Belgium (BE)

Belgium's national policy initiatives for digitising industry are briefly presented as follows:

- *Digital Belgium*[1], at federal level. Among different measures related to the federal competences (e.g. also on infrastructures) several types of investments for digital transformation can benefit from tax reductions.
- *Industrie 4.0 in Flanders Region.*[2] The digital transformation is part of a general transition strategy 'Vision 2050', driven by major societal challenges: 'Making the leap to Industry 4.0', is one of the seven transitions.
- *Digital Wallonia' in Wallonia Region.*[3] The actions for digitising industry are connected to the overall transformation strategy (Marshal Plan) and coordinated through a Digital Agency.
- *beDigital.brussels, in the Brussels Region.*[4] Under this umbrella the 'NextTech Plan' was introduced in 2017 to support digital start-ups.
- *MADE DIFFERENT - Factories of the future*[5]. An industry-led, bottom-up initiative that provides transformation and assessment services to manufacturing companies all over Belgium. It has been recognised as good practice for supporting transformation of companies by the Flanders and Walloon regions and inspired recently a new COSME support action on services for industrial SME transformation.

Digitalisation of SMEs will remain key for Belgium in the coming years. This is already stressed by current digital and industrial strategies and will be reinforced (e.g. with a focus on artificial intelligence). Although there is no national scheme for Digital Innovation Hubs implemented yet, there are several organisations performing the tasks assigned to the planned network of DIHs. Current activities are mainly supported by funds provided by the Belgian regions and on European subsidies. Some demonstration activities have benefited from ERDF.

On a **national level** Belgium has *28 Digital Innovation Hubs* (15 fully operational and 13 in preparation status[6]) covering various market domains (agriculture, health, construction, transport, manufacturing (food products, textiles, chemicals, basic and fabricated metal products, electrical and optical equipment, machinery, electrical equipment), electricity and energy sector, retail, education, fishing, and mining) through a large spectrum of technology areas presented as follows:

- Additive manufacturing (3D printing)
- Advanced or High-performance computing
- Artificial Intelligence and cognitive systems
- Augmented and virtual reality, visualization
- Broadband and other communication networks (e.g. 5G)
- Cloud computing
- Cyber physical systems (e.g. embedded systems)
- Cyber security (including biometrics)
- Data mining, big data, database management
- Gamification

[1] Digital Belgium, http://digitalbelgium.be/en/digital-belgium/
[2] Flemish initiative on Industrie 4.0, https://www.vlaanderen.be/nl/publicaties/detail/vision-2050
[3] Digital Wallonia, https://www.digitalwallonia.be/fr/publications/made-different-digital-wallonia
[4] beDigital.brussels, http://bedigital.brussels/
[5] MADE DIFFERENT - Factories of the future, http://www.madedifferent.be/
[6] Some of these might be operational, but they did not specify all the information needed for us to publish the DIH as fully operational

- ICT management, logistics and business systems
- Interaction technologies (e.g. human-machine Interaction, motion recognition and language technologies)
- Internet of Things (e.g. connected devices, sensors and actuators networks)
- Internet services (e.g. web development, web production, design, networking, and e-commerce)
- Laser based manufacturing
- Location based technologies (e.g. GPS, GIS, in-house localization)
- Micro and nano electronics, smart system integration
- New Media technologies
- Organic and Large Area Electronics (OLAE)
- Photonics, electronic and optical functional materials
- Robotics and autonomous systems
- Screens and display technologies
- Sensors, actuators, MEMS, NEMS, RF
- Simulation and modelling
- Software as a service and service architectures

On a **regional level**, each hub's activities seem to be aligned with the RIS3 strategies. A concise list of all hubs on national and regional level is presented as follows:

1. Fully operational DIHs

Hub name	City	NUTS2 region	Country	Smart Specialisation (SS)	Link to SS	AI	HPC	Cyber Security	Association to EU-funded project
3IF - Industrial Internet in Flanders	Leuven	Prov. Vlaams-Brabant	Belgium	Industrial IoT	Industrial design and creative industries	X	X	X	-
3IF.be & 3IF.be Fieldlab	Heverlee	Prov. Vlaams-Brabant	Belgium	Manufacturing	Industrial design and creative industries	-	X	X	-
Centre de recherche en aéronautique ASBL, Cenaero	Gosselies	Prov. Hainaut	Belgium	Aerospace manufacturing	Aeronautics & space	X	X	-	-
Flam3D	Zwijnaarde	Prov. Oost-Vlaanderen	Belgium	3D-printing	Specialised manufacturing solutions	-	-	-	-
Flanders' FOOD, FF	Brussels	Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest	Belgium	Agri-food	High-quality agro-food	X	-	-	-
Flanders Make	Lommel	Prov. Limburg (BE)	Belgium	Manufacturing	Specialised manufacturing solutions	X	-	-	-

IMEC	Haverlee	Prov. Vlaams-Brabant	Belgium	Nanoelectronics	Specialised manufacturing solutions	-	-	-	SAE (SMARTEES), Open Data (EuroPractice), Photonics (Actphast), I4MS (L4MS)
Hub name	**City**	**NUTS2 region**	**Country**	**Smart Specialisation (SS)**	**Link to SS**	**AI**	**HPC**	**Cyber Security**	**Association to EU-funded project**
Made Different | Digital Wallonia	Jambes	Prov. Namur	Belgium	General innovation	Digital technologies and Industry 4.0	X	X	-	-
Réseau LIEU – Llaisons Entreprises-Universités	Gembloux	Prov. Namur	Belgium	General innovation	Digital technologies and Industry 4.0	X	X	X	-
Sirris Hub / Data and software Innovation	Brussel	Région de Bruxelles Capitale/Brussels Hoofdstedelijk Gewest	Belgium	Data and software	ICT: Digital Economy	X	-	X	-
Sirris Hub Mechatronics and Digitising Manufacturing	Leuven	Prov. Vlaams-Brabant	Belgium	Mechatronics	Specialised manufacturing solutions	X	-	-	-
Sirris Hub Smart Assembly	Kortrijk	Prov. West-Vlaanderen	Belgium	Electro-mechanical product	Specialised manufacturing solutions	X	-	-	-
Sirris Hub/smart product	Seraing	Prov. Liège	Belgium	Manufacturing, sensors and actuators	Specialised manufacturing solutions	-	-	-	-
Smart Digital Farming	Merelbeke	Prov. Oost-Vlaanderen	Belgium	precision farming and livestock breeding	High-quality agro-food	-	-	-	-
SynHERA	Naninne	Prov. Namur	Belgium	General innovation	Digital technologies and Industry 4.0	X	X	X	-

2. In preparation DIHs

Hub name	**City**	**NUTS2 region**	**Country**
Accelerating Photonics innovation for SME's (ACTPHAST 4.0)	Brussel	Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest	Belgium
BBRI Cluster BIM	Sint-Stevens-Woluwe	Prov. Vlaams-Brabant	Belgium

Belgian Building Research Institute BBRI	Limelette	Prov. Brabant Wallon	Belgium
BlueHealth Innovation Center suported by Microsoft (BHIC)	Genk	Prov. Limburg (BE)	Belgium
BruBotics: Brussels Human Robotics Research Center (VUB)	Brussels	Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest	Belgium
Brussels Creative	Brussels	Région de Bruxelles-Capitale / Brussels Hoofdstedelijk Gewest	Belgium
Digital Innovation Hub/DIH Wallonia.be	Jambes	Prov. Namur	Belgium
Haute Ecole Louvain en Hainaut, HELHa	Mons	Prov. Hainaut	Belgium
LeanSquare	Liege	Prov. Liège	Belgium
Sirris Hub - Additive Manufacturing Integrated Factory	Diepenbeek	Prov. Limburg (BE)	Belgium
Sirris Hub / Offshore Wind Infrastructure Application Lab	Antwerpen	Prov. Antwerpen	Belgium
Tech Lane Ghent Science Park	Ghent Zwijnaarde	Prov. Oost-Vlaanderen	Belgium
University college HENALLUX	Namur	Prov. Namur	Belgium

3. RTOs/universities that had a DIH role in an EU project

A list of RTOs/universities that have participated in the EU FP7 and H2020 projects, and *are not mentioned above*, is presented in the following tables:

a. H2020 participation[7]

Project Topic Code	Project Acronym	Project Duration	Project End Date	Participant Legal Name	Participant Role	Participant Short Name	Core Legal Entity Type	Research Organisation	Project Topic Code
FoF-09-2015	Fortissimo 2	36	31/10/2018	NOESIS SOLUTIONS NV	PARTICIPANT	NOESIS	PRIVATE	No	FoF-09-2015
FOF-12-2017	MIDIH	36	30/09/2020	EIT DIGITAL	COORDINATOR	EIT DIGITAL	PRIVATE	No	FOF-12-2017
FOF-12-2017	AMable	48	31/08/2021	EUROPEAN FEDERATION FOR WELDING JOINING AND CUTTING	PARTICIPANT	EWF	PRIVATE	No	FOF-12-2017
ICT-04-2017	TETRAMAX	48	31/08/2021	UNIVERSITEIT GENT	PARTICIPANT	UGent	PUBLIC	Yes	ICT-04-2017
ICT-04-2017	SmartEEs	36	13/09/2020	EUROPEAN BUSINESS AND INNOVATION CENTRE NETWORK AISBL	PARTICIPANT	EBN	PRIVATE	No	ICT-04-2017
ICT-04-2017	SmartEEs	36	13/09/2020	INTERUNIVERSITAIR MICRO-ELECTRONICA	PARTICIPANT	IMEC	PRIVATE	Yes	ICT-04-2017

[7] Data available in CORDIS (http://cordis.europa.eu/home_en.html) and in the European Commission databases.

				CENTRUM					
ICT-04-2017	DIATOMIC	36	31/08/2020	INTRASOFT INTERNATIONAL SA	COORDINATOR	INTRA	PRIVATE	No	ICT-04-2017
ICT-25-2015	EUROPRACTICE 2016	24	30/06/2018	INTERUNIVERSITAIR MICRO-ELECTRONICA CENTRUM	COORDINATOR	IMEC	PRIVATE	Yes	ICT-25-2015

b. FP7 participation[8]

Project Number	Project Acronym	Project Duration	Project Start Date	Project End Date	Project Number of Participants	Participant Short Name	Participant Legal Name	Participant Role	Organisation Type
609029	FORTISSIMO	42	01-Jul-2013	31-Dec-2016	123	NOESIS	NOESIS SOLUTIONS NV	Participant	PRC
609046	LASHARE	48	01-Sep-2013	31-Aug-2017	69	MULTI	MULTITEL ASBL	Participant	REC
609046	LASHARE	48	01-Sep-2013	31-Aug-2017	69	LASEA	LASER ENGINEERING APPLICATIONS SA	Participant	PRC
609046	LASHARE	48	01-Sep-2013	31-Aug-2017	69	EWF	EUROPEAN FEDERATION FOR WELDING JOINING AND CUTTING	Participant	OTH
609100	CloudFlow	46	01-Jul-2013	30-Apr-2017	47	NUMECA	NUMERICAL MECHANICS APPLICATIONS INTERNATIONAL SA	Participant	PRC
609100	CloudFlow	46	01-Jul-2013	30-Apr-2017	47	NOESIS	NOESIS SOLUTIONS NV	Participant	PRC
609100	CloudFlow	46	01-Jul-2013	30-Apr-2017	47	BORIT	BORIT NV	Participant	PRC
609100	CloudFlow	46	01-Jul-2013	30-Apr-2017	47	CAPVIDIA	CAPVIDIA	Participant	PRC
609306	INTEFIX	36	01-Jul-2013	30-Jun-2016	33	CECIMO	CECIMO - THE EUROPEAN COMMITTEE FOR THE CO-OPERATION OF THE MACHINE TOOLS	Participant	OTH
609355	APPOLO	48	01-Sep-2013	31-Aug-2017	36	LASERSPEC	LASERSPEC	Participant	PRC
609355	APPOLO	48	01-Sep-2013	31-Aug-2017	36	NST-BE	NEXT SCAN TECHNOLOGY BVBA	Participant	PRC
609355	APPOLO	48	01-Sep-2013	31-Aug-2017	36	IT4IP	IT4IP	Participant	PRC
Project Number	**Project Acronym**	**Project Duration**	**Project Start Date**	**Project End Date**	**Project Number of Participants**	**Participant Short Name**	**Participant Legal Name**	**Participant Role**	**Organisation Type**
288881	COLAE	36	01-Sep-2011	31-Aug-2014	19	UGent	UNIVERSITEIT GENT	Participant	HES
619205	ACTPHAST	48	01-Nov-2013	31-Oct-2017	24	IMEC	INTERUNIVERSITAIR MICRO-ELECTRONICACENTRU	Participant	REC

[8] Data available in CORDIS (http://cordis.europa.eu/home_en.html) and in the European Commission databases.

							M IMEC VZW		
619205	ACTPHAST	48	01-Nov-2013	31-Oct-2017	24	VUB	VRIJE UNIVERSITEIT BRUSSEL	Coordinator	HES
632860	I3H	30	01-Jul-2014	31-Dec-2016	9	IMEC	INTERUNIVERSITAIR MICRO-ELECTRONICACENTRUM	Participant	REC
632860	I3H	30	01-Jul-2014	31-Dec-2016	9	IMINDS	IMINDS	Participant	REC
632860	I3H	30	01-Jul-2014	31-Dec-2016	9	EIT ICT LABS IVZW	EIT DIGITAL	Coordinator	OTH
601116	ECHORD Plus Plus	60	01-Oct-2013	30-Sep-2018	107	KU Leuven	KATHOLIEKE UNIVERSITEIT LEUVEN	Participant	HES
601116	ECHORD Plus Plus	60	01-Oct-2013	30-Sep-2018	107	FRS	FLEXIBLE ROBOTIC SOLUTIONS	Participant	PRC

4. Regions in Belgium that have no DIHs

- Prov. Luxembourg (BE)