**European Observatory for Clusters and Industrial Change –**

## The new European Cluster Observatory: A focus on regional industrial change

*Black Forest Diamond – evoREG Workshop Innovation and clusters: new challenges for private companies and public authorities*

*08 June 2018, Sankt Georgen*

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# I. Introduction: The European Observatory for Clusters and Industrial Change (EOCIC)

- EOCIC is a two-year project on behalf of the European Commission, Directorate-General Internal Market, Industry, Entrepreneurship and SMEs; Clusters, Social Economy and Entrepreneurship unit

- Project start: October 2017

- The project is conducted by a consortium of European research and consulting organisations, headed by Deloitte Consulting and Advisory:

  - Deloitte Consulting and Advisory, Belgium

  - Centre for Industrial Studies (CSIL), Milano

  - Fraunhofer Institute for Systems and Innovation Research ISI, Karlsruhe

  - MERIT (Maastricht University), Maastricht

  - Sociedade Portuguesa de Inovação (SPI), Porto/ Santiago de Compostela

  - Strasbourg Conseil, Strasbourg

  - Valdani Vicari & Associati (VVA), Milano/ Brussels

  - VTT Technical Research Centre of Finland, Espoo
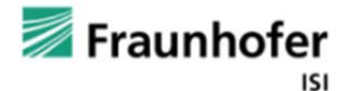
**OBJECTIVE**

To help Europe's regions and countries in designing better and more evidence-based cluster policies and initiatives

- EOCIC builds upon and brings together the work undertaken by the **European Cluster Observatory** (2006-2017) and previous work of the **European Service Innovation Centre** (2012-2015), but with a stronger and wider focus on the role of **industrial change**

- EOCIC supports:
  - industrial modernisation
  - entrepreneurship in emerging industries
  - SMEs' access to clusters and internationalisation activities
  - strategic inter-regional collaboration and investment in the implementation of smart specialisation strategies

- Vision: Providing favourable regional ecosystems and support for innovation and entrepreneurship to enterprises, particularly SMEs, thus supporting adjustments to industrial change

# I. Introduction: The European Observatory for Clusters and Industrial Change (#EOCIC)

## How are clusters defined?

1. In a 'statistical sense', as regional agglomerations of specific economic activities, measured on the basis of employment in related NACE sectors.

2. In a 'political sense', as specific policy interventions "… aiming at strengthening existing clusters or facilitating the emergence of new ones" (European Commission, 2008).

## Key characteristics of the European Observatory for Clusters and Industrial Change:

- Large project bringing together a diversity of experience, methodologies and competencies;

- Strong interrelation of different exercises and tasks within the project;

- Focus on continuity (of previous initiatives) and new aspects reflecting current challenges and (policy) trends.

# II. Products and services of the European Observatory for Clusters and Industrial Change (#EOCIC)

**The European Observatory for Clusters and Industrial Change will provide different products, tools and services such as**:

- Cluster mapping based on the updated European cluster database;

- European Panorama of Clusters and Industrial Change;

- European cluster and industrial transformation trends report;

- **Cluster policy mapping in European countries and regions as well as in selected non-European countries;**

- **Regional Eco-system Scoreboard on Clusters and Industrial Change;**

- Update of the European Service Innovation Scoreboard (ESIS);

- European Stress Test for Cluster Policy;

- Customised advisory support services to 12 model demonstrator regions (East North Finland, North-Middle Sweden, Greater Manchester, Lithuania, Wallonia, Saxony, Hauts-de-France, Centre-Val de Loire, Grand Est, Slovenia, Piemonte, Cantabria);

- Advisory support services to European Strategic Cluster Partnerships;

- Smart Guides for cluster policy;

- Organisation of various events to bring together European cluster policy-makers and stakeholders.

**Focus: Cluster policy mapping in European countries and regions as well as in selected non-European countries**

- Goal: stock-taking of cluster policies and cluster programmes in various countries and regions in order to support exchange and mutual cluster policy learning.

- Methodology: Gathering information on current cluster policy practices, including funding and implementation as well as support for cluster development.

- Implementation through online surveys in European countries and regions, inquiry in selected non-European countries.

- Information is analysed and presented in a comparative way, both across countries and regions, and over time.

# II. Products and services of the European Observatory for Clusters and Industrial Change (#EOCIC)

**Cluster policy mapping in European countries and regions, as well as in selected non-European countries**

- Topics covered by the surveys:

  - General information on cluster support;

  - Insight into cluster programmes, their objectives and characteristics;

  - Funding aspects;

  - Implementation of the programmes and measures applied for supporting clusters;

  - Support for further cluster development.

- National survey: so far, answers for 29 countries and 29 cluster programmes (EU Member States and additional countries participating in the EU COSME programme).

- Results presented in a comparative way (report: "Cluster programmes in Europe and beyond") using tables and graphs.

## Focus: Regional Eco-system Scoreboard on Clusters and Industrial Change

- Goal: Provide information on framework conditions for cluster development and industrial change across European regions.

**Conceptual approach of the European Observatory for Clusters and Industrial Change**
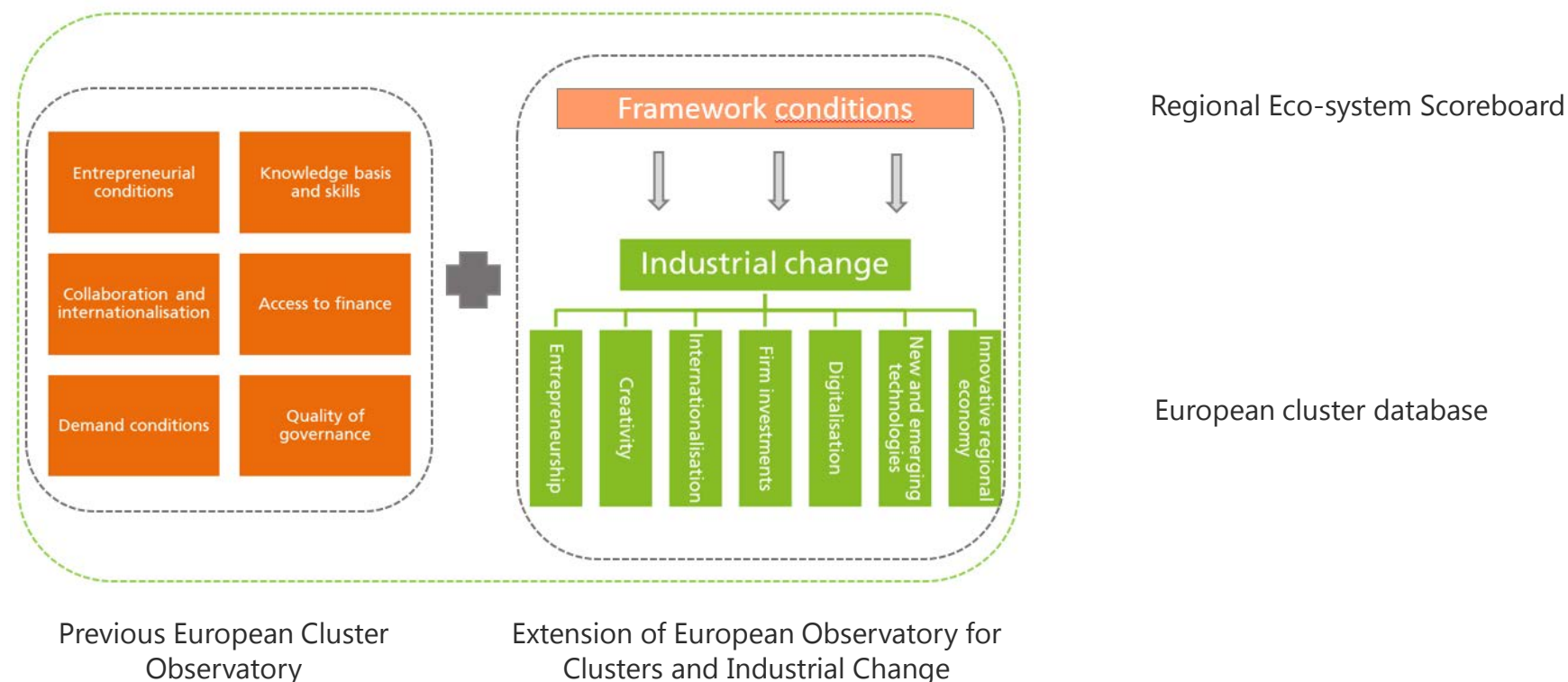
Regional Eco-system Scoreboard

European cluster database

Previous European Cluster Observatory

Extension of European Observatory for Clusters and Industrial Change

8

## Regional Eco-system Scoreboard on Clusters and Industrial Change

- <u>Methodology:</u> (1) updating the indicators of the existing scoreboard and (2) integrating new dimensions of industrial change.

- Developing composite indicators that are presented in a comparative way for all target regions, allowing to visualise performance.

- <u>(Thematic) dimensions to be covered:</u> (1a) Entrepreneurial conditions, (1b) Knowledge base and skills, (1c) Collaboration and internationalisation, (1d) Demand conditions, (1e) Access to finance, (1f) Quality of governance; (2a) innovation, (2b) new and emerging technologies, (2c) digitalisation, (2d) firm investments, (2e) entrepreneurship, (2f) internationalisation, (2g) creativity, (2h) eco-efficiency.

- Implementation through collecting data on indicators that mirror regional framework conditions of those thematic dimensions.

- Calculation of composite indicators and visualisation.

## Regional Eco-system Scoreboard on Clusters and Industrial Change

- The methodology is aligned with methodology for calculating composite indicators for industrial change, and is embedded in methodology of previous scoreboard.

- Indicators that mirror those dimensions and topics were proposed and documented in the Methodology Report.

- 6 dimensions of the previous scoreboard as well as the dimensions of the extended scoreboard will be displayed.

- Examples for the new dimensions on industrial change: (1) Evolution towards a more innovative economy, (2) Digitalisation, and (3) Creativity.

## Regional Eco-system Scoreboard on Clusters and Industrial Change

### # Evolution towards a more innovative economy

Pertinent aspects: Human capital, innovation capacities, research and development provided for the regional economy

| Indicator | Regional coverage | Source | Data availability | Units | Last update |
|---|---|---|---|---|---|
| Human resources in science and technology (HRST): Persons with tertiary education and employed in science and technology | EU28 + Norway, Iceland, Switzerland, Montenegro, Former Yugoslav Republic of Macedonia, Turkey, NUTS 2 | Eurostat, hrst_st_rcat | 1999-2016 | THS, Share of active / total population | 14.09. 2017 |
| Capacity for innovation | COSME, country level | World Economic Forum/ Global Competitiveness Index 2017-2018 | 2017 | Companies' capacity to innovate, scores 1-7 (1: not at all, 7: to a great extent) | 2017 |
| Planned ESIF investments in research and development and innovation | EU, regional level (NUTS1/ NUTS2) | Planned investments using European Structural and Investment Funds, S3 Platform, ESIF viewer | Planned invest-ments | Million EUR, share of total | |

## Regional Eco-system Scoreboard on Clusters and Industrial Change

### # Digitalisation

Impact on most economic sectors. Pertinent aspects: "Readiness" for interacting through Internet, ICT investment, etc.

| Indicator | Regional coverage | Source | Data availability | Units | Last update |
|---|---|---|---|---|---|
| Regional "readiness" for interactions via Internet: Households with Internet access, interaction of individuals with public authorities via Internet, individuals ordering goods or services over the Internet | EU28 + Iceland, Norway, Switzerland, Montenegro, Former Yugoslav Republic of Macedonia, Serbia, Turkey, NUTS 2 | Eurostat, isoc_r_iacc_h, isoc_r_gov_i, isoc_r_blt12_i | 2006-2016, 2008-2016, 2006-2016 | Percentages | 26.04. 2017 |
| Internet connection business sector | EU28 + Iceland, Norway, Former Yugoslav Republic of Macedonia, Serbia, Turkey, country level | Eurostat/ Science, technology, digital society/ Digital economy and society/ ICT usage in enterprises/ Connection to the internet (isoc_ci_it_en2) | 2010-2016 | Share of enterprises with fixed broadband access, Share of SMEs with fixed broadband access | 11.05. 2017 |
| Planned ESIF investments in information and communication technology | EU, regional level (NUTS1/ NUTS2) | Planned investments using European Structural and Investment Funds, S3 Platform, ESIF viewer | Planned investments | Million EUR, share of total | |

## Regional Eco-system Scoreboard on Clusters and Industrial Change

### # Creativity

Creative talents, human capital, students, but also (creative) services in industrial sectors play a pertinent role in shaping a creative environment.

| Indicator | Regional coverage | Source | Data availability | Units | Last update |
|---|---|---|---|---|---|
| Attracting talent | COSME, country level | World Economic Forum, Global Competitiveness Index 2017-2018 | 2017 | Capacity of countries to attract talents, Extent to which country attracts talents from abroad, score 1-7 (1: not at all, 7: to a great extent) | 2017-2018 |
| Share of employment in service innovation intensive industries | EU28, NUTS2 | European Service Innovation Scoreboard | | Percentage | |
| Students enrolled in arts and humanities | EU28 + Liechtenstein, Norway, Switzerland, Former Yugoslav Republic of Macedonia, Serbia, Turkey, country level | Eurostat, (educ_uoe_grad0 2) | 2005, 2010, 2013-2016 (most data available 2013-2015) | Numbers | 14.12.2017 |

# II. Products and services of the European Observatory for Clusters and Industrial Change (#EOCIC)

## Regional Eco-system Scoreboard on Clusters and Industrial Change

### Data collection and processing

- Data availability: Some indicators cannot be mirrored by regional data (esp. small EU Member States, non-EU COSME countries):

  - some aspects of framework conditions (rules, regulations) are shaped on the national level;

  - smaller countries are not divided into NUTS2 entities;

  - data for non EU Member States participating in the COSME programme is not available for every indicator (however often covered by international data sources).

- General focus on reliable and comparable data (from official data sources).

- In addition to systematic data gaps, individual missing data will be encountered.

# Thank you very much for your attention!

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**General Information**

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(also to register to our newsletter)

🔗  https://ec.europa.eu/growth/industry/policy/clusters/observatory_en

🐦  **#EOCIC**

# Additional information

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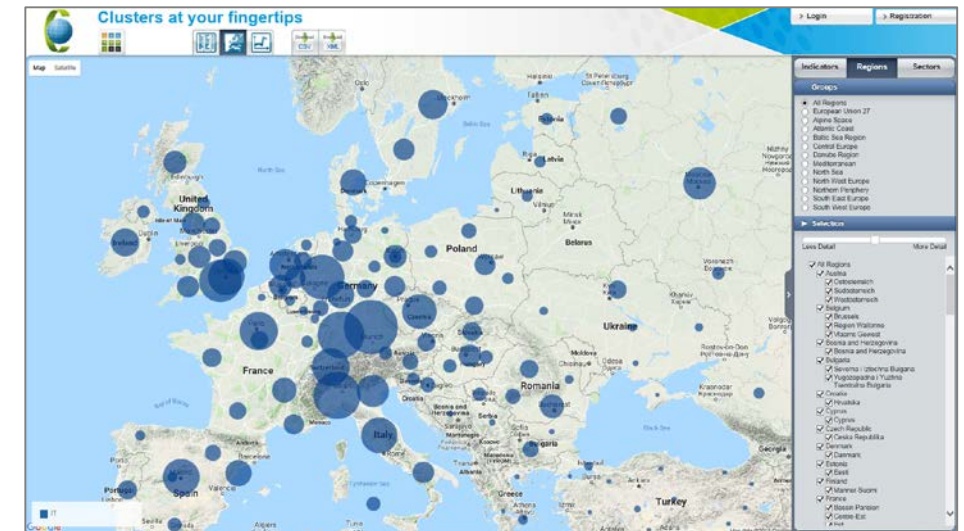
**The European Commission engages in cluster mapping and cluster support since 2006**

**First phase 2006-2013:**

- Focus: cluster mapping of EU-27, Iceland, Norway, Switzerland, Turkey, Israel; information and data on cluster organisations and cluster-related reports

- Results: identification of statistical regional clusters for 28 traded sectors across Europe, analyses of cluster policies across the EU.

- Website: http://www.clusterobservatory.eu/

- Example: IT clusters in European regions (NUTS1)



http://www.clusterobservatory.eu/index.html



http://www.clusterobservatory.eu/index.html#!view=regionalmapping;i=V16140;y=2011;r=NC10;rsl=1;rp=NC10;s=CC20-it;sp=CC20-STND;p=map;ll=50.623587,21.0353;z=5
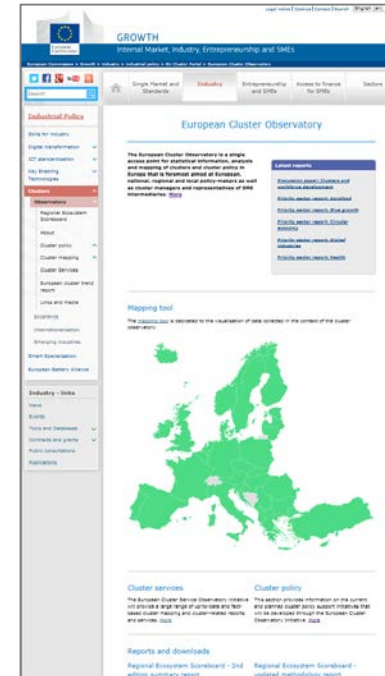
# I. Introduction: The European Observatory for Clusters and Industrial Change (#EOCIC)

## Second phase 2014-2016:

- Stronger focus on cross-sectoral linkages and emerging industries.

- Results: cluster mapping; analysis of cross-sectoral clustering trends; Regional Eco-System Scoreboard; advisory support services to 5 model demonstrator regions; European Stress Test for Cluster Policy including a self-assessment tool, networking and policy learning events.

- Website: https://ec.europa.eu/growth/industry/policy/cluster/observatory_en

## Third phase (since October 2017):

- Strong focus on the role of industrial change (key enabling technologies, digitalisation, service innovation, creativity, eco-efficiency).

- Expected results: cluster mapping; analysis of cluster trends; Regional Eco-System Scoreboard; advisory support services to 12 model demonstrator regions; European Stress Test for Cluster Policy including a self-assessment tool, networking and policy learning events.

- Website: https://www.clustercollaboration.eu/eu-initiatives/european-cluster-observatory



https://ec.europa.eu/growth/industry/policy/cluster/observatory_en



https://www.clustercollaboration.eu/eu-initiatives/european-cluster-observatory

19

## Regional Eco-system Scoreboard on Clusters and Industrial Change

### # New and emerging technologies

Important aspect for upgrading industries. Framework conditions shaped by employment in high-tech sectors, the absorption of technologies, key enabling technologies in regions.

| Indicator | Regional coverage | Source | Data availability | Units | Last update |
|---|---|---|---|---|---|
| Employment in high-technology sectors* | EU28 + Norway, Iceland, Switzerland, Montenegro, Former Yugoslav Republic of Macedonia, Turkey, NUTS 2 | Eurostat, htec_emp_reg 2 | 2008-2016 | THS, Percentage | 14.09. 2017 |
| Technology absorption on firm level | COSME, country level | World Economic Forum, Global Competitiveness Index 2017-2018 | 2017 | Extent to which businesses adopt latest technologies, scores 1-7 (1: not at all, 7: to a great extent) | 2017-2018 |
| Regional specialisation in key enabling technologies | NUTS 2 | Regional Innovation Scoreboard 2016 | Period 2002-2011 | Relative specialisation in KETs (based on patent data) | |

* High-technology manufacturing and knowledge-intensive high-technology services: NACE 21, 26, 59-63, 72.

## Regional Eco-system Scoreboard on Clusters and Industrial Change

### # Firm investments

Important for industrial change. Framework conditions cover the attitude towards investing in fixed assets, financial means. See also 'access to finance'.

| Indicator | Regional coverage | Source | Data availability | Units | Last update |
|---|---|---|---|---|---|
| General investment behaviour of countries | EU28 + Iceland, Turkey, Montenegro, Albania, The Former Yugoslav Republic of Macedonia, Serbia, country level | SAFE Survey, European Central Bank (q2g) | 2017 | Share of companies whose fixed investments (property, plant, machinery, equipment) increased within previous 6 months (%) | 2017 |
| Use of external funding fixed investment | EU28 + Iceland, Turkey, Montenegro, Albania, The Former Yugoslav Republic of Macedonia, Serbia, country level | SAFE Survey, European Central Bank (q6a1) | 2017 | Share of companies that used external funding for fixed investments within previous 6 months (%) | 2017 |
| Planned ESIF investments in productive investment | EU, regional level (NUTS1/ NUTS2) | Planned investments using European Structural and Investment Funds, S3 Platform, ESIF viewer | Planned investments | Million EUR, share of total | |

## Regional Eco-system Scoreboard on Clusters and Industrial Change

### # Entrepreneurship, start-ups and scale-ups

Important contribution to industrial change. Favourable framework may support firm dynamics and industrial evolution. Pertinent aspects: Attitudes, financial means, business development investments. See also 'access to finance' and 'entrepreneurial conditions'

| Indicator | Regional coverage | Source | Data availability | Units | Last update |
|---|---|---|---|---|---|
| Attitude towards job creation | 22 EU Member States + Macedonia, Switzerland, country level | Global Entrepreneurship Monitor | 2010-2016 | Percentage of those involved in early-stage entrepreneurial activity who expect to create 6 or more jobs in 5 years | |
| Financial conditions for SMEs | EU23 + Macedonia, Switzerland, country level | Global Entrepreneurship Monitor, Entrepreneurial Ecosystem | 2007-2016 | Availability equity and debts (including grants and subsidies) for SMEs, scores 1-9 (1: highly insufficient, 9: highly sufficient) | |
| Planned ESIF investments in business development | EU, regional level (NUTS1/ NUTS2) | Planned investments using European Structural and Investment Funds, S3 Platform, ESIF viewer | Planned investments | Million EUR, share of total | |

## Regional Eco-system Scoreboard on Clusters and Industrial Change

### # Internationalisation

Firm-internal and external conditions pertinent for engaging in international activities. Important aspects: general export orientation of environment, language skills, competitive advantages.

| Indicator | Regional coverage | Source | Data availability | Units | Last update |
|---|---|---|---|---|---|
| Export orientation | COSME, country level | World Economic Forum, Global Competitiveness Index 2017-2018 | 2017 | Exports of goods and services, percentage of GDP | 2017-2018 |
| Availability of language skills in supra-national trade (reference: online sale to other EU countries) | EU26, country level | Flash Eurobarometer 413 | 2015 | Percentage of companies that consider "lack of language skills" as major problem / not a problem at all (companies selling online / not selling online) | 2015 |
| Type of competitive advantage | COSME, country level | World Economic Forum, Global Competitiveness Index 2017-2018 | 2017 | Base of competitive advantage in international markets, scores 1-7 (1: primarily low-cost labour or natural resources, 7: primarily unique products and processes) | 2017-2018 |

## Regional Eco-system Scoreboard on Clusters and Industrial Change

### # Eco-efficiency

Scientific and technological advantages and public support for environmentally-friendly solutions as innovation drivers and political priorities.

| Indicator | Regional coverage | Source | Data availability | Units | Last update |
|---|---|---|---|---|---|
| Enterprises that introduced an innovation with environmental benefits | EU28, country level | Eurostat, CIS (inn_cis9_env) | 2014 | Number of enterprises | 11.12. 2017 |
| Eco-innovation related patents | EU-28, country level | Eco-innovation scoreboard, DG Environment | 2010-2016 | Scores | |
| Investment for research on secure, clean and efficient energy; smart, green and integrated transport; climate action, environment, resource efficiency and raw materials | EU28, NUTS2 | Horizon2020 allocations, JRC Smart Specialisation Platform, R&I Regional Viewer | Allocations | Million EUR | |