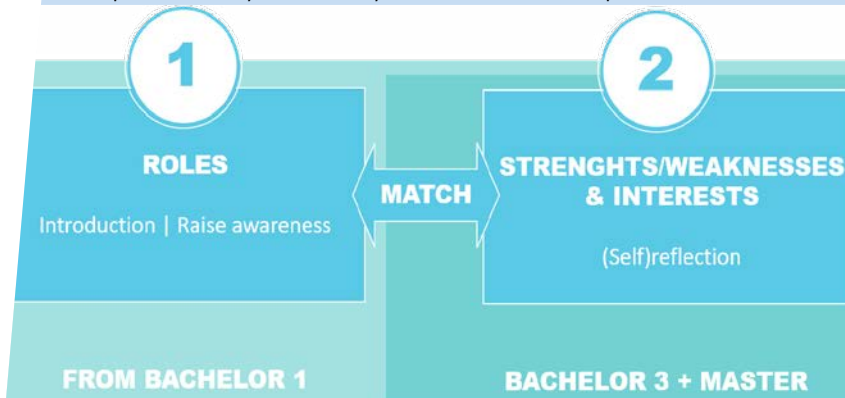


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## Dissemination

We are currently developing two tests:

- **PREFER EXPLORE** > Preferred personal style
  - In this 10-minute test, students can explore the three professional roles in a lightweight manner.
  - Students receive an infographic style personalized report with their preference towards each of the three roles.
- **PREFER MATCH** > Situational Judgment tests
  - In this extensive testing format (+/- 20 minutes per professional role) engineering students are requested to evaluate different responses to a variety of realistic engineering cases.
  - Students' responses are compared with the judgment of industry experts.
  - For each of the 23 identified professional competences, students will receive detailed feedback on their performance together with concrete tips on how to develop further in this respect.