

Non-EU Countries

Albania (AL)

Albania currently has no national initiative for digitising industry however it seems that some bottom-up investments have taken place on regional level to support the development of Digital Innovation Hubs.

On a **national level** Albania has 3 *Digital Innovation Hubs* (all in preparation status) covering various market domains (agriculture, health, transport, electricity and energy sector, retail and education) through a large spectrum of technology areas presented as follows:

- Additive manufacturing (3D printing)
- Artificial Intelligence and cognitive systems
- Augmented and virtual reality, visualization
- Cloud computing
- Cyber security (including biometrics)
- Data mining, big data, database management
- Gamification
- ICT management, logistics and business systems
- Internet of Things (e.g. connected devices, sensors and actuators networks)
- Internet services (e.g. web development, web production, design, networking, and e-commerce)
- New Media technologies
- Robotics and autonomous systems
- Software as a service and service architectures

A concise list of all hubs on national level is presented as follows:

1. Fully operational DIHs

None

2. In preparation DIHs

Hub name	City	NUTS2 region	Country
Innovation Hub	Tirana	-	Albania
OFICINA	Tirana	-	Albania
Protik Innovation Center	Tirana	-	Albania

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

None

4. Regions in Albania that have no DIHs

NA

Bosnia and Herzegovina (BA)

Bosnia and Herzegovina currently has no national initiative for digitising industry however it seems that some bottom-up investments have taken place on regional level to support the development of Digital Innovation Hubs.

On a **national level** Bosnia and Herzegovina has 2 *Digital Innovation Hubs* (1 fully operational and 1 in preparation status) covering various market domains (agriculture, education, manufacturing (basic and fabricated metal products, machinery, equipment), and real estate) through a large spectrum of technology areas presented as follows:

- Additive manufacturing (3D printing)
- Cloud computing
- Gamification
- 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)
- New Media technologies
- Sensors, actuators, MEMS, NEMS, RF
- Software as a service and service architectures

A concise list of all hubs on national 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
Foundation for innovation and technology development, INTERA Technology Park	Mostar	-	Bosnia and Herzegovina	General innovation	Food Production	-	-	-	-

2. In preparation DIHs

Hub name	City	NUTS2 region	Country
HUB387	Sarajevo	-	Bosnia and Herzegovina

3. RTOs/universities that had a DIH role in an EU project Error! Bookmark not defined.

None

4. Regions in Bosnia and Herzegovina that have no DIHs

NA

North Macedonia (MK)

North Macedonia currently has no national initiative for digitising industry however it seems that some bottom-up investments have taken place on regional level to support the development of Digital Innovation Hubs.

On a **national level** North Macedonia has 2 *Digital Innovation Hubs* (all in preparation status) covering various market domains (transport, education, health and real estate) through a large spectrum of technology areas presented as follows:

- Advanced or High-performance computing
- Artificial Intelligence and cognitive systems
- Augmented and virtual reality, visualization
- Cloud computing
- Cyber security (including biometrics)
- Data mining, big data, database management
- Gamification
- ICT management, logistics and business systems
- Internet of Things (e.g. connected devices, sensors and actuators networks)
- Location based technologies (e.g. GPS, GIS, in-house localization)
- New Media technologies
- Software as a service and service architectures

A concise list of all hubs on national level is presented as follows:

1. Fully operational DIHs

None

2. In preparation DIHs

Hub name	City	NUTS2 region	Country
Seavus Incubator DOOEL Skopje	Skopje	Poranesna jugoslovenska Republika Makedonija	North Macedonia
Technology Park doo (SEEUTechPark)	Tetovo	Poranesna jugoslovenska Republika Makedonija	North Macedonia

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

None

4. Regions in North Macedonia that have no DIHs

NA

Kosovo^{1*} (XK)

Kosovo currently has no national initiative for digitising industry however it seems that some bottom-up investments have taken place on regional level to support the development of Digital Innovation Hubs.

On a **national level** Kosovo has 3 *Digital Innovation Hubs* (1 fully operational and 2 in preparation status) covering various market domains (agriculture, transport, education and health) 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
- Cloud computing
- Cyber security (including biometrics)
- Data mining, big data, database management
- Gamification
- ICT management, logistics and business systems
- Internet of Things (e.g. connected devices, sensors and actuators networks)
- Laser based manufacturing
- Location based technologies (e.g. GPS, GIS, in-house localization)
- New Media technologies
- Photonics, electronic and optical functional materials
- Robotics and autonomous systems
- Sensors, actuators, MEMS, NEMS, RF
- Simulation and modelling
- Software as a service and service architectures

A concise list of all hubs on national 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
GjirafaLab	Prishtina	-	Kosovo	-	-	X	X	X	-

2. In preparation DIHs

Hub name	City	NUTS2 region	Country
BONEVET	Prishtina	-	Kosovo
Innovation Centre Kosovo (ICK)	Prishtina	-	Kosovo

3. RTOs/universities that had a DIH role in an EU project^{Error! Bookmark not defined.}

¹ *This designation is without prejudice to positions on status, and is in linke with UNSCR 1244/1999 and the ICJ Opinion on the Kosove declaration of independence.

None

4. Regions in Kosovo that have no DIHs

NA

Montenegro (ME)

Montenegro currently has no national initiative for digitising industry however it seems that some bottom-up investments have taken place on regional level to support the development of Digital Innovation Hubs.

On a **national level** Montenegro has 2 *Digital Innovation Hubs* (1 fully operational and 1 in preparation status) covering various market domains (agriculture, health, transport, electricity, education and retail) 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
- Data mining, big data, database management
- ICT management, logistics and business systems
- Internet of Things (e.g. connected devices, sensors and actuators networks)
- Internet services (e.g. web development, web production, design, networking, and e-commerce)
- Location based technologies (e.g. GPS, GIS, in-house localization)
- New Media technologies
- Simulation and modelling

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
M:tel digitalna fabrika	Podgorica	Crna Gora	Montenegro	General innovation	Information and Communication Technologies	X	X	-	-

2. In preparation DIHs

Hub name	City	NUTS2 region	Country
Digitalizuj.Me	Podgorica	Crna Gora	Montenegro

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

None

4. Regions in Montenegro that have no DIHs

NA

Norway (NO)

Norway currently has no national initiative for digitising industry however it seems that some bottom-up investments have taken place on regional level to support the development of Digital Innovation Hubs.

On a **national level** Norway has 8 *Digital Innovation Hubs* (4 fully operational and 4 in preparation) covering various market domains (agriculture, health, transport, manufacturing (food products, textiles, basic and fabricated metal products, electrical and optical equipment, chemicals, machinery, and electrical equipment), education, retail and fishing) 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
- ICT management, logistics and business systems
- Interaction technologies (e.g. human-machine Interaction, motion recognition and language technologies)
- Location based technologies (e.g. GPS, GIS, in-house localization)
- Micro and nano electronics, smart system integration
- New Media technologies
- Photonics, electronic and optical functional materials
- Robotics and autonomous systems
- Sensors, actuators, MEMS, NEMS, RF
- Simulation and modelling
- Software as a service and service architectures

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
DigitalNorway	Oslo	Oslo og Akershus	Norway	General innovation	ICT	-	-	-	-
GCE NODE	Kristiansand	Agder og Rogaland	Norway	General innovation	ICT	X	-	-	-
Oslo Cancer Cluster	Oslo	Oslo og Akershus	Norway	Biotech	Health	X	-	-	PERMIDES H2020 Project
SINTEF	Trondheim	Trøndelag	Norway	General innovation	ICT, health	X	X	X	-

2. In preparation DIHs

Hub name	City	NUTS2 region	Country
BigInsight	Oslo	Oslo og Akershus	Norway
Ocean Innovation Norwegian Catapult Centre	Bergen	Vestlandet	Norway
SIRIUS Centre for Scalable Data Access	Oslo	Oslo og Akershus	Norway
Subsea Valley	Lysaker	Oslo og Akershus	Norway

3. RTOs/universities that had a DIH role in an EU project²

Hub name	City	NUTS2 region	Country	Association to EU-funded project
Oslo Cancer Cluster	Oslo	Oslo og Akershus	Norway	Biotech

4. Regions in Norway that have no DIHs

- Buskerud
- Finnmark
- Hedmark
- Hordaland
- Møre og Romsdal
- Nordland
- Oppland
- Østfold
- Rogaland
- Sogn og Fjordane
- Troms
- Vestfold

² Data available in CORDIS (http://cordis.europa.eu/home_en.html) and in the European Commission databases.

Serbia (RS)

Serbia currently has no national initiative for digitising industry however it seems that some bottom-up investments have taken place on regional level to support the development of Digital Innovation Hubs.

On a **national level** Serbia has *10 Digital Innovation Hubs* (3 fully operational and 7 in preparation status) covering various market domains (agriculture, health, transport, manufacturing (food products, textiles, basic and fabricated metal products, electrical and optical equipment, chemicals, machinery, and electrical equipment), education and retail) through a large spectrum of technology areas presented as follows:

- Additive manufacturing (3D printing)
- 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)
- Data mining, big data, database management
- Gamification
- 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)
- Location based technologies (e.g. GPS, GIS, in-house localization)
- Micro and nano electronics, smart system integration
- New Media technologies
- 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

A concise list of all hubs on national 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
BioSense Institute - Institute for research and development of information technology in biosystems	Novi Sad	-	Serbia	Agri-food and biosystems	Technical and technological sciences	X	-	-	SAE (DIATOMIC), ANTARES
Bridgeway Europe Startup Accelerator,	Novi	-	Serbia	General	Economics	X	-	X	-

Bridgeway Accelerator	Beograd			innovation					
Hub name	City	NUTS2 region	Country	Smart Specialisation (SS)	Link to SS	AI	HPC	Cyber Security	Association to EU-funded project
ICT HUB	Belgrade	-	Serbia	General innovation	Technical and technological sciences	-	-	-	-

2. In preparation DIHs

Hub name	City	NUTS2 region	Country
Belgrade Robotics Hub - BRH	Belgrade	-	Serbia
Deli - Space for creative activity	Niš	-	Serbia
HUBTECS	Belgrade	-	Serbia
KG Coworking	Kragujevac	-	Serbia
Laboratory of ideas - iDEAlab	Novi Sad	-	Serbia
Science Technology Park Belgrade, STP Belgrade	Belgrade	-	Serbia
SMARTIT	Novi Pazar	-	Serbia

3. RTOs/universities that had a DIH role in an EU project²

Hub name	City	NUTS2 region	Country	Association to EU-funded project
BioSense Institute - Institute for research and development of information technology in biosystems	Novi Sad	-	Serbia	SAE (DIATOMIC), ANTARES
Belgrade Robotics Hub - BRH	Belgrade	-	Serbia	I4MS (robotics dt-ict-02-2018 call)
HUBTECS	Belgrade	-	Serbia	I4MS

4. Regions in Serbia that have no DIHs

NA

Switzerland (CH)

Switzerland currently has no national initiative for digitising industry however it seems that some bottom-up investments have taken place on regional level to support the development of Digital Innovation Hubs.

On a **national level** Switzerland has 4 *Digital Innovation Hubs* (1 fully operational and 3 in preparation status) covering various market domains (electricity, construction and education) through a large spectrum of technology areas presented as follows:

- Additive manufacturing (3D printing)
- Artificial Intelligence and cognitive systems
- Augmented and virtual reality, visualization
- Broadband and other communication networks (e.g. 5G)
- Cloud computing
- Cyber security (including biometrics)
- Data mining, big data, database management
- Gamification
- Interaction technologies (e.g. human-machine Interaction, motion recognition and language technologies)
- Internet of Things (e.g. connected devices, sensors and actuators networks)
- Location based technologies (e.g. GPS, GIS, in-house localization)
- Robotics and autonomous systems
- Sensors, actuators, MEMS, NEMS, RF
- Simulation and modelling
- Software as a service and service architectures

A concise list of all hubs on national 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
Swiss Smart Factory (SSF)	Biel	Espace Mittelland	Switzerland	ICT	-	X	X	X	-

2. In preparation DIHs

Hub name	City	NUTS2 region	Country	Association to EU-funded project
Keen Bull Sagl	Lugano	Ticino	Switzerland	I4MS (AMABLE)
NEST Digital - Hub	Dübendorf	Zürich	Switzerland	-
Swiss Microtechnology & Micromanufacturing DIH	Neuchatel	Espace Mittelland	Switzerland	-

3. RTOs/universities that had a DIH role in an EU project²

Hub name	City	NUTS2 region	Country	Association to EU-
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				funded project
Keen Bull Sagl	Lugano	Ticino	Switzerland	I4MS (AMABLE)

4. Regions in Switzerland that have no DIHs

NA

Turkey (TR)

Turkey currently has no national initiative for digitising industry however it seems that some bottom-up investments have taken place on regional level to support the development of Digital Innovation Hubs.

On a **national level** Turkey has *1 Digital Innovation Hub* (fully operational) covering various market domains (education, manufacture of electrical and optical equipment and financial intermediation) through a large spectrum of technology areas presented as follows:

- Augmented and virtual reality, visualization
- Cyber physical systems (e.g. embedded systems)
- Cyber security (including biometrics)
- Data mining, big data, database management
- 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)
- Location based technologies (e.g. GPS, GIS, in-house localization)
- Micro and nano electronics, smart system integration
- Robotics and autonomous systems
- Simulation and modelling

A concise list of all hubs on national 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
Teknopark Istanbul - Innovation Hub of Turkey	Istanbul	Istanbul	Turkey	General innovation	-	-	-	X	-

2. In preparation DIHs

None

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

None

4. Regions in Turkey that have no DIHs

- Kocaeli
- Konya

Ukraine (UA)

Ukraine currently has no national initiative for digitising industry however it seems that some bottom-up investments have taken place on regional level to support the development of Digital Innovation Hubs.

On a **national level** Ukraine has 1 *Digital Innovation Hub* (in preparation status) covering various market domains (agriculture, electricity, construction, transport, public administration, education, health, manufacturing (food products, chemicals, electrical and optical equipment) and financial intermediation) through a large spectrum of technology areas presented as follows:

- Cyber physical systems (e.g. embedded systems)
- Internet of Things (e.g. connected devices, sensors and actuators networks)

A concise list of all hubs on national level is presented as follows:

1. Fully operational DIHs

None

2. In preparation DIHs

Hub name	City	NUTS2 region	Country	Association to EU-funded project
Hub-laboratory Internet of Things: DIH I4MS Ukraine	L'viv	-	Ukraine	I4MS

3. RTOs/universities that had a DIH role in an EU project²

Hub name	City	NUTS2 region	Country	Association to EU-funded project
Hub-laboratory Internet of Things: DIH I4MS Ukraine	L'viv	-	Ukraine	I4MS

4. Regions in Ukraine that have no DIHs

- Cherkasy
- Kharkiv