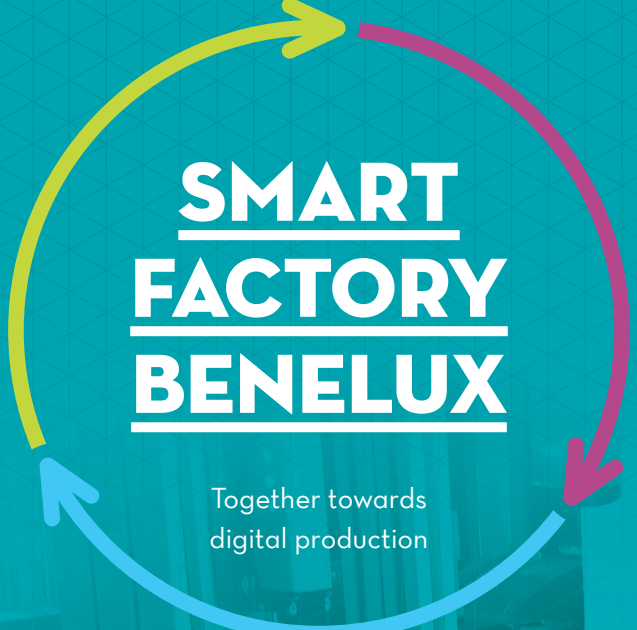


# FLANDERS **MAKE**

DRIVING INNOVATION IN MANUFACTURING



## SMART FACTORY BENELUX

Together towards  
digital production





Looking at the future, factories are faced with the challenge to respond to the trend of mass customisation while offering short lead times and reasonable prices at the same time. They need to rethink and rework their processes, aiming for an effective one-piece-flow production system. Today, production systems are organised to deliver larger

batches of the same products. To deal with high product variability and frequent product changes, the factory flexibility needs to increase drastically.

The development of the required smart, digitised and interconnected production systems depends on affordable sensors, actuation systems, processing power, interconnectivity and data storage. This forms the basic concept of the digital transformation determining the fourth industrial revolution, Industry 4.0.

Implementing this concept is proving to be quite a challenge for most companies. Therefore, Flanders Make takes the initiative to bring together automation technology providers and manufacturing companies active in Belgium, The Netherlands and Luxemburg. Together, they will develop a manufacturer-independent Industry 4.0 mobile production system, demonstrating how the latest digital technologies can be combined to increase manufacturing flexibility. We team up with the Germany SmartFactory<sup>KL</sup> initiative in Kaiserslautern to gear-up the digitalisation race and embed the already available connectivity and communication expertise.



## SMART FACTORY

### BENELUX



The compatibility with SmartFactory<sup>KL</sup> makes our initiative also future proof in this domain. For the first developments, we had the support of local subsidiaries of large companies, such as Pilz, Rexroth and IBM.

This way, all companies involved will learn how to develop their own smart production units that can be easily reconfigured and reprogrammed for new product variants.

We will jointly investigate how production settings can be optimised based on advanced analytics of the data collected by different sensors and quality control systems. Together, we will create digital twins and use them for virtual planning or fault detection and prediction. Technology based on augmented reality will support operators in their workstations.

Together, we will inspire companies in the broad manufacturing industry!

Dr.ir. Dirk Torfs  
CEO Flanders Make

## GERMAN SMART FACTORY

FLANDERS MAKE BRINGS THE GERMAN SMART FACTORY CONCEPT TO THE BENELUX AND COMPLEMENTS IT WITH ITS OWN EXPERTISE

Professor Detlef Zühlke of the German Research Centre for Artificial Intelligence (DFKI) initiated the SmartFactory<sup>KL</sup> technology initiative in Kaiserslautern, currently bringing together some 50 industrial and research partners. They evaluate promising, innovative technologies and further develop them in a realistic industrial production environment with an Industry 4.0 focus on connectivity and communication.

Each year, at the Hannover Messe, they present their newest joint production demonstrator, based on the latest Industry 4.0 technology.

Flanders Make is proud to be a partner in this successful network, and has been working closely with the German engineers to bootstrap on their experience for the creation of the first SmartFactory<sup>BNL</sup> demonstrator. The idea is to interconnect the German and Benelux manufacturing demonstrators to explore the potential of connected factories in reality.



## THE FIRST SMART FACTORY BENELUX

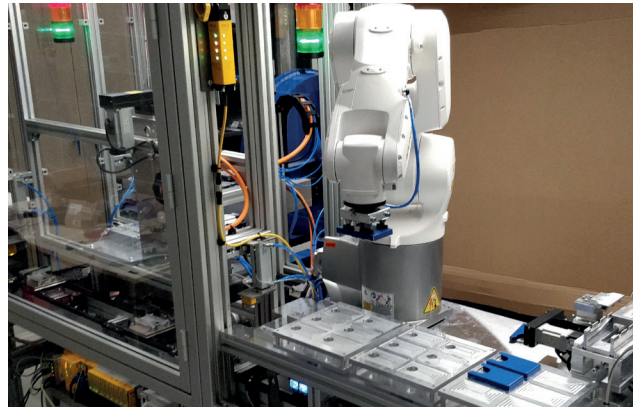
### DEMONSTRATION PLATFORM

Flanders Make has developed a first demonstration platform, first presented at the Indumation 2019 fair in Kortrijk, Belgium. Rexroth, Pilz and IBM supported the current demonstrator of the SmartFactory<sup>BNL</sup>. This platform, inspired by the SmartFactory<sup>KL</sup>, produces - continuously and autonomously - different variants of business card holders.

It consists of two workstations connected via an automated flexible transport system. When a new order is entered into the system, a new bottom plate is placed on an empty carrier. The carrier will bring this bottom plate to the first workstation after the system has written all necessary customer and production information into the digital product memory. This information will be used in further workstations to identify and customise the next production steps.

When arriving at the first workstation, linear actuators pick up the bottom plate and put it into the press. A metal clip, to hold the business cards, is inserted. The digital product memory is updated before the carrier moves to the second workstation. At this workstation, the robot picks up the bottom plate and the requested cover. Both pieces are pressed together using two linear actuators. The finalised product is placed into an output tray by the robot.

This initiative is in line with and will perfectly fit with the European pilot-line initiatives to ensure future European collaboration for excelling and accelerating in digital transformation.



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## COOPERATING TO CREATE

### THE FACTORY OF TOMORROW

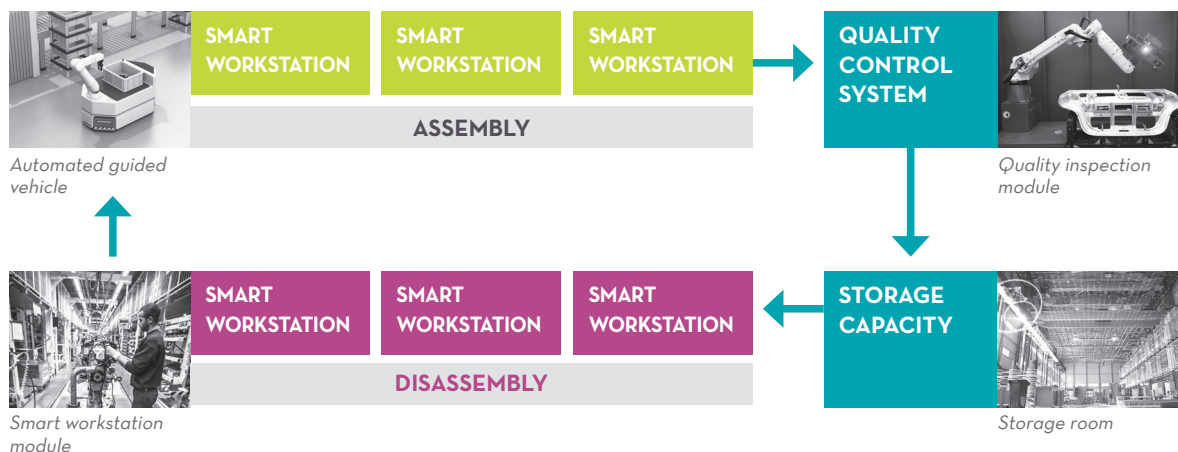


The SmartFactory<sup>BNL</sup> will predict and follow relevant trends in manufacturing, inspiring the member companies. Based on these trends, they will identify Industry 4.0 challenges and opportunities, as well as define specifications for a yearly upgrade of the multi-brand demonstration platform.

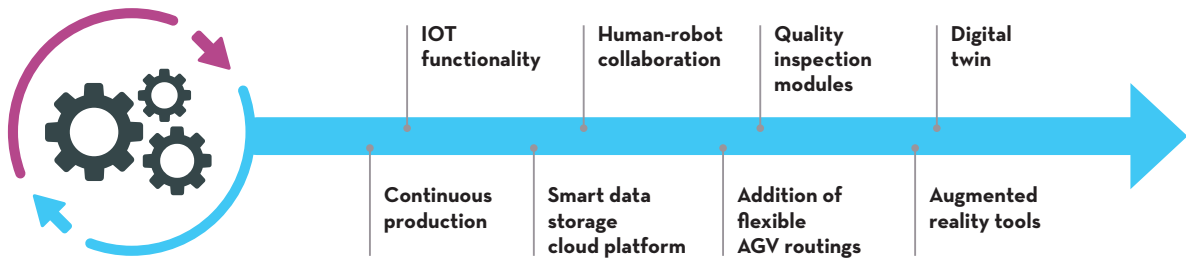
For the implementation of this platform, the SmartFactory<sup>BNL</sup> relies on the experienced and highly qualified engineers of Flanders Make, and the member companies. The companies get the opportunity to integrate and test the flexibility of their own hardware and software technologies on the demonstration platform. The resulting platform will be extensively promoted at many relevant events in the Benelux.

## THE SMART FACTORY BENELUX

### DEMONSTRATION CONCEPT



## ANNUAL UPGRADE OF THE DEMONSTRATION PLATFORM PLANNED



Planned Industry 4.0 implementations in the SmartFactory<sup>BNL</sup>

### WHO CAN JOIN

#### THE SMART FACTORY BENELUX?

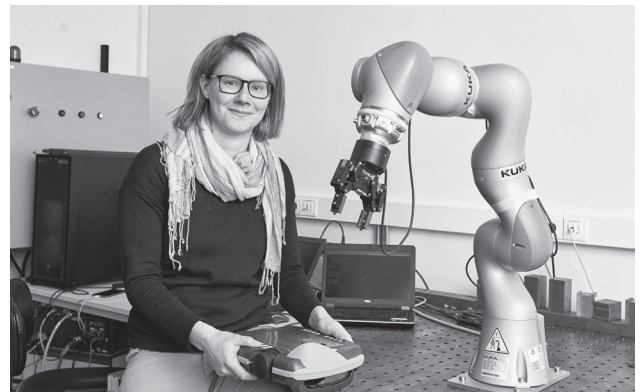
- Suppliers of automation technology
- Robot manufacturers
- Suppliers of IT solutions
- Suppliers of Augmented Reality solutions
- Manufacturing software developers and providers
- Providers of production simulation tools
- Production system integrators
- Manufacturing companies

# JOIN OUR NETWORK

### WHY WOULD YOU JOIN

#### THE SMART FACTORY BENELUX?

- Exploration of the potential of the latest Industry 4.0 technology
- Development of a vision on the future of production factories
- Display for your digital (manufacturing) technologies
- Promotional exposure of your technologies at events in the Benelux (e.g. in Belgium Indumation and the Flanders Make symposium)
- Opportunity to participate to workshops about the development of new demonstrators
- Support for technology transfer to a wide range of companies
- Right to request (depending on availability) the demonstration platform for own promotion activities
- Maximal compatibility with German SmartFactory initiative in Kaiserslautern



HOW CAN YOU JOIN THE SMART FACTORY BENELUX?  
FOR MEMBERSHIP INTERESTS: SEND AN E-MAIL TO  
[SMARTFACTORY@FLANDERSMAKE.BE](mailto:SMARTFACTORY@FLANDERSMAKE.BE)

FLANDERS  
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