KU LEUVEN

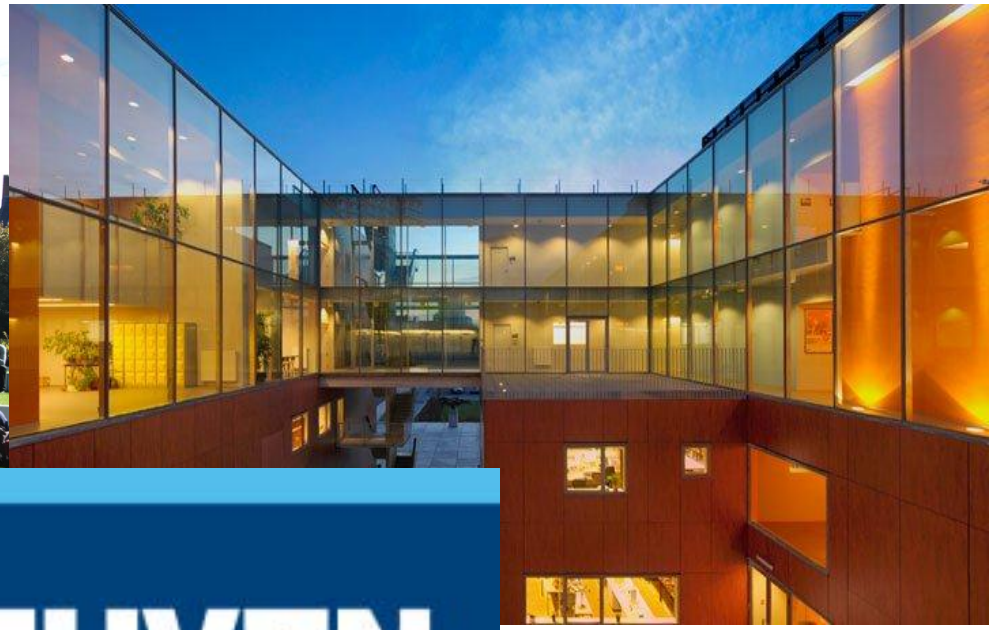
TECHNOLOGIECAMPUS GENT

KU Leuven

Technology Campus Gent

Faculty of Engineering Technology

Welcome at
KU Leuven Technology Campus Gent



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Faculty of Engineering Technology

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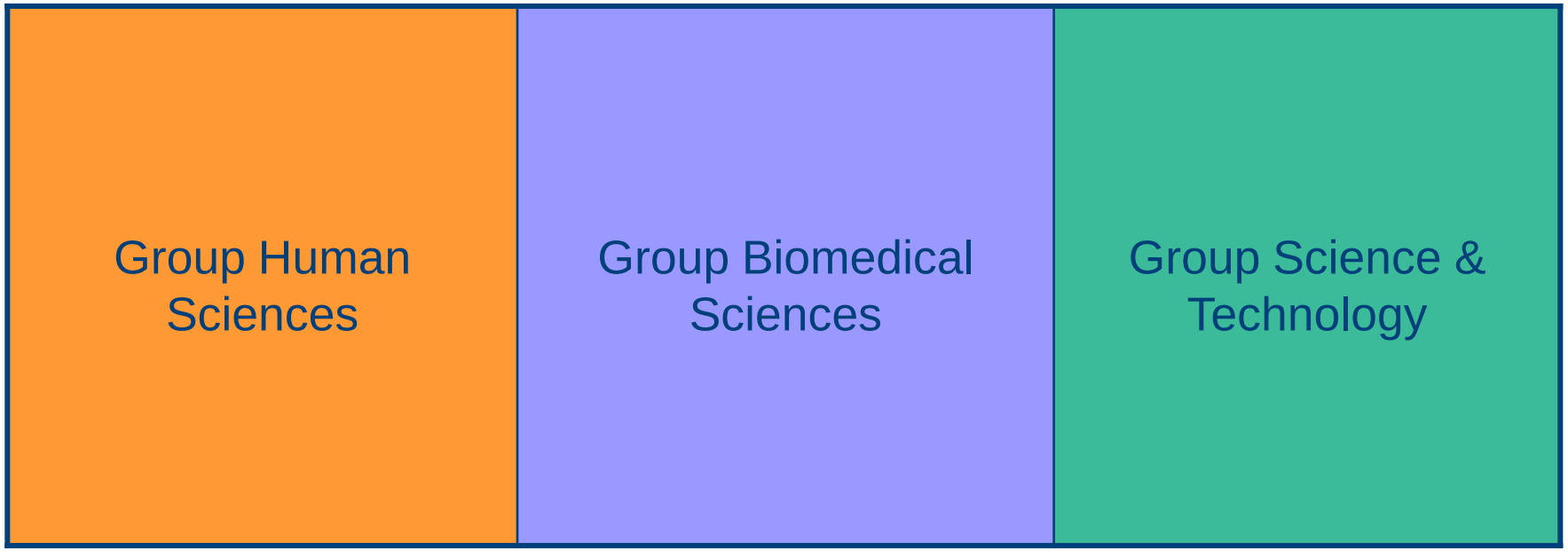
3 groups – 15 faculties



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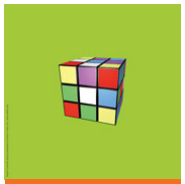
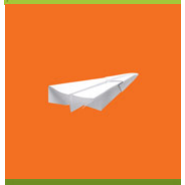
Faculty of Engineering Technology
FIIW

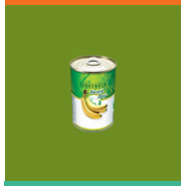
Group Science & Technology



Faculty of Science



Faculty Engineering Science



Faculty Bio-Engineering Science

Campus in GENT

Faculty of Engineering Technology

Faculty Architecture

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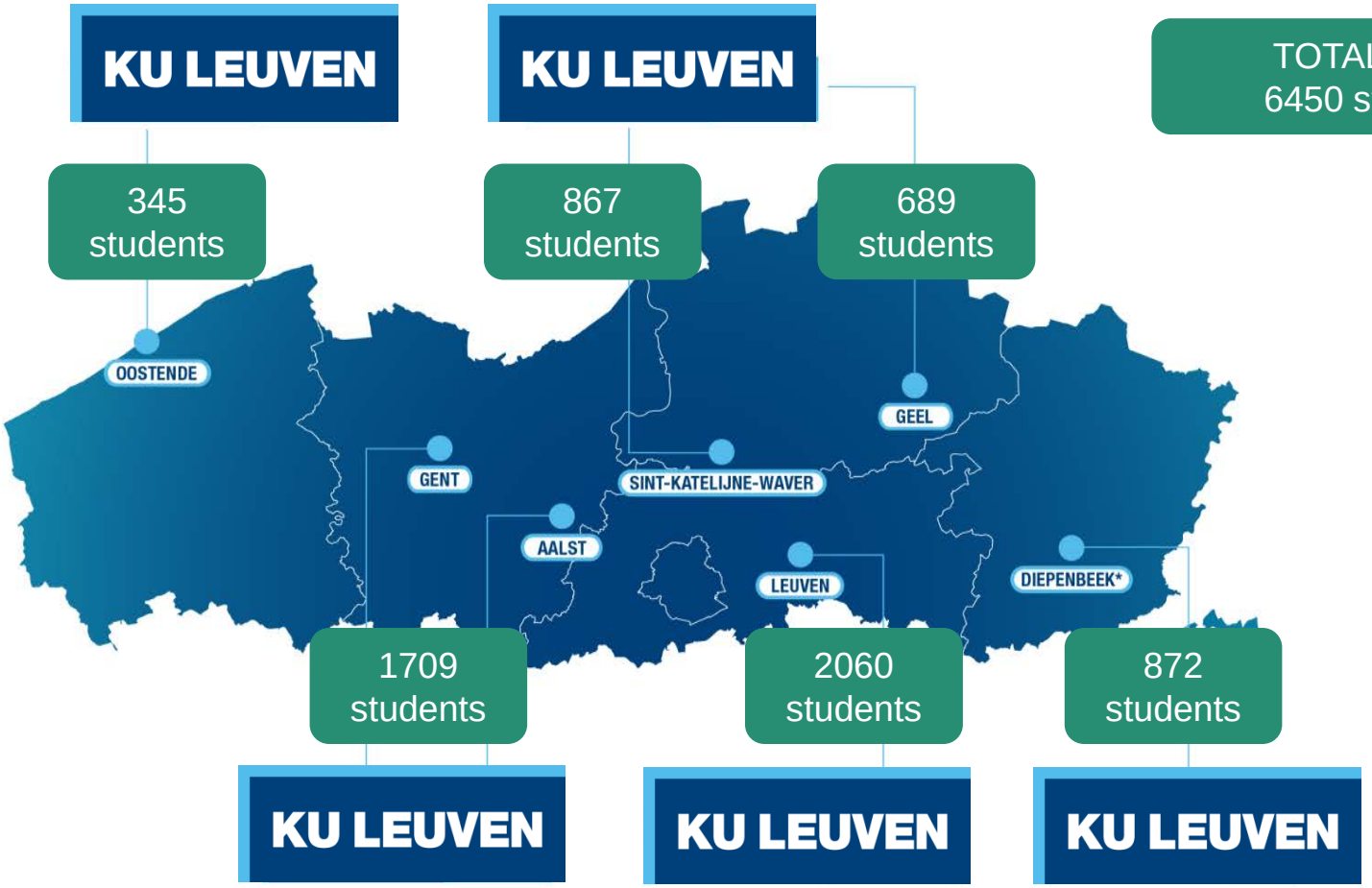
Faculty of Engineering Technology

Faculty of Engineering Technology



KU LEUVEN kulak 1480 studenten

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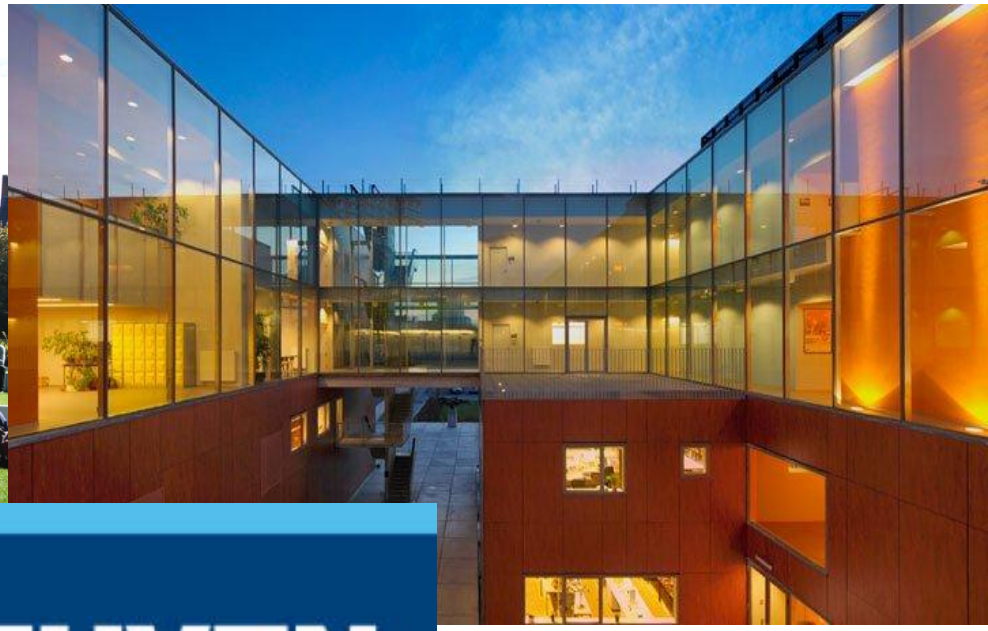
KU Leuven Technology Campus Gent



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Engineering Technology in Gent at a glance

1700 students

6 Master degrees

14 research groups

103 staff members
94 contractual coworkers (PhD researchers, postdoc, projects)
€ 4. 329.000 external research funding (industry, IWT)

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Educational programs
Engineering Technology

Ba: 180 EC; Ma: 60 EC

Bachelor Engineering Technology: (Bio)Chemistry
Bachelor Engineering Technology: Electromechanics
Bachelor Engineering Technology: Electronics – ICT
Bachelor Engineering Technology: Construction

Master Engineering Technology: Construction
Master Engineering Technology: Chemistry
Master Engineering Technology: Biochemistry
Master Engineering Technology: Electronics – ICT
Master Engineering Technology: Electromechanics
Master Engineering Technology: Energy

European Master of Science in Food Science, Technology and Nutrition (Erasmus Mundus) (120 EC)

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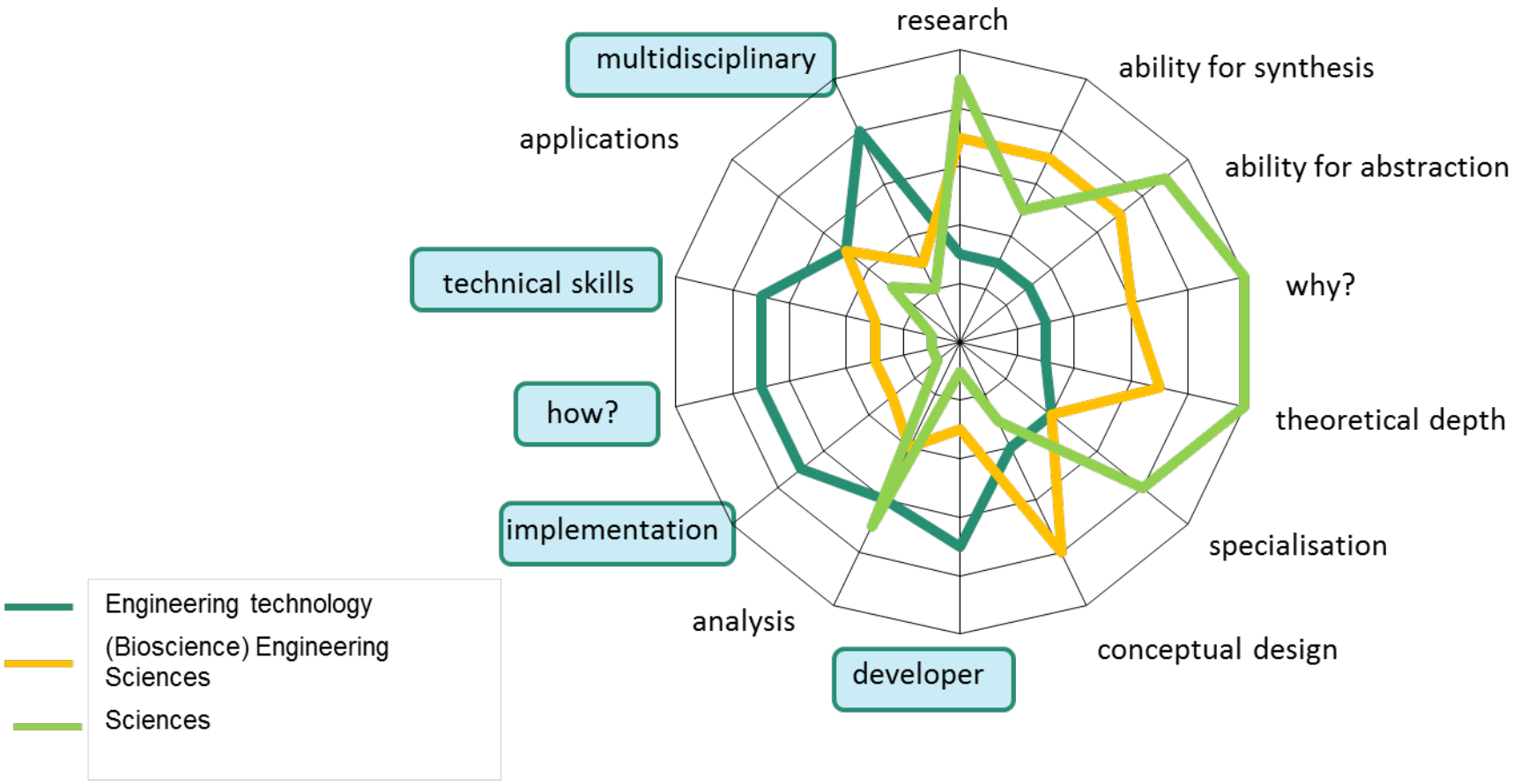
Profiles in Engineering and Technology



Bachelor’s programmes

(E) Programmes in English

	CAMPUS GROUP T LEUVEN	TECHNOLOGY CAMPUS DE NAYER	TECHNOLOGY CAMPUS GEEL	TECHNOLOGY CAMPUS GHENT & AALST	TECHNOLOGY CAMPUS OSTEND	TECHNOLOGY CAMPUS DIEPENBEEK
Bachelor of Science in Engineering Technology						
- Civil Engineering		■		■	■	■
- Chemical Engineering	■ (E)	■		■		■
- Electromechanical Engineering	■ (E)	■	■	■	■	■
- Electronics and ICT Engineering	■ (E)	■	■	■	■	■
- Polymer Porcessing Technology					■	
- Nuclear Engineering						■
- Packiging Engineering						■
Bachelor of Science in Bioengineering Technology			■			

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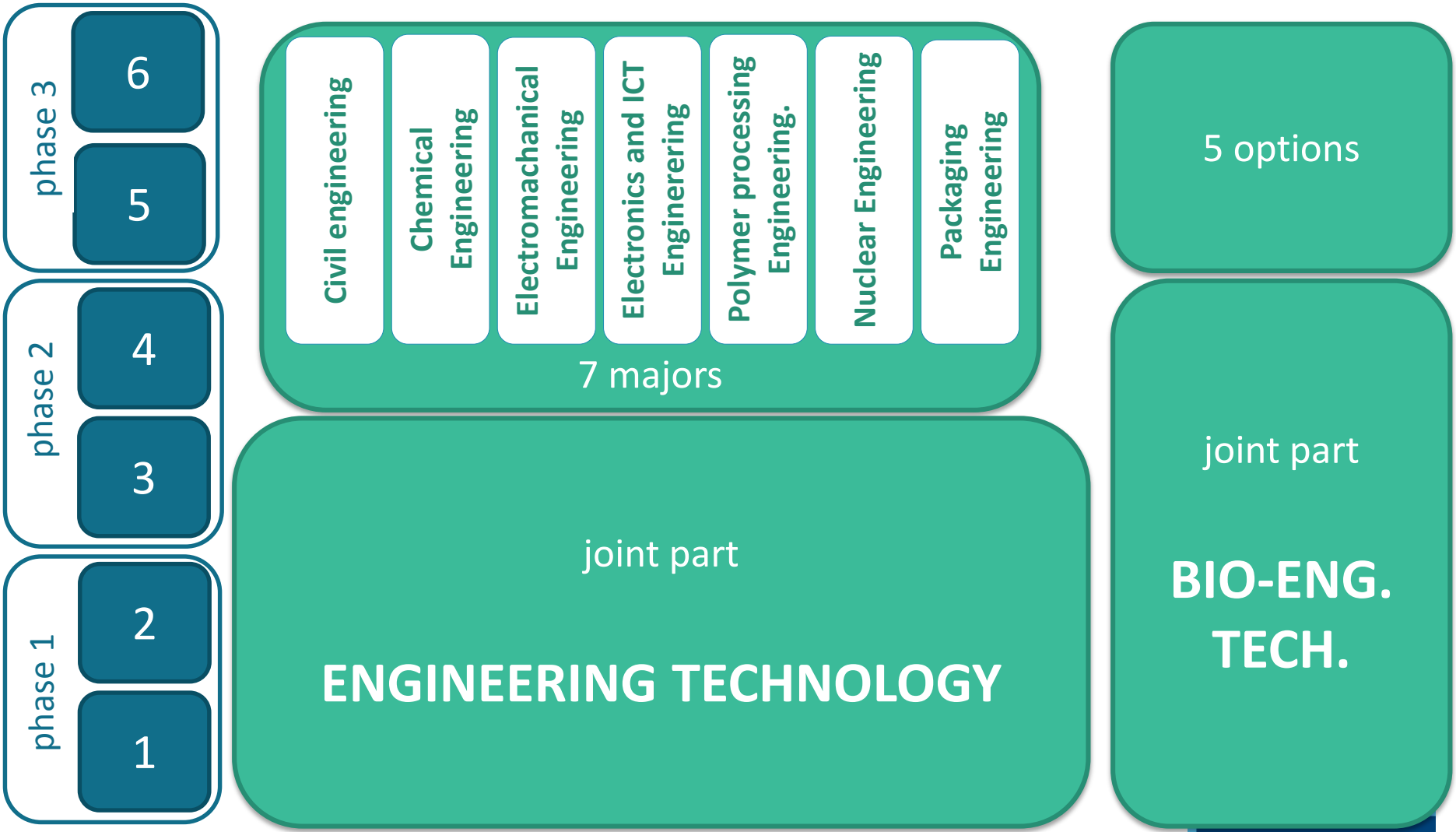
Curriculum development



Master’s programmes

(E) Programmes in English

	CAMPUS GROUP T LEUVEN	TECHNOLOGY CAMPUS DE NAYER	TECHNOLOGY CAMPUS GEEL	TECHNOLOGY CAMPUS GHENT & AALST	TECHNOLOGY CAMPUS OSTEND	TECHNOLOGY CAMPUS DIEPENBEEK
Master of Science in Engineering Technology						
- Biochemical Engineering	■ (E)	■		■		■
- Electromechanical Engineering	■ (E)	■	■	■	■	■
- Chemical Engineering	■ (E)	■		■		■
- Electromechanics Engineering	■ (E)	■	■	■	■	■
- Electronics and ICT Engineering	■ (E)	■	■	■	■	■
- Energy Engineering		■	■	■	■	■
- Polymer Processing Technolgy					■	
- Nuclear Engineering						■
- Packaging Engineering						■
European Master of Science in Food Science, Technology and Nutrition				■ (E)		
Master of Science in Bioengineering Technology						
- Agro- and Horticultural Engineering			■			
- Food Industry Engineering			■			

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Postacademic programmes

(E) Programmes in English

	CAMPUS GROUP T LEUVEN	TECHNOLOGY CAMPUS DE NAYER	TECHNOLOGY CAMPUS GEEL	TECHNOLOGY CAMPUS GHENT & AALST	TECHNOLOGY CAMPUS OSTEND	TECHNOLOGY CAMPUS DIEPENBEEK
Master of Science in Engineering Technology: Industrial Polymer Processing Engineering					■	
Master of Science in Welding Engineering		■				
Postgraduate programmes						
Innovation and Entrepreneurship in Engineering	■ (E)	■ (E)	■ (E)	■ (E)	■ (E)	■ (E)
Community Service Engineering			■ (E)			
Enterprising	■ (E)					
Logistics Management	■ (E)					

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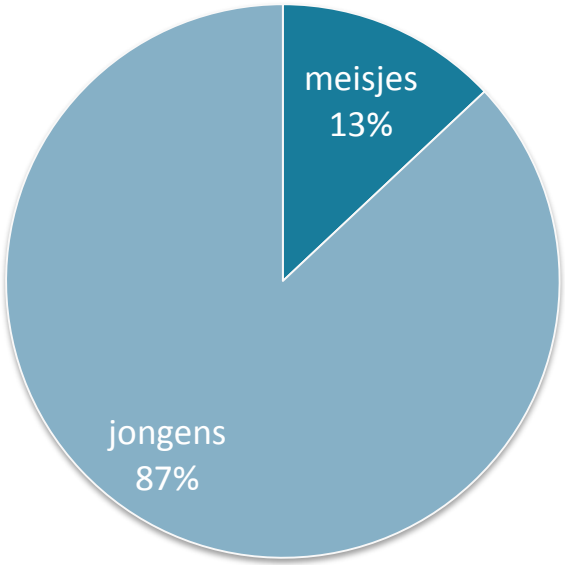
Gender



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Other institute at Technology Campus Gent

University College Odisee

Professional Bachelors (3 year, 180 EC)

- Chemistry
- Elektronics – ICT
- Energy technology
- Design and production technology
- Biomedical lab technology
- Food and dietetics
- Facility Management

Many cooperations

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Research Activities

7 research units, 14 Research Groups

Civil Engineering	Sustainable Building Research Structural Mechanics and Materials Geomatics and Surveying
Biochemistry	Enzyme, Fermentation and Brewing Technology Research group for Technology and Quality of Animal Products Odour and Flavour Research
Chemistry	Chemical Process Technology
Electrical Engineering	Light&Lighting Energy and Automation (E&A) Wireless and Mobile Communications (DraMCo)
Computer Science	Combinatorial Optimisation and Decision support (CODeS) Mobility and Security (MSEC)
Materials Engineering ***Mechanical Engin.***	Mechanics of Materials, Products and Processes (MeM2P) Control and Mechanics of Power Transmissions (MeSA)

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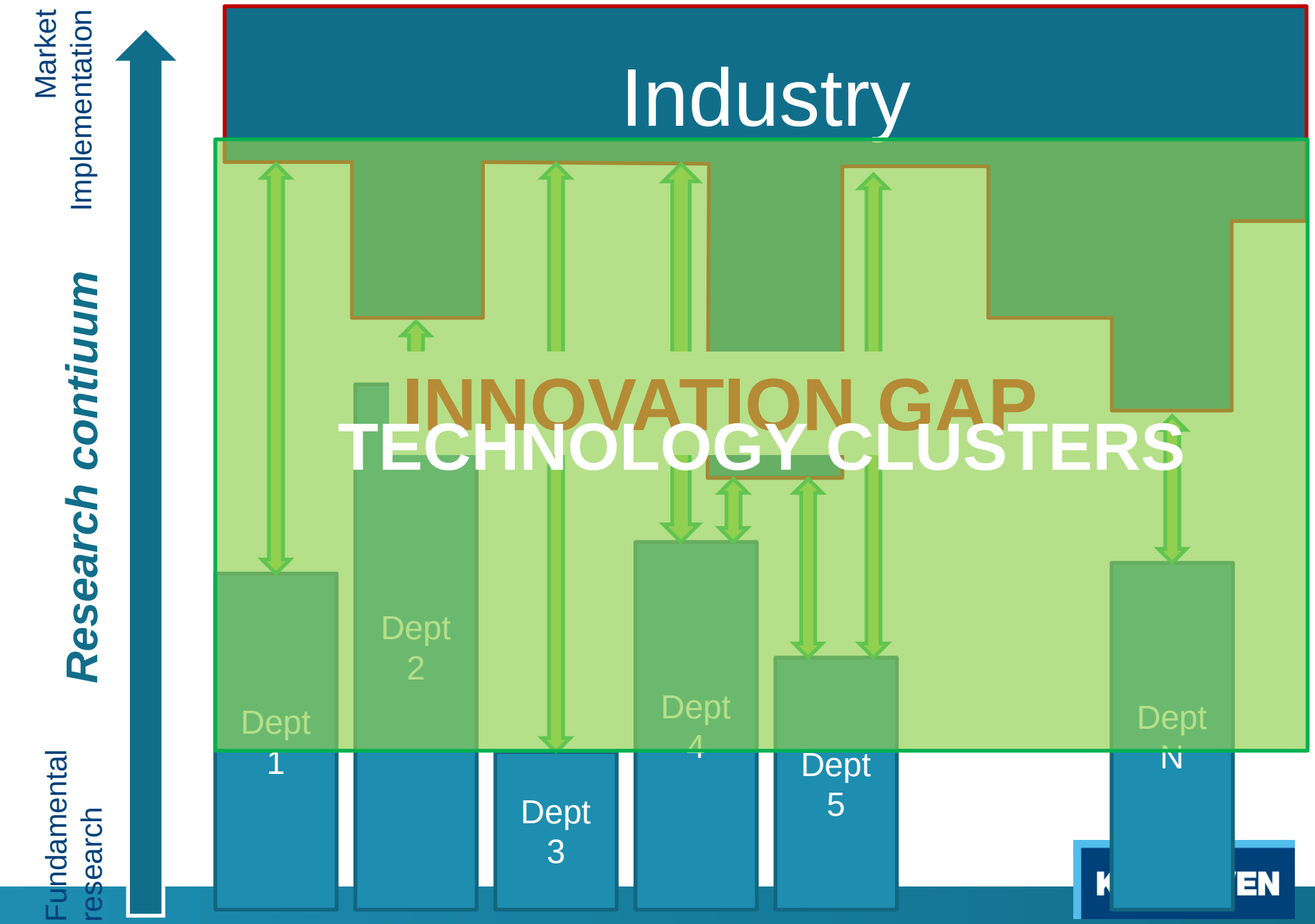
Market
Implementation
Research contiuum
Fundamental
research
Industry
INNOVATION GAP
TECHNOLOGY CLUSTERS
Dept
1
Dept
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3
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Dept
5
Dept
N

1.1 Sustainable Building Research Group

- very low energy buildings (building envelope, ventilation- and cooling techniques)
- sustainable materials and structures
- quality control

Contact:
Ralf Klein (ralf.klein@kuleuven.be)

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1.2 Structural Mechanics and Building Materials

- The development of a prediction model for the human-induced vibrations of civil engineering structures based on measurements and computer simulations (bridges, stages).
- Acceptability of vibration levels
- Remedies to reduce vibration levels.

Contact:
Peter Van den Broeck (peter.vandenbroeck@kuleuven.be)
http://www.kuleuven.be/samenwerking/bwm

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1.3 Geomatics-Surveying Research group

- Large scale mapping: combination of the CAD-environment with the Geographic Information System GIS
- Establishment of a large scale GIS-database of Flanders with precise topographical reference data (finished by 2014).
- 3D-modeling using photogrammetry and laser scanning

Contact:
Guido Kips (guido.kips@kuleuven.be)

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2.1 Laboratory for Enzyme, Fermentation and Brewing Technology

- Enzyme technology
- Malting technology
- Brewing technology: flavour profiling, beer stability, high-tech hopping
- Fermentation technology: functionality of higher Fungi, production of bio-ethanol

Contact:
Luc De Cooman (Luc.DeCooman@biw.kuleuven.be)

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2.2 Laboratory for Food Chemistry and Meat Technology

- Processing of meat products: product development and process control
- Chemical and bacteriological safety of meat products
- Functionality of food ingredients and additives
- Animal welfare

Contact:
Hubert Paelinkck (Hubert.paelinck@kuleuven.be)

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2.3 Molecular Odour Chemistry

- Understanding the chemical background of the flavour of food products the odour of industrial materials.
- Project concerning odour of non-food materials deal with perfumes and cosmetics, polymers (cars), and printed materials.
- Panel room, GC equipped with a sniffing port and specific detector for sulphur compounds

Contact: Jim Van Durme (Jim.vandurme@kuleuven.be)

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2.4 Laboratory for Chemical Processing Technology

- Electrolytical deposition of metals and non-ferro materials
- Liquid membranes (unique pilot plant, 38 m2), electrodialysis and membrane distillation.
- Non-pressure driven membrane technologies.

Contact: Luc Pinoy (luc.pinoy@kuleuven.be)

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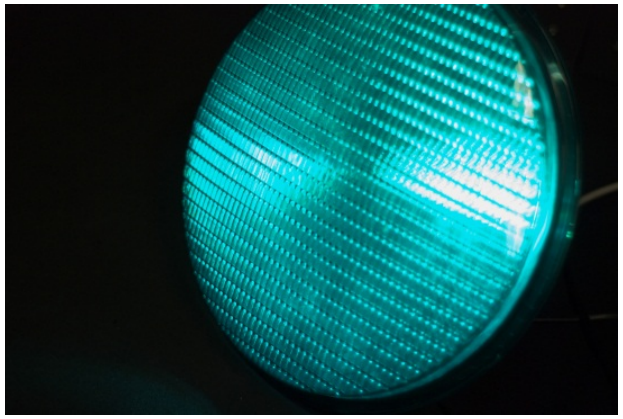
3.1 Light & Lighting



- Lighting and energy efficiency
- Optical design of secondary optics using ray-tracing software
- Appearance (colour and gloss)
- New light sources: LED, remote phosphor, OLED, integration of fluorescent quantum dots
- Photovoltaics cells

Contact: Peter Hanselaer
(peter.hanselaer@kuleuven.be)
www.lichttechnologie.be

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3.2 Energy and Automation (E&A)

- Industrial data communication
- Analysis and design of control systems, electrical drive technology, modeling of dynamical systems
- Intelligent use and management of electrical energy in hybrid and stand-alone energy plants: cogeneration, photovoltaic solar cells and supercapacitors
- Reliability analysis of electrical installations.

Contact: Jan Cappelle (jan.cappelle@kuleuven.be)
http://www.kuleuven.be/samenwerking/eena

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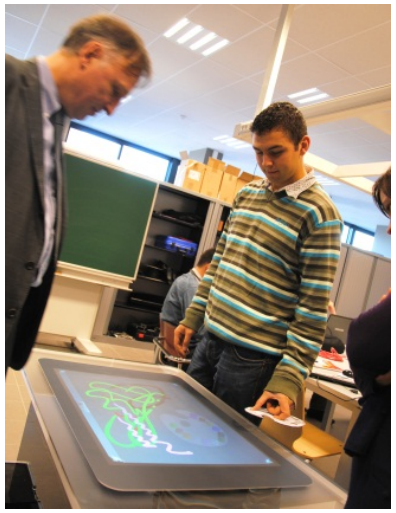
3.3 Wireless and Mobile Communications



- Standards and systems for wireless and mobile communications: RF and VLC
- Indoor localization and context awareness
- Internet of Things, Cyberphysical systems
- Wireless power
- The creation of new applications in the world of wireless communications.

Contact: Lieven De Strycker (Lieven.destrycker@kuleuven.be)
http://www.kuleuven.be/samenwerking/dramco

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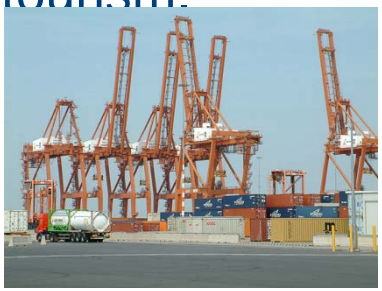
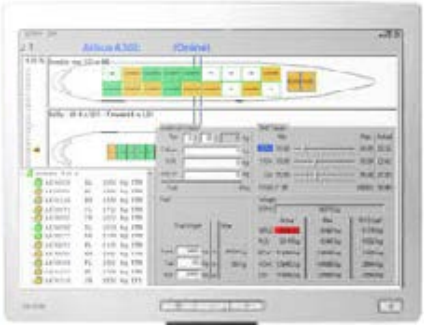
4.1 Combinatorial Optimisation and Decision support (CODeS)

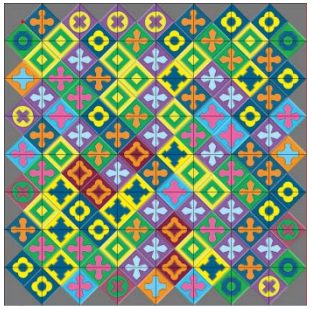
To solve complex problems in timetabling, rostering, scheduling, routing, cutting & packing for applications such as health care, production, logistics, tourism.



Development of mathematical (optimal) algorithms, heuristics, generic adaptive approaches, meta- and hyperheuristics



Contact: Greet Vanden Berghe (Greet.vandenberghe@cs.kuleuven.be)
http://www.kuleuven.be/samenwerking/codes

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4.2 Mobility and Security (MSec)

- Modelling secure and mobile environment with focus on eID
- PET (Privacy Enhancing Technology)
- Sensor networks and RFID technology for the transport sector.
- Reconfigurable embedded systems.

Contact: Vincent Naessens (Vincent.naessens@kuleuven.be)
http://www.kuleuven.be/samenwerking/msec

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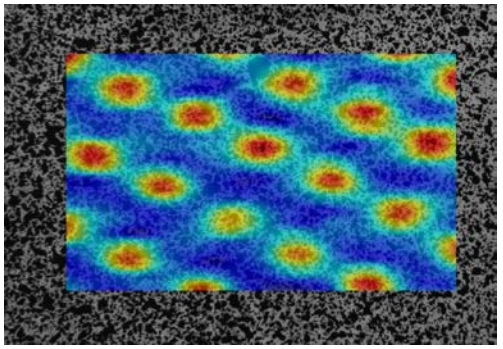
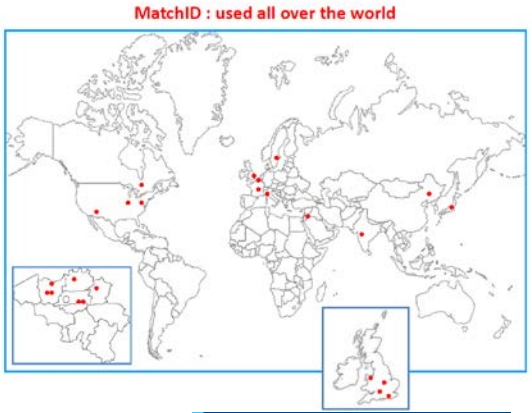
5.1 Mechanics of Materials, Products and Processes (MeM2P)



- Determination of elasto-plastic material parameters by combining Digital Image Correlation (DIC) experimental data and numerical simulations in inverse methods
- Extension to DIC measurements on concrete, composites, cardboard and plastics
- Development of in-house DIC code MatchID 2D and MatchID 3D
- PhD course on DIC + user forum



Contact: Dimitri Debruyne (dimitri.debruyne@kuleuven.be)
http://www.kuleuven.be/samenwerking/mem2p

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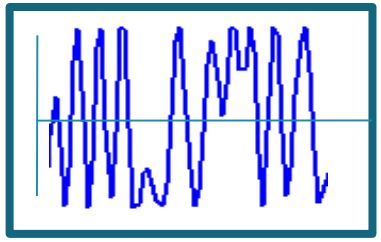
5.2 Control and Mechanics of Power Transmissions (MeSA)

- Hydraulic tractions
- Industrial control of mechanical and electrical tractions.
- Development of advanced motion control algorithms for industrial servo controllers.



Contact: Marc Juwet (Marc.Juwet@kuleuven.be)

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KU Leuven Technologiecampus Gent
SPEERPUNTEN ONDERZOEK

September 2014
De Standaard

Onderzoekers wekken Belgisch bier uit 1842 weer tot leven

02 Okt 2014 Onderzoekers van de KU Leuven, campus Gent, zijn erin geslaagd om bier uit 1842 te reconstrueren. Daarvoor baseerden ze zich op flessen bier die in 2010 werden gevonden in een 19de-eeuws scheepswrak voor de kust van Finland. Een Finse brouwerij zal het bier nu gaan verkopen.

In 2010 werden 145 flessen champagne en vijf flessen bier gevonden in een scheepswrak voor de kust van de Finse Ålandeilanden.
© Marcus Lindholm - Visit Åland

November 2014
De Tijd/Metro

Doctoraatsstudenten KU Leuven ontwikkelen polsband die dokters helpt bij monitoren baby's

Twee doctoraatsstudenten van de KU Leuven Technologiecampus Gent hebben een prestigieuze wedstrijd voor studenten elektronica gewonnen. Met hun "TIagnose Watch", een polsband die dokters kunnen gebruiken om pasgeboren baby's te monitoren, ontwikkelden ze het beste van de 229 projectvoorstellen. In de finale in München moesten ze het opnemen tegen twee Poolse teams en één

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