

Synergies between ERDF and Horizon 2020

Using project-level data for monitoring &
evaluation

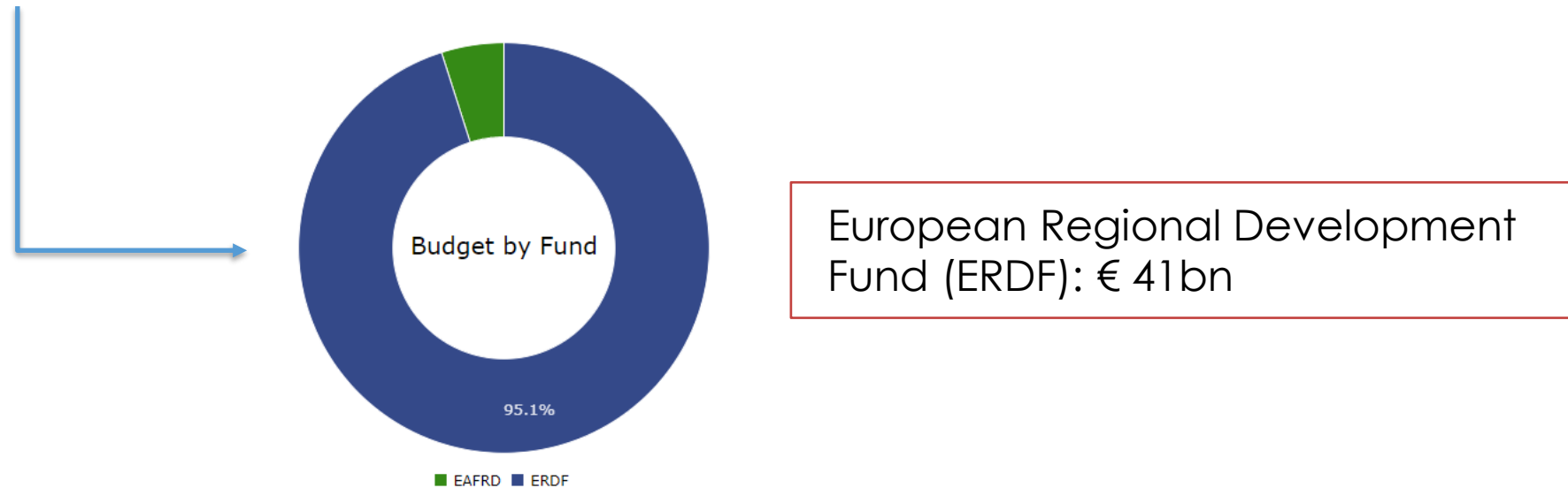
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Interreg Europe Policy Learning Platform
Online Discussion
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Main EU funding instruments for R&I in the MFF 2014-2020

- Horizon 2020: € 80 bn
- European Structural and Investment Funds (ESIF): € 43 bn (9.4% of ESIF)



- Further R&I funding e.g. from R&I programmes within Euratom Treaty, Galileo, Copernicus, ...

Funding principles of main R&I funding schemes

■ Horizon 2020:

- **Excellence-based:** competitive tenders
- **Not place-based**, international cooperation as an asset; focus on key enabling technologies and societal grand challenges
- **Centralised selection procedure and administration** (European Commission, national contact points)
- **Central monitoring** (CORDIS)

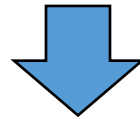


■ ERDF:

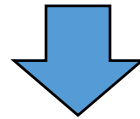
- ESIF aims at **smart, sustainable and inclusive growth** in European regions
- **Place-based:** project selection based on local strengths and structural characteristics (RIS3!), mostly non-competitive tenders
- Administration and project selection (mostly) at the **regional level**
- **No central database** of projects available (until recently)

Combination of R&I funding schemes

- The European Commission encourages regions to combine different funding schemes to create a **critical mass of funding** in **specific** industries (and related industries), **technological or policy areas** (in line with RIS3)



- Prerequisite to investigate combination of R&I funding in EU regions:
DETAILED DATA ON DISTRIBUTION OF FUNDS



- Ways to **link and compare data** on Horizon 2020 and ERDF projects:
 - Beneficiary
 - Thematic area

ISSUE #1: Need for database of ERDF projects and beneficiaries

ISSUE #2: Different thematic classification systems

Dataset of R&I-related ERDF projects

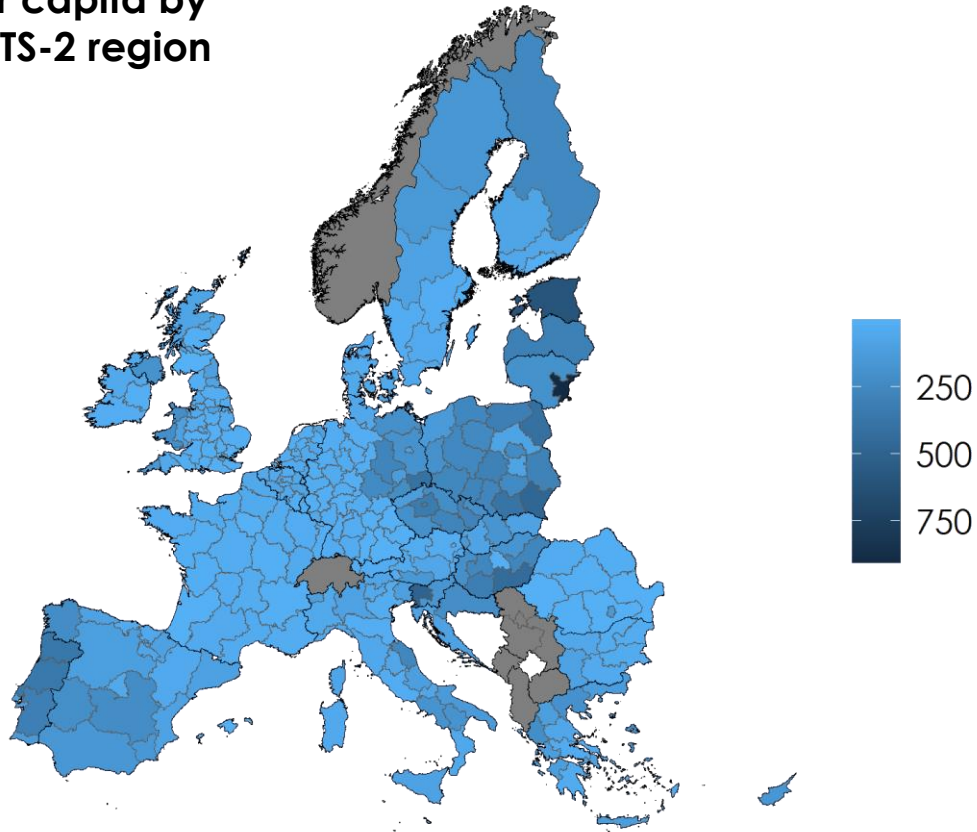
- Data on **projects co-funded by the ERDF in programming period 2014-2020** (R&I Territorial Economic Data Viewer - JRC-WIFO Database on ERDF Beneficiaries: <https://s3platform.jrc.ec.europa.eu/synergies-tool>)
 - ~ 570,000 individual projects co-funded by the ERDF in the EU-27 and the UK
 - Coverage: 208 of 213 operational programmes and 71 of 89 INTERREG programmes
 - ERDF (maximum) co-funding amount (~ 212 billion EUR) covers 95% of total ERDF budget
- **Key enabling technologies** (KET) and **societal grand challenges** (SGC) are assigned to ERDF projects based on project names and descriptions
 - Applying the KNOWMAK ontology to translated project names and description
 - 73% of ERDF support to R&I projects was found to correspond to one or more SGCs 43% of funding could be assigned to (one or more) KET
 - Limitation: varying degree of detail of project descriptions provided



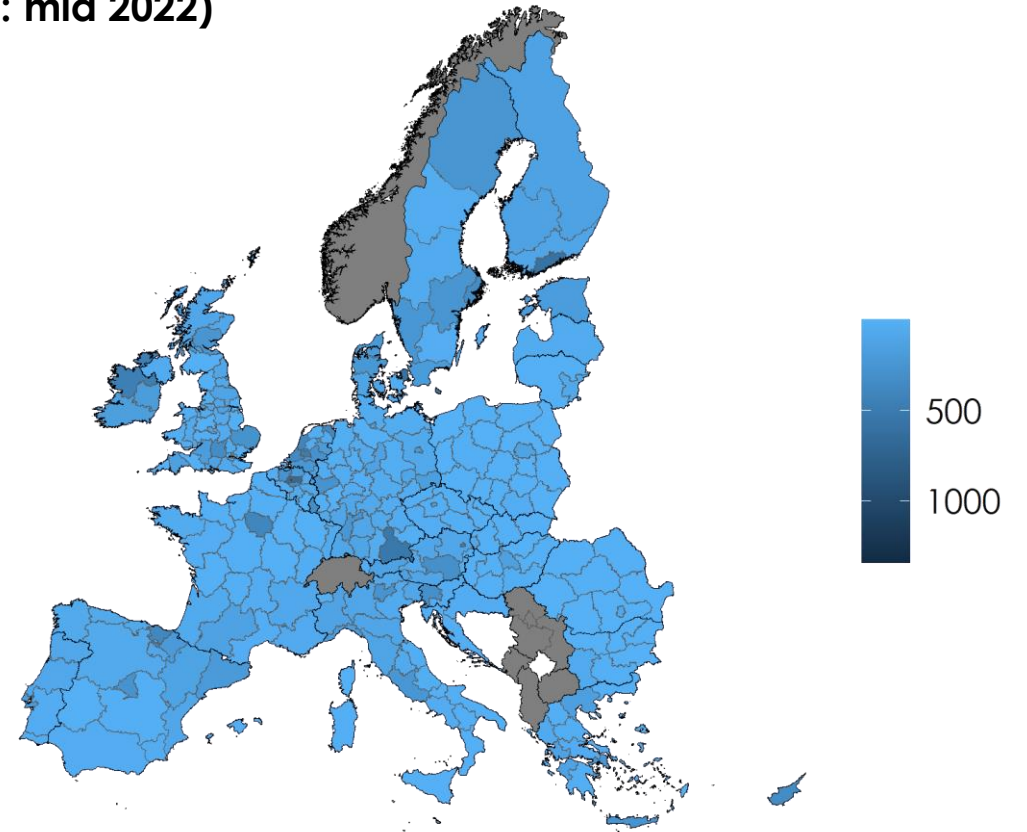
Technical documentation: <https://publications.jrc.ec.europa.eu/repository/handle/JRC125008>
Overview for policy makers: <https://publications.jrc.ec.europa.eu/repository/handle/JRC127403>

Distribution of ERDF R&I and Horizon 2020 amounts per capita

ERDF amount in R&I projects (allocation) per capita by NUTS-2 region



Horizon 2020 funding per capita by NUTS-2 region (Status: mid 2022)



Are there overlaps in beneficiaries of ERDF and Horizon 2020 funding?

- **3% of individual beneficiaries** carrying out R&I-related projects co-funded by the ERDF were found to also have received Horizon 2020 funds
 - Among INTERREG projects: 15% of individual beneficiaries
- But: on average, **24% of ERDF funding for R&I projects** correspond to **projects led by a beneficiary that also received Horizon 2020 funding**

Country	Share of R&I-ERDF funding to (lead) beneficiary also receiving H2020 funds	Country	Share of R&I-ERDF funding to (lead) beneficiary also receiving H2020 funds	Country	Share of R&I-ERDF funding to (lead) beneficiary also receiving H2020 funds
IE	51%	NL	30%	BG	14%
LU	43%	FR	27%	HR	12%
UK	44%	PT	27%	HU	12%
RO	43%	DE	24%	PL	11%
ES	43%	CY	22%	SK	11%
FI	43%	BE	19%	SI	10%
SE	38%	AT	19%	EL	1%
EE	34%	LV	16%	MT	3%
IT	34%	LT	16%		
DK	30%	CZ	15%	Average	24%

Are there synergies in thematic areas supported extensively by ERDF and Horizon 2020 funding?

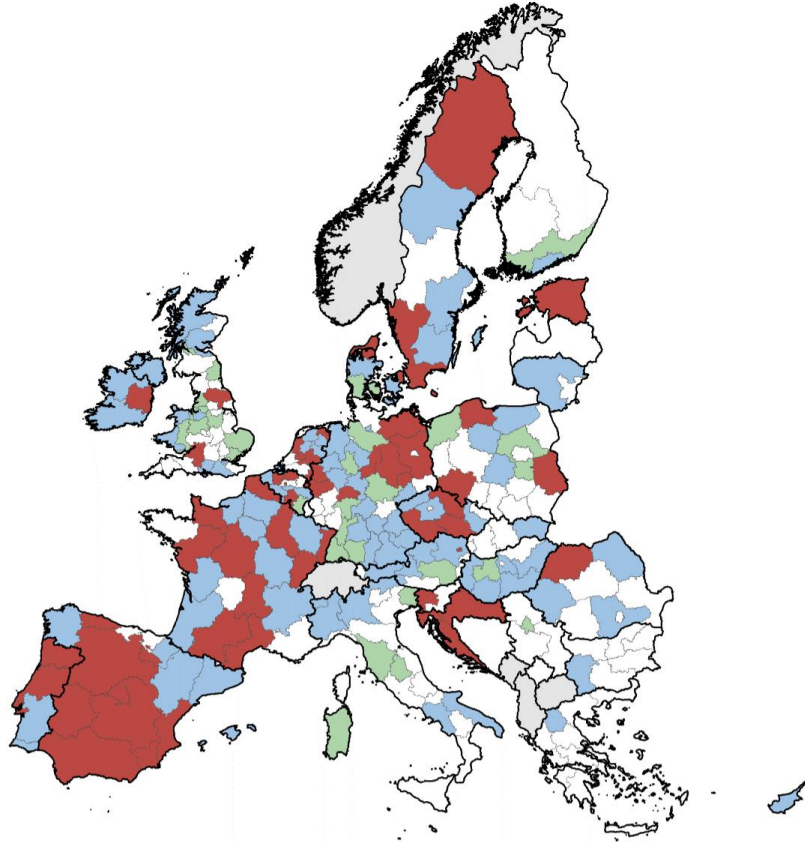
- Definition of a (potential) synergy
 - 1. Concentration of regional Horizon 2020 funding in certain KET / SGC**
 - Defined by a funding share in this KET (or SGC) higher than for all EU regions on average
 - Depends on the presence of competitive research entities or (innovative) companies in the region
 - 2. Concentration of regional ERDF (R&I) funding in certain KET / SGC**
 - Principles of S3: place-based, targeted (not too broad)
 - 3. A synergy is found if concentration of both Horizon 2020 and ERDF in the same KET / SGC**

Interlinkages between Horizon 2020 and ERDF R&I funding

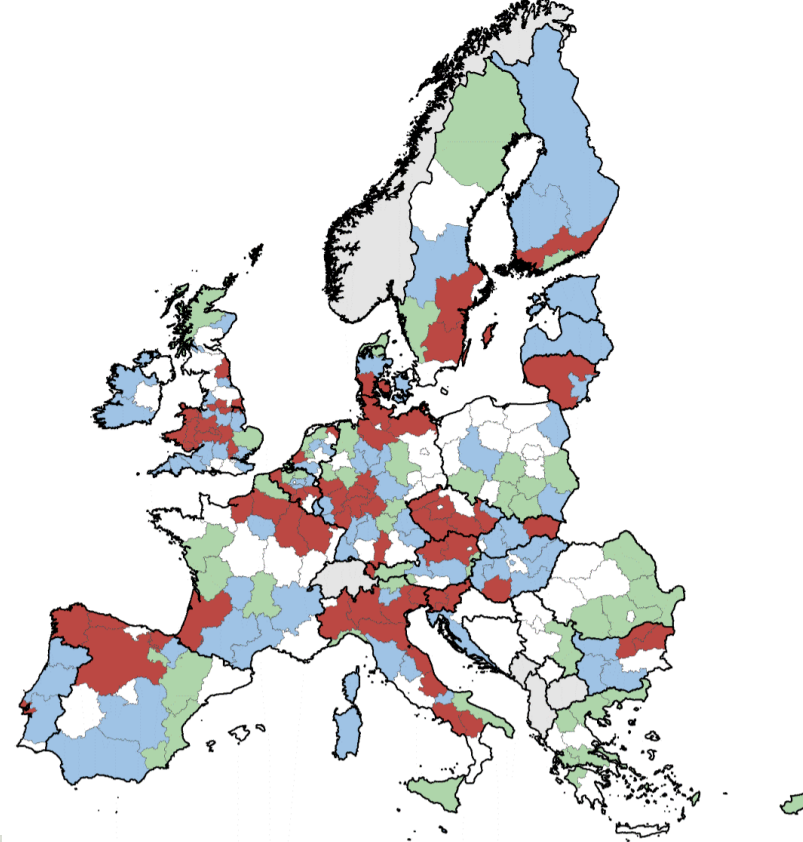
Thematic focus of funding by area (II)

- Is Horizon 2020 and ERDF R&I funding in a region concentrated on the same **technological area**?

Map 1: Thematic concentration by funding instrument – **Industrial biotechnology**



Map 2: Thematic concentration by funding instrument – **Advanced manufacturing technology**



Source: CORDIS database, JRC-WIFO ERDF Beneficiaries 2014-2020 Dataset; own elaboration.

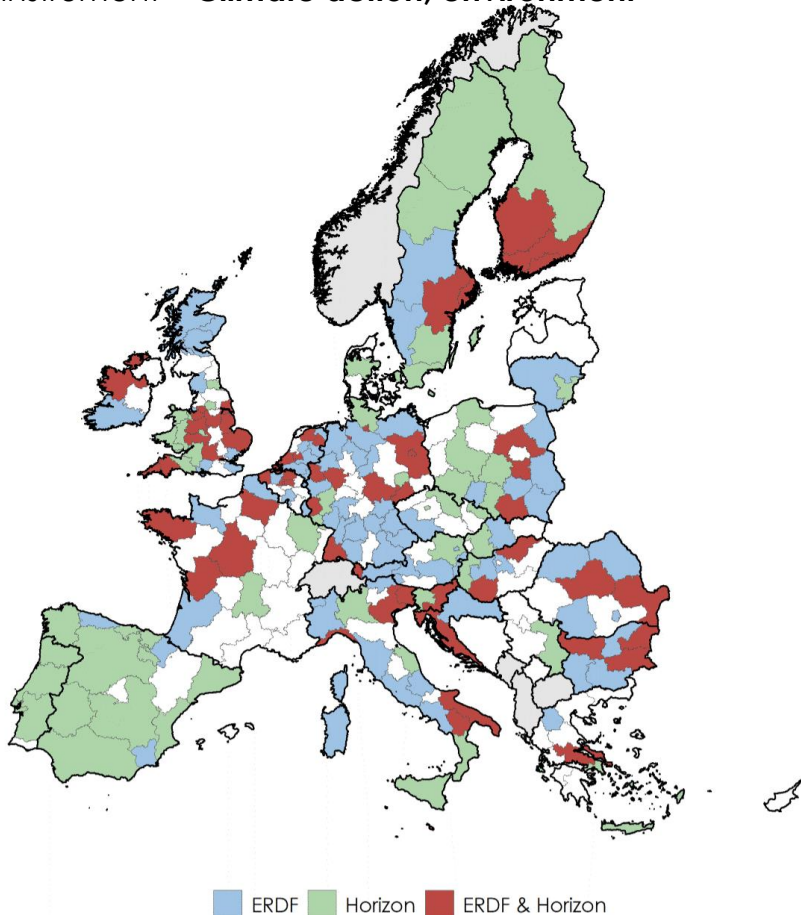
Interlinkages between Horizon 2020 and ERDF R&I funding

Thematic focus of funding by area (III)

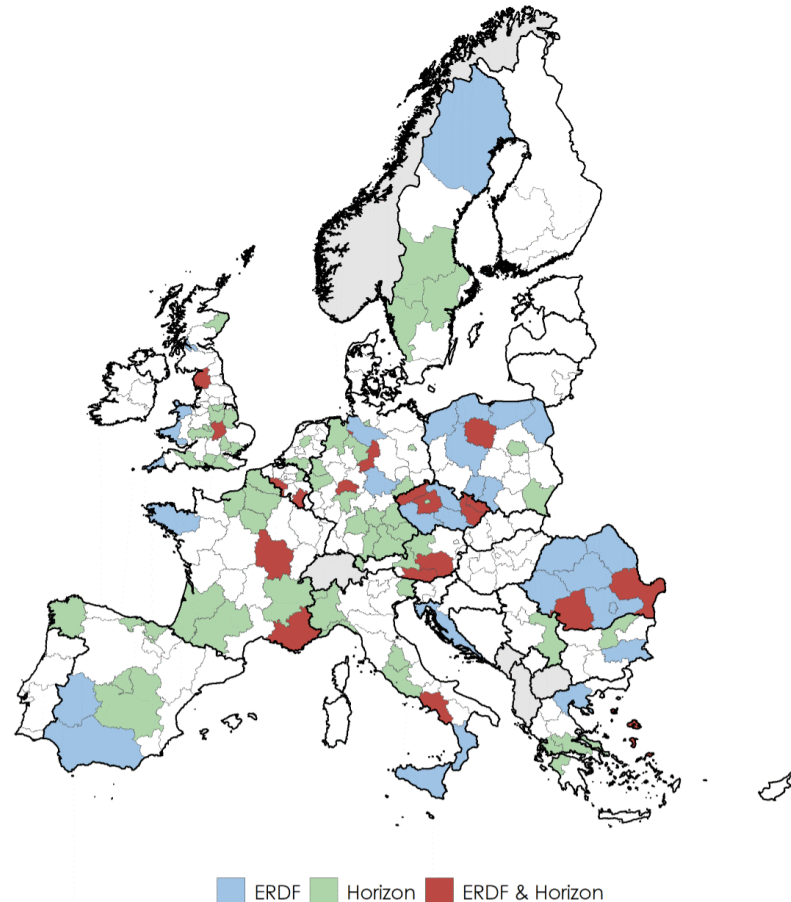
Source: CORIDS, JRC-WIFO ERDF Beneficiaries 2014-2020 Dataset; own elaboration.

- Is Horizon 2020 and ERDF R&I funding in a region concentrated on the **same policy areas?**

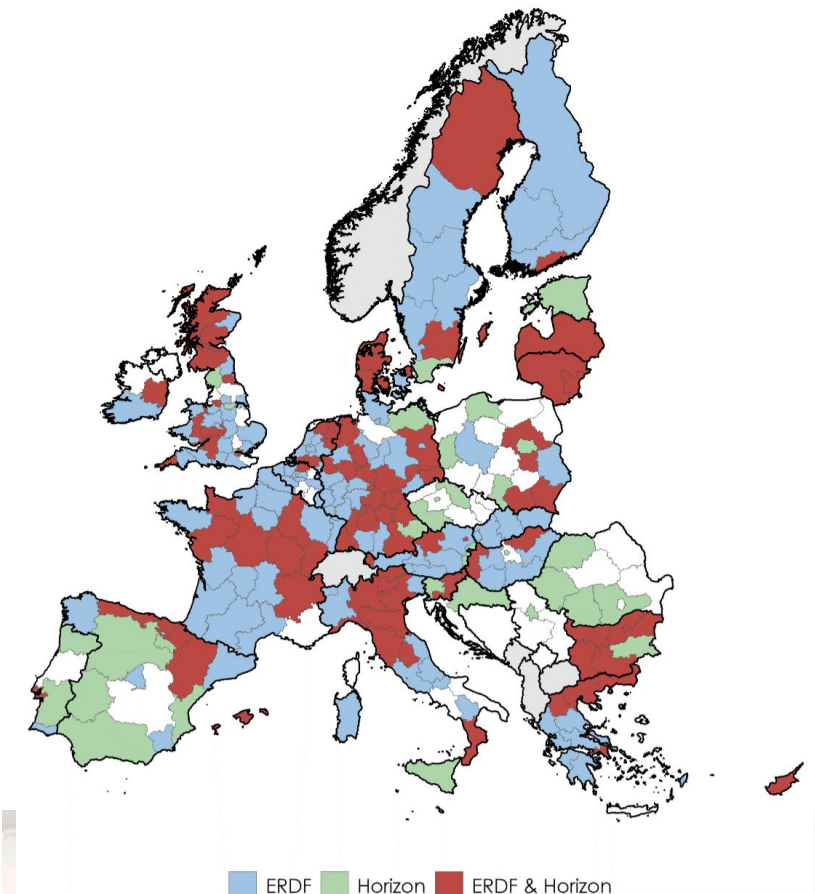
Map 3: Thematic concentration by funding instrument – **Climate action, environment**



Map 4: Thematic concentration by funding instrument – **Smart, green, integrated transport**



Map 5: Thematic concentration by funding instrument – **Clean, efficient and secure energy**



To conclude...

- Project-level data analysis allows an analysis of **synergies in the distribution of Horizon 2020 and ERDF funding (in R&I projects)** in a region **along thematic areas**, such as KET or SGC
- Findings point to a **differential picture** across (types of) regions and thematic areas
- Quantitative analysis can feed more **(qualitative) research** on the evolvement of these synergies in specific regions:
 - Is there an (unintended) overlap of funding for similar activities, or are different tasks of the very same project funded by different funding schemes?
 - Which regional characteristics influence the occurrence of synergies (in certain technological or policy areas)?

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Recent research using project-level data

- Bachtrögler-Unger, J., Dolls, M., Schüle, P., Taubenböck, H., Weigand, M. (2021), **Evaluating EU cohesion policy using satellite data**, Bertelsmann Stiftung (Hrsg.), doi:10.11586/2021047.
- Doussineau, M., Bachtrögler-Unger, J. (2021), **Exploring synergies between EU Cohesion policy and Horizon 2020 funding across European regions**, Publications Office of the European Union, Luxembourg, doi:10.2760/218779, JRC123485.
- Bachtrögler-Unger, J., Doussineau, M. (2020), **EU research & innovation funding schemes: Using project-level data for monitoring & evaluation**. fteval Journal for Research and Technology Policy Evaluation (51), pp. 5-10. ISSN 1726-6629. <https://repository.fteval.at/541>
- Mayerhofer, P., Bachtrögler, J., Nowotny, K., Streicher, G. (2020), **Quantitative Wirkungen der EU-Struktur- und Kohäsionspolitik in Österreich. Ein Beitrag zu "25 Jahre Österreich in der EU"**, ÖROK Schriftenreihe, Nr. 207, Austrian Conference on Statual Planning, <https://www.wifo.ac.at/wwa/pubid/66158>.
- Bachtrögler, J., Fratesi, U., Perucca, G. (2020), **The influence of the local context on the implementation and impact of EU Cohesion Policy**, Regional Studies, 54(1), pp. 21-34, <https://doi.org/10.1080/00343404.2018.1551615>.
- Bachtrögler, J., Hammer, C., Reuter, W.H., Schwendinger F. (2019), **Guide to the galaxy of EU regional funds recipients: evidence from new data**, Empirica, 46(1), pp. 103-150, <https://doi.org/10.1007/s10663-018-9427-5>.
- Bachtrögler, J., Oberhofer, H. (2018), **Euroscepticism & EU Cohesion Policy: Impact of Micro-Level Policy Effectiveness on Voting Behaviour**, WIFO Working Papers, 2018, 567, Vienna. <https://www.wifo.ac.at/wwa/pubid/61131>.