FACULTY OF ENGINEERING AND ARCHITECTURE

Industrial research & Metals consortium

Kristof De Wispelaere

GHENT UNIVERSITY

METALS GHENT UNIVERSITY

SOETE LABORATORY

Ghent University: facts and figures

- Founded in 1817
- 66th in academic ranking of world universities
- Annual revenue: 410 million euro
- 11 faculties and 86 faculty departments
- 9000 employees
- 1400 professors
- 44000 students

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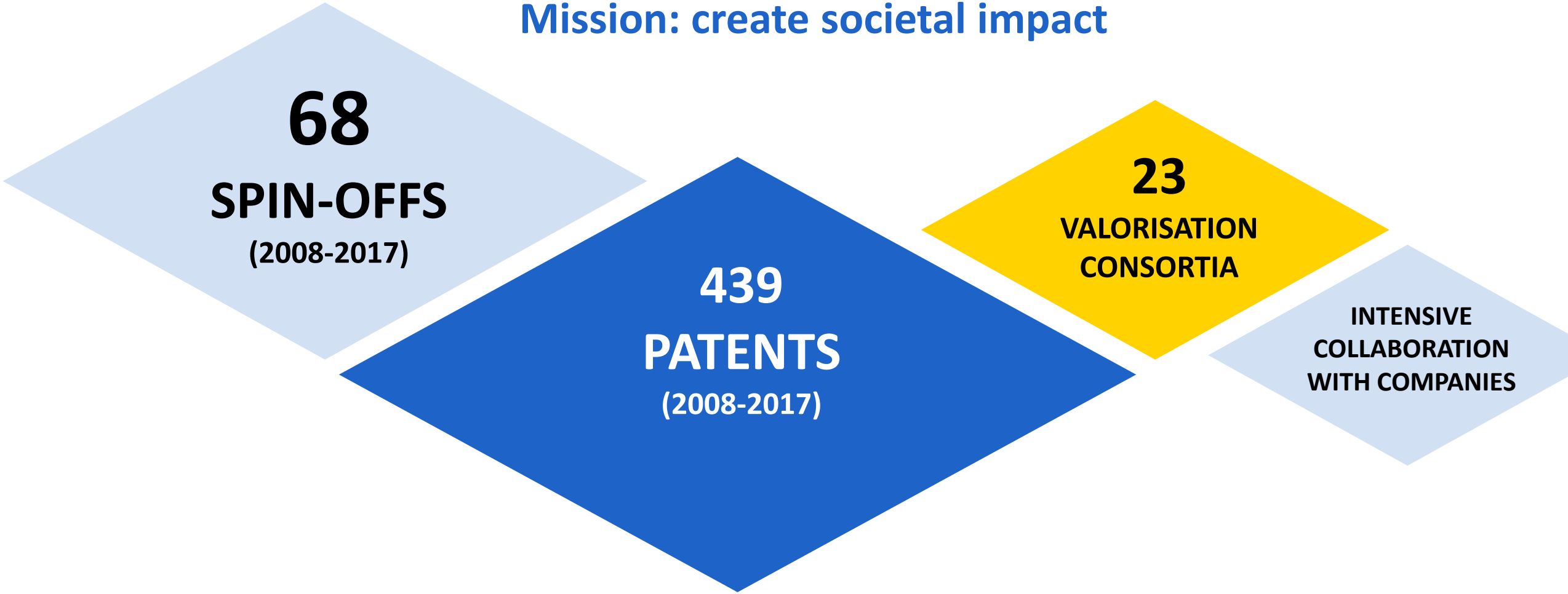
Industrial research at Ghent University

Mission: create societal impact



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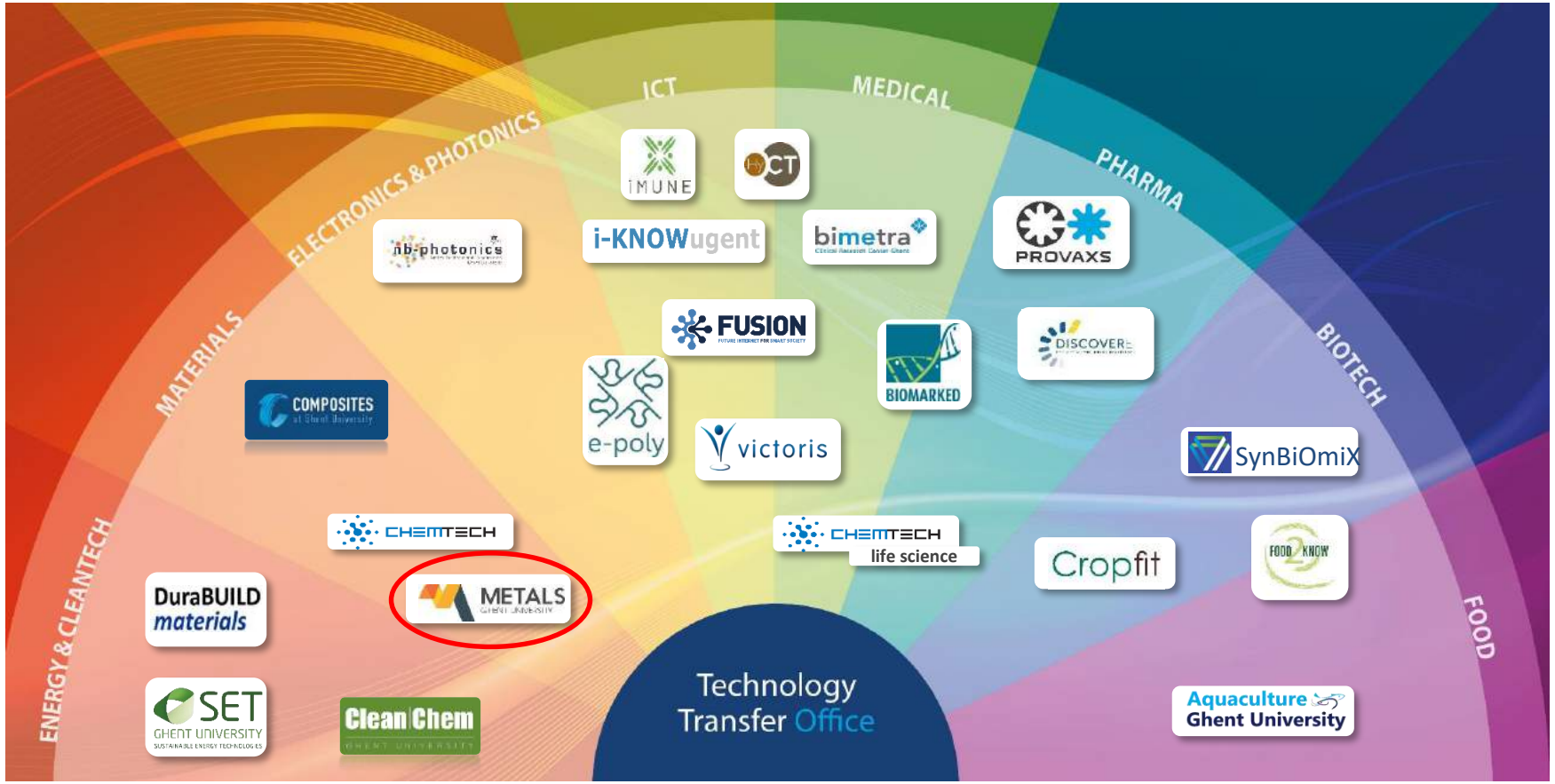
Industrial research at Ghent University

- Central Technology Transfer office (~36 people)
- 23 business development centra or consortia, all coordinated by a business developer



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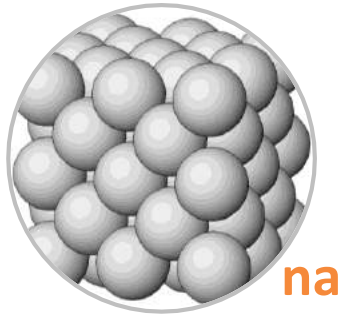
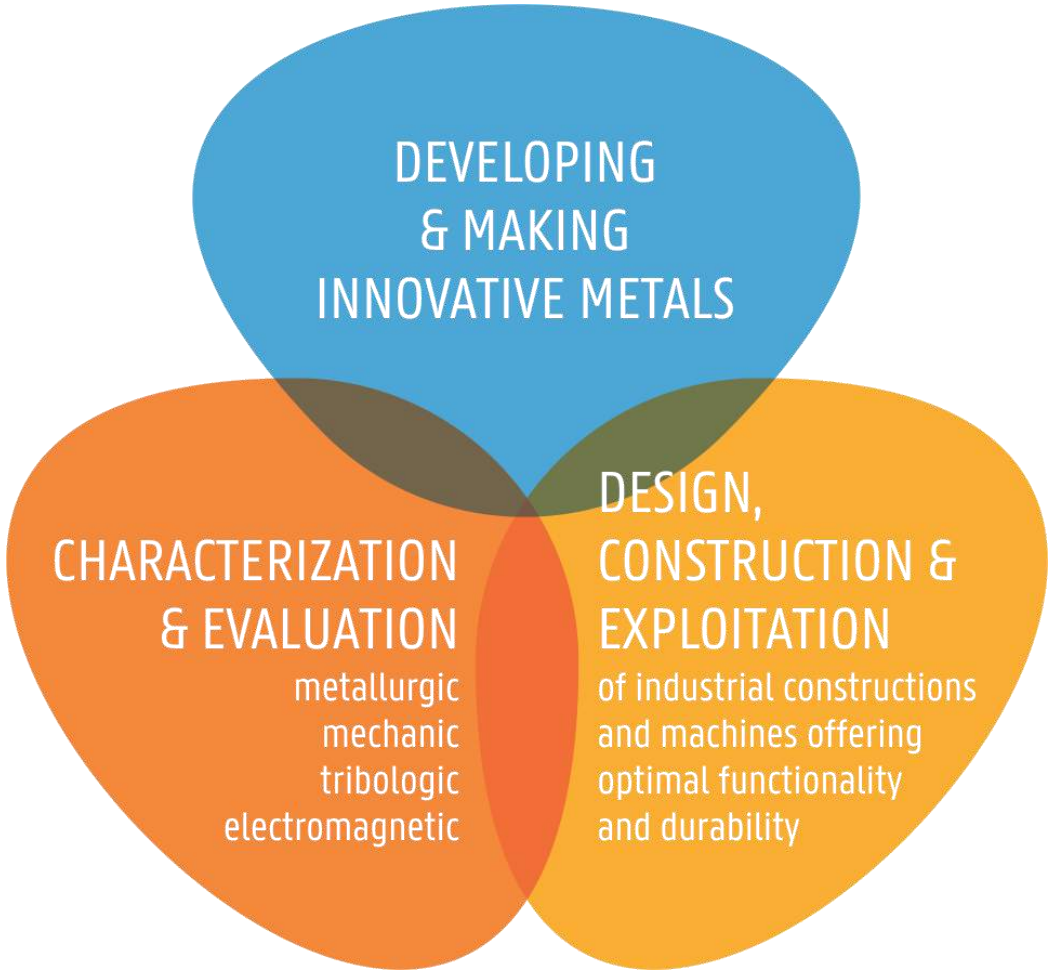
Focus areas of the Metals Consortium

The Metals consortium provides **solutions** in research and technology domains related to metal applications.



nano → mega

material → application



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Our multidisciplinary team

Tribology	**Prof. P. De Baets** Prof. D. Fauconnier
Fracture and fatigue	Prof. W. De Waele Prof. S. Hertelé
Physical metal science	Prof. S. Cottenier Prof. L. Kestens Prof. R. Petrov Prof. P. Verleysen
Sustainable materials	Prof. K. Verbeken
Magnetic materials	Prof. L. Dupré
Vibrational control and dynamics	Prof. M. Loccufier
Bridges, roads, tunnels Metal constructions	Prof. H. De Backer Prof. W. Decorte

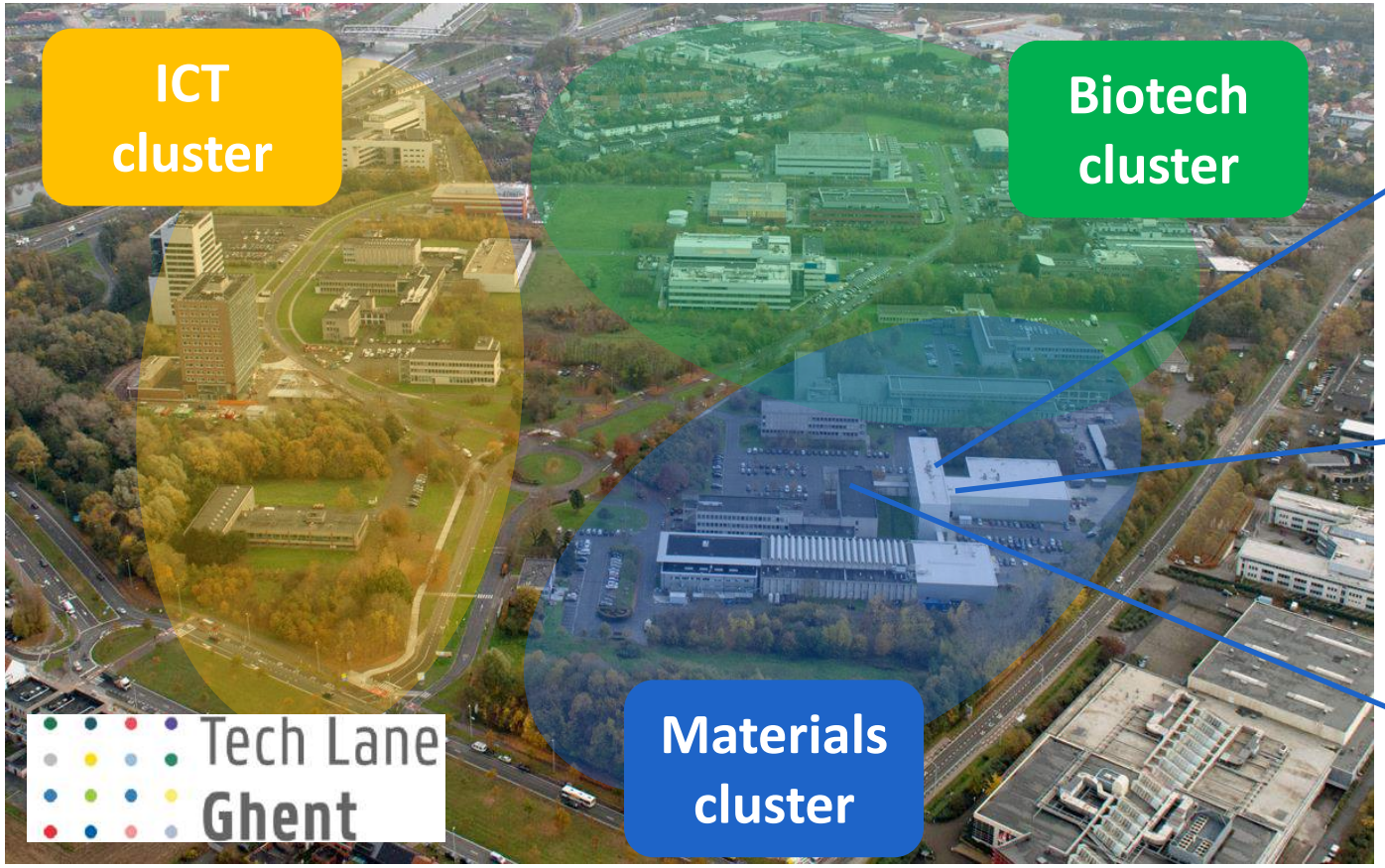
SOETE LABORATORY

13 academic research group
+ 6 industrial partners

We are fully embedded

Materials domains clustered at TechLane Ghent Science Park

- UGent consortia Metals, Composites, DuraBUILDmaterials
- Material Research Cluster and Metal Structures Center



MSC METAL STRUCTURES CENTRE

MATERIALS RESEARCH CLUSTER GENT

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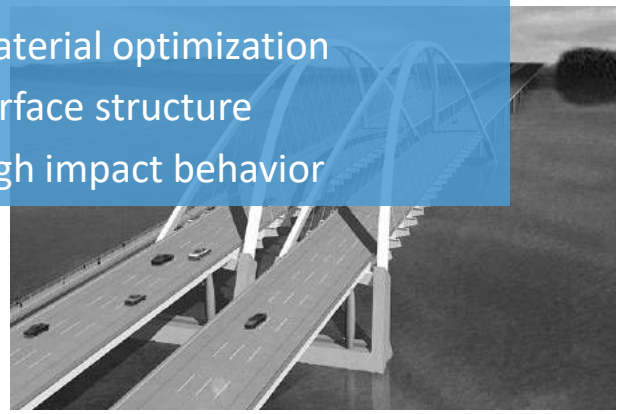
Markets and specialties

Pipelines (Oil & gas, H_2)
Fracture mechanics
Welding inspection

Transport
Material optimization
High impact behavior

Machinery
Tribology
Lubrication
Monitoring

Steel constructions
Material optimization
Surface structure
High impact behavior

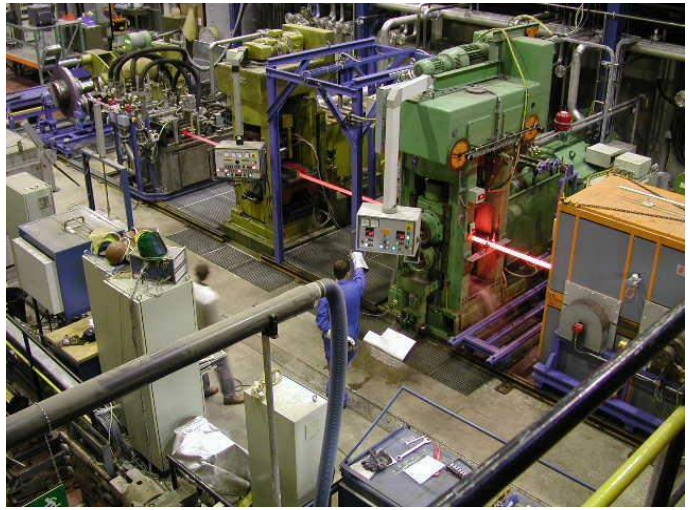
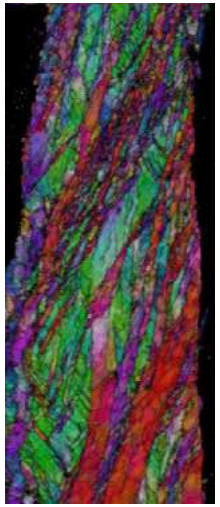
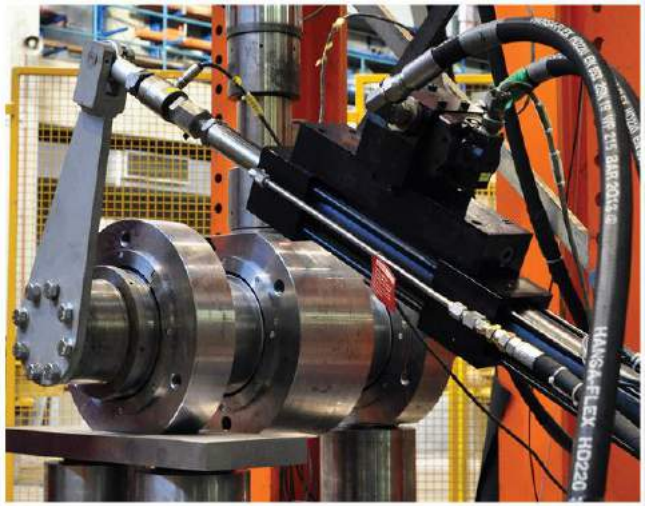
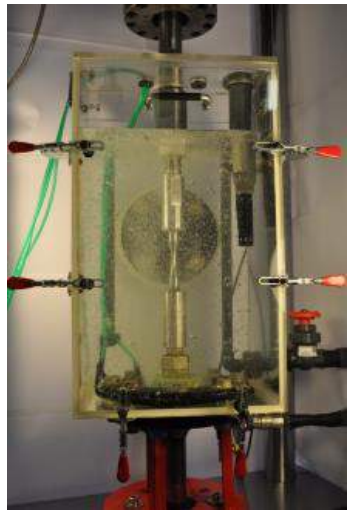


Agricultural machines
Wear and fatigue
Material & design optimization

Offshore
Wear, fatigue and corrosion
Material optimization
Monitoring

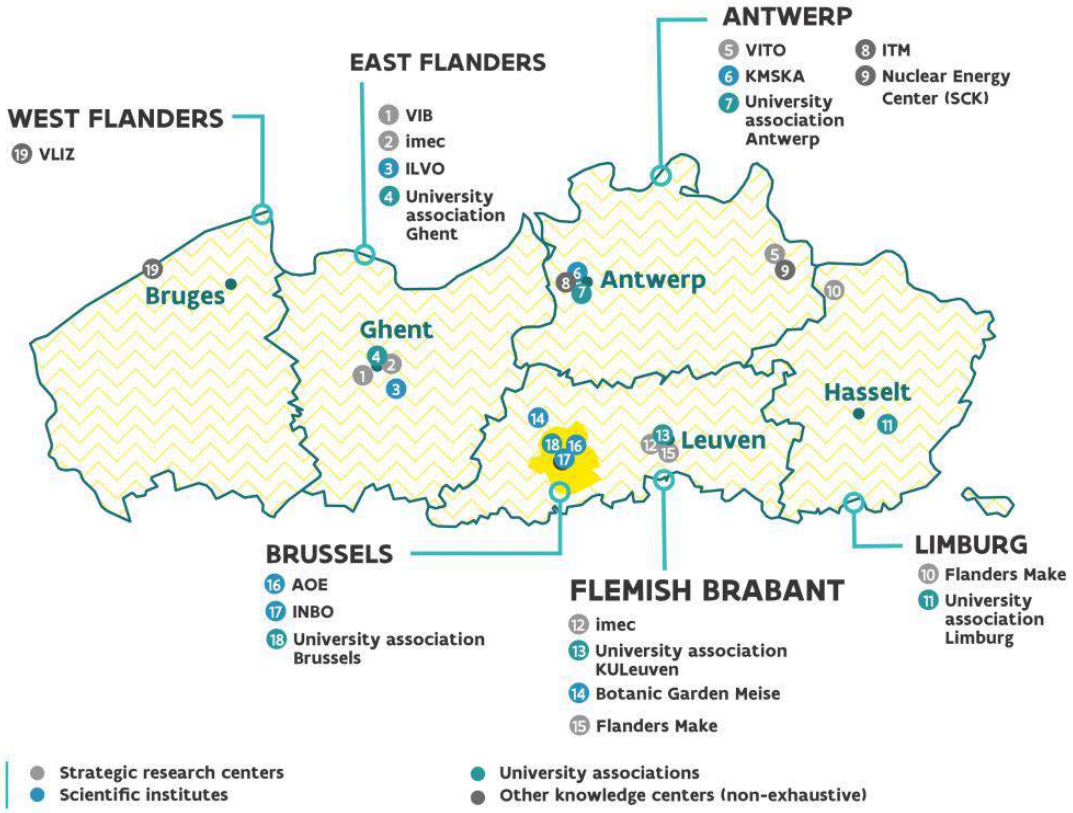
Our strengths

- **Unique infrastructure**: metal production (up to 100 kg), hot and cold rolling technologies
- Microscopic texture characterization
- Large-scale mechanical testing accounting for environmental conditions
- High-throughput platform and computational screening
- Condition monitoring for predictive maintenance
- Hybrid materials (including 3D-printed materials)

R&D and innovation landscape in Flanders

Flanders is a top 5 knowledge region in Europe



Metals at Ghent University strongly anchored in Flemish landscape through …

- **University associations**
  UGent, KUL, VUB, UHasselt, UAntwerp
- **Strategic research centra**
  IMEC, Flanders Make, VIB, …
- **Spearhead clusters**
  SIM, Catalisti, VIL, Blue Cluster, …

How can we collaborate?

Partnership models

Project Partnerships	Structural Partnerships	Strategic Partnerships	Thematic Partnerships
- Project-based - Ad hoc - Short-term (2-4yrs)	- Framework agrmnt. - Multiple projects - Mid-term (3-5yrs)	- On campus - Joint programs - Long-term (5+ yrs)	- theme-centered - Multiple partners - Mid-term (2-3yrs)

Strive towards long-term partnership

How can we collaborate?

- Project idea
  - Without funding
    - Bilateral
    - Multi-partner
  - With funding
    - Flemish level
      - Baekeland
      - O&O
      - ICON
      - SBO
      - TETRA
      - COOCK
    - EU level
      - H2020
      - MSCA
      - Interreg
      - EIT-RM
      - RFCS
      - Life

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