



# Flanders Make

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1st China-Belgium Innovation Dialogue  
Session: Factories of the Future

Bert Dexters

Brussels | March 30<sup>th</sup>, 2017



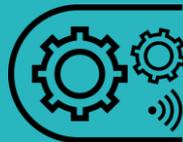
# OUR MISSION

Strengthening the international long-term competitiveness of the Flemish manufacturing industry by performing industry-driven, pre-competitive, top-class research in the field of:

- **Mechatronics**
- **Product development methods**
- **Innovative production technologies**



Green &  
autonomous  
vehicles



Smart,  
mutually  
connected  
machines

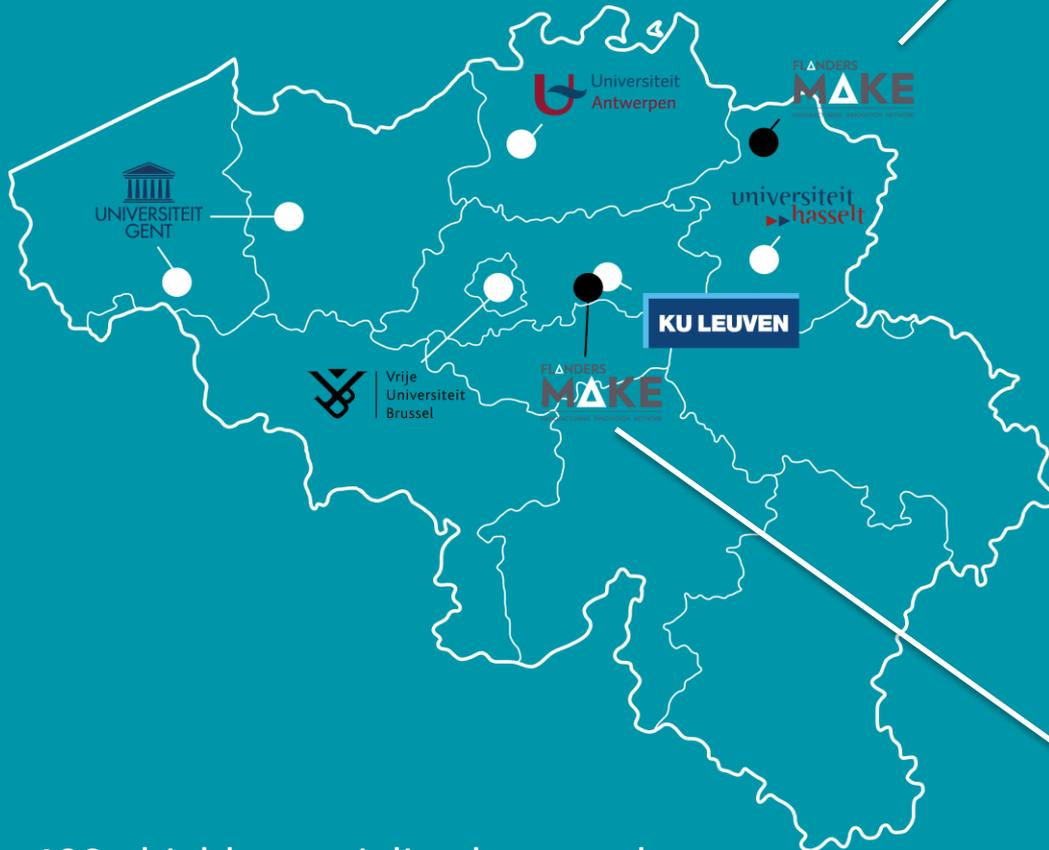


Flexible  
production  
and  
assembly





# OUR PEOPLE



Site Lommel



Site Leuven



400+ highly specialised researchers active on sites in Lommel and Leuven and at the 5 Flemish universities



## OUR FLYWHEEL IS TURNING AND ACCELERATING



**100 member companies**

- **44** companies involved in projects



**€ 100 million activated**

50 | 50

knowledge centers

companies (also investing € 13 million)

**34 projects**

- **22** interdisciplinary cooperative research
- **8** strategic basis research
- **4** infrastructure



# LARGE COMPANIES



# SMEs



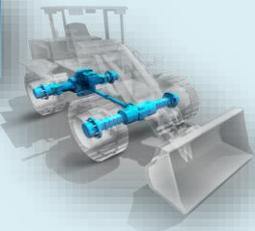
# RESEARCH FOCUS

## SYSTEMS WITH INCREASING SMARTNESS AND INTERCONNECTIVITY

### Performance



*Green energy-efficient drivetrains*



### Robustness and safety



*Dynamic control of mechatronics systems*



### Adaptability



*Self optimizing systems*



### Multi-context adaptability



*Interconnected Vehicles and machines*



*Hard automation concepts*



*Safety of human-robot operations*



*Intuitive collaborative robot programming*



*Interconnected workcell learning and optimization*



# EUROPEAN ROAD TRANSPORT RESEARCH AND INNOVATION



Control of vehicle dynamics  
& functional safety  
for electric drivetrains



Adaptive Battery Management  
System for electric vehicles



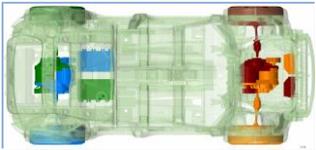
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Integrated energy management,  
thermal management,  
driveability control  
and vehicle dynamics

Auto Drive

Automated obstacle avoidance  
for autonomous public transport





# STATE OF ART RESEARCH INFRASTRUCTURE



Durability & characterisation testing



Battery testing



Functional & durability testing



Environmental & vibration testing



# EXPLORATION OF RESEARCH COOPERATION WITH CHINA

Abundant Economic Base

Great Ability of Industry Acceptance

Active Opening-up Policy

Strong Technological Capability



## Exploring cooperation with:

- Southwest Jiaotong University
- Sichuan Research Institute of New Energy Vehicles

## — New Energy Vehicles

- Passenger cars
- City Bus
- Touring Bus
- Airport Shuttle Bus
- Delivery Trucks



- Electric Powertrains
- Battery Packs
- Battery Management Systems
- Active safety systems
- Intelligent connected cars
- ...

FLANDERS  
**MAKE**

MANUFACTURING INNOVATION NETWORK

[www.flandersmake.be](http://www.flandersmake.be)



Vlaamse  
overheid

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