European Commission

JUST TRANSITION PLATFORM MEETING

COAL REGIONS IN TRANSITION VIRTUAL WEEK

CARBON-INTENSIVE REGIONS SEMINARS

15 - 17 NOVEMBER 2021

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Dimensions

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Smart Specialisation Strategies in JTF Regions

Study on prioritisation in Smart Specialisation Strategies in the EU

Dr. Jan-Philipp Kramer (Prognos AG)

JTP Conference Brussels | 17 November 2021

Agenda

Key questions, scope and methodology

Prioritisation in S3 strategies

Correspondence of S3 with regional profiles

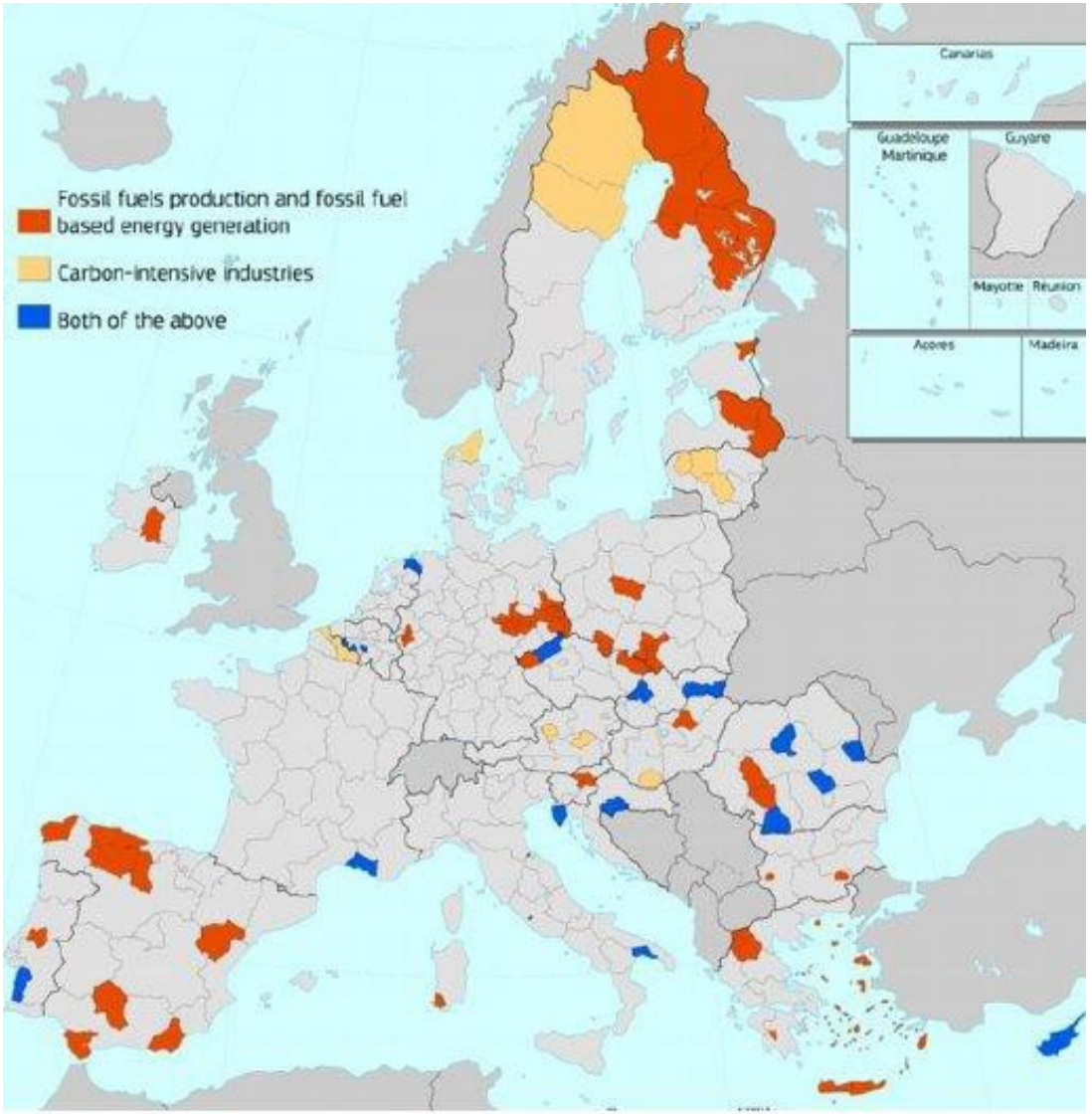
Implementation of S3 priorities

Lessons learned & outlook for JTF regions

Suggested JTF regions

- 100 regions / areas identified
- Three types of regions:

1. Fossil fuel production and fossil fuel-based energy generation (68 regions /areas)
2. Carbon intensive industries (15 regions / areas)
3. Both of the above (17 regions / areas)



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Key questions, scope and methodology

Objectives of this presentation

How do S3 strategies help regions with a just transition?

Question 1

What priorities have been addressed by S3 in the JTF regions?

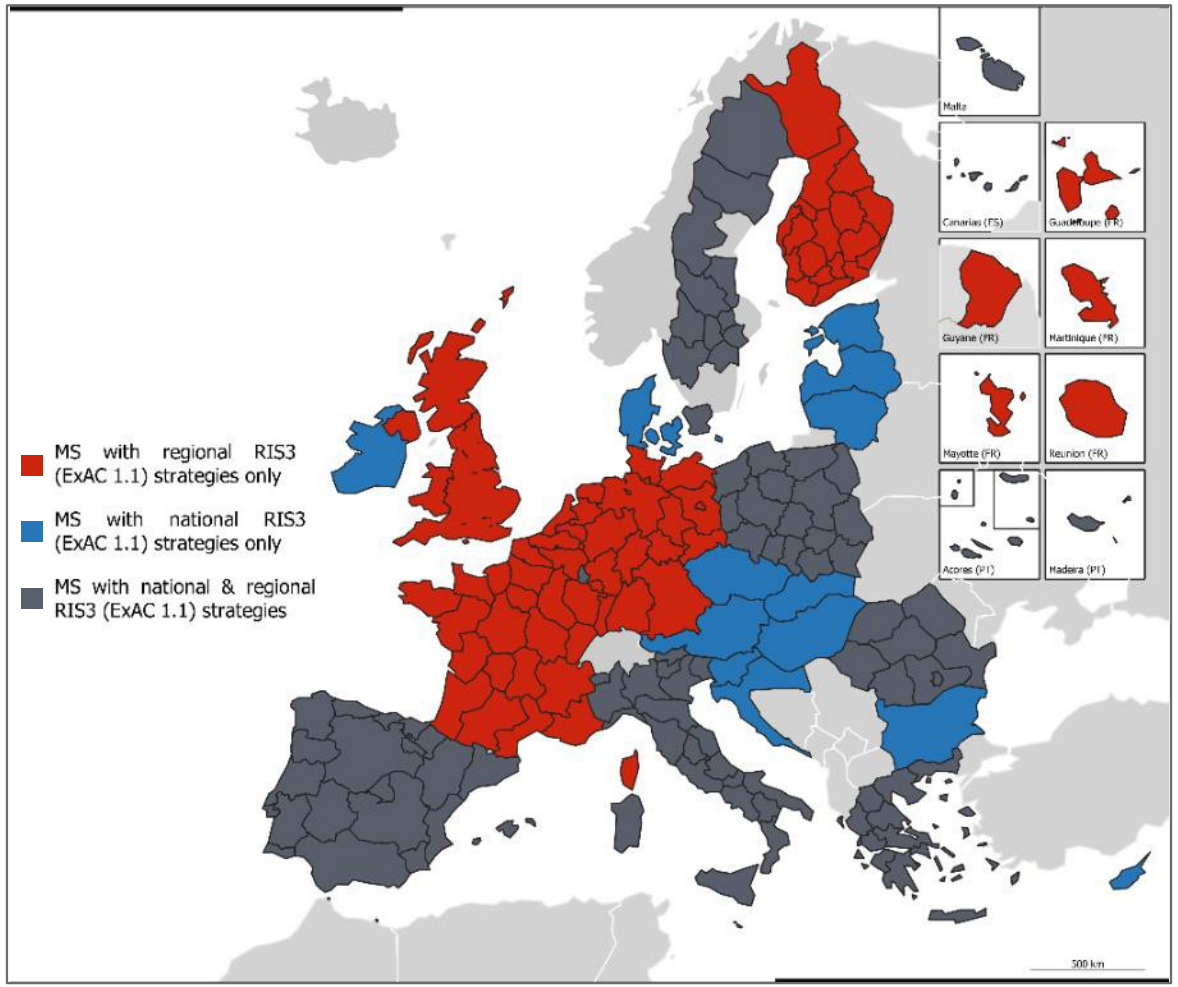
Question 2

To what extent did the selected priorities reflect the regional profile of JTF regions?

Question 3

Have JTF regions directed funds into priorities supporting economic diversification?

Empirical basis & scope of the study



Collection of S3 strategies

- **185 S3 strategies** and accompanying documents collected / 181 interviews conducted
- **Creation of a custom-made online questionnaire** that was filled in for all 185 S3-strategies

Assessment of priorities

- **Prioritisation database** was developed (1,006 priorities)
- 88 NACE 2-digit level sectors, 22 FOR 2-digit level dimensions, 35 Technology fields)

Analysis of correspondence

- **Datasets were created** (for economic, scientific, technological profiles and relatedness and complexity)
- **Correspondence and cluster analysis Ten case studies conducted**

Assessment of implementation

- **186 ERDF project/beneficiary lists** collected and connected to the JRC dataset
- **2,876 ERDF calls collected**

Source: Prognos / CSIL (2021).

Prioritisation in S3

What was the outcome of prioritisation in the S3 strategies?

TOP-3 scient., techn. & econ. sectors addressed by S3 priority areas in JTF regions

TOP Research Fields (FOR)

1. Engineering (144)
2. ICT (131)
3. Technology (100)
4. Agriculture & Veterinary Science (99)
5. Commerce Management Tourism & Services (86)

TOP Technology Areas (TECH)

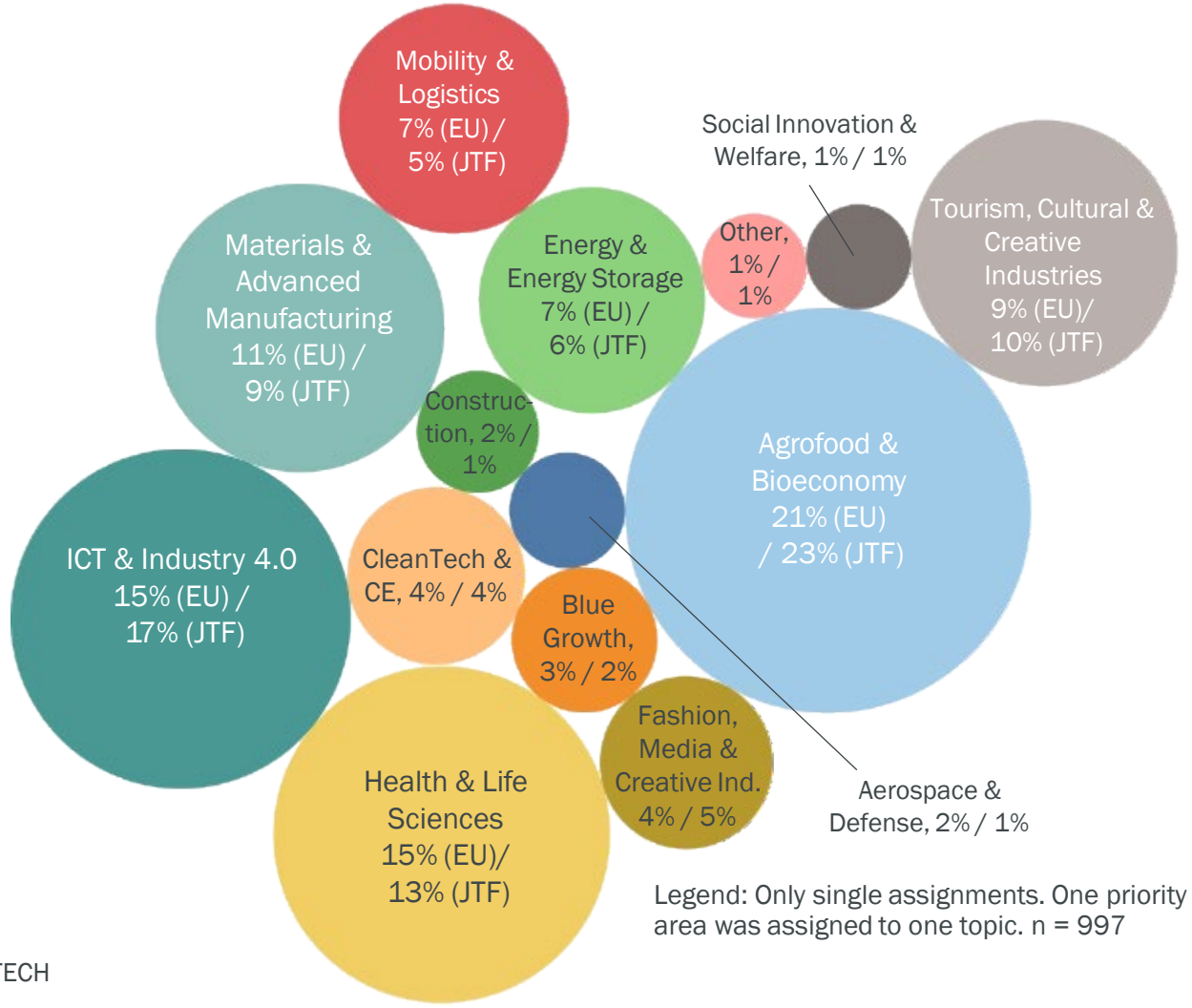
1. Digital communication (131)
2. Computer technology (109)
3. Electrical machinery, … (83)
4. Other special machines (78)
5. Medical technology (67)

TOP Sectors (NACE)

1. Scientific R&D (148)
2. Computer programming, … (105)
3. Manuf. of computers, … (80)
4. Architect. and engineering, … (62)
5. Manuf. of food products (57)

Legend: Contains multiple assignments per priority area, e.g. one priority area can both address the TECH fields Computer technology and digital communication.

Share of overarching topics addressed by priority areas

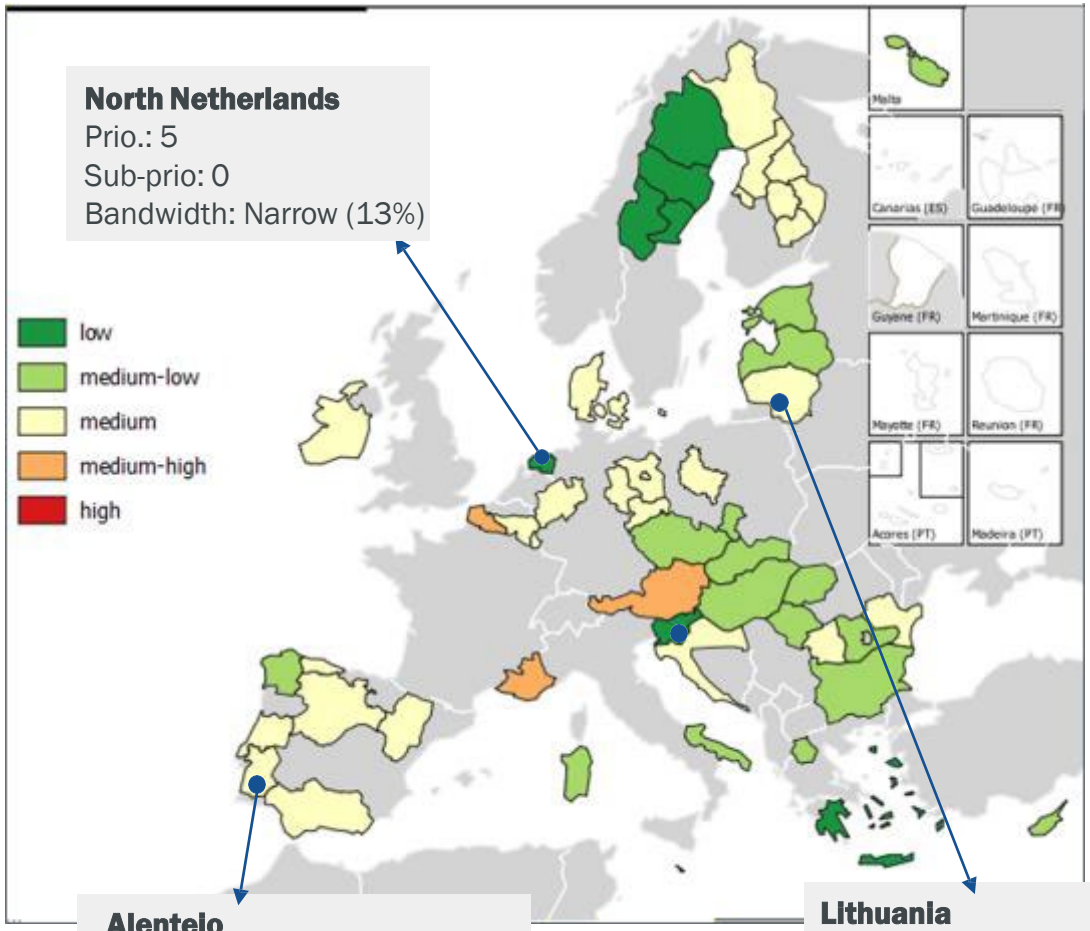


Legend: Only single assignments. One priority area was assigned to one topic. n = 997

Source : Prognos / CSIL (2021). Note : n= 185 / 48 regions. The right side of the slide is based on a LDA through which overarching topics were defined based on priority descriptions.

At what level of granularity has prioritisation taken place?

Number of priority areas of S3 strategies



Key findings

- Assessment of the absolute number of S3 priority areas can be misleading
- Our approach: analysis of thematic broadness through **"bandwidth index"**
- **66% of S3 strategies in JTF regions** are characterised by medium-low to medium bandwidth (72% in EU)
- JTF regions with **particularly broad S3** are Provence-Alpes-Côte d'Azur (FR, 69%), Nord-Pas-de-Calais (FR, 64%), and Austria (63%)

Source: Prognos / CSIL (2021). Figure: n = 165 regions. Data for the latest strategy year is shown.

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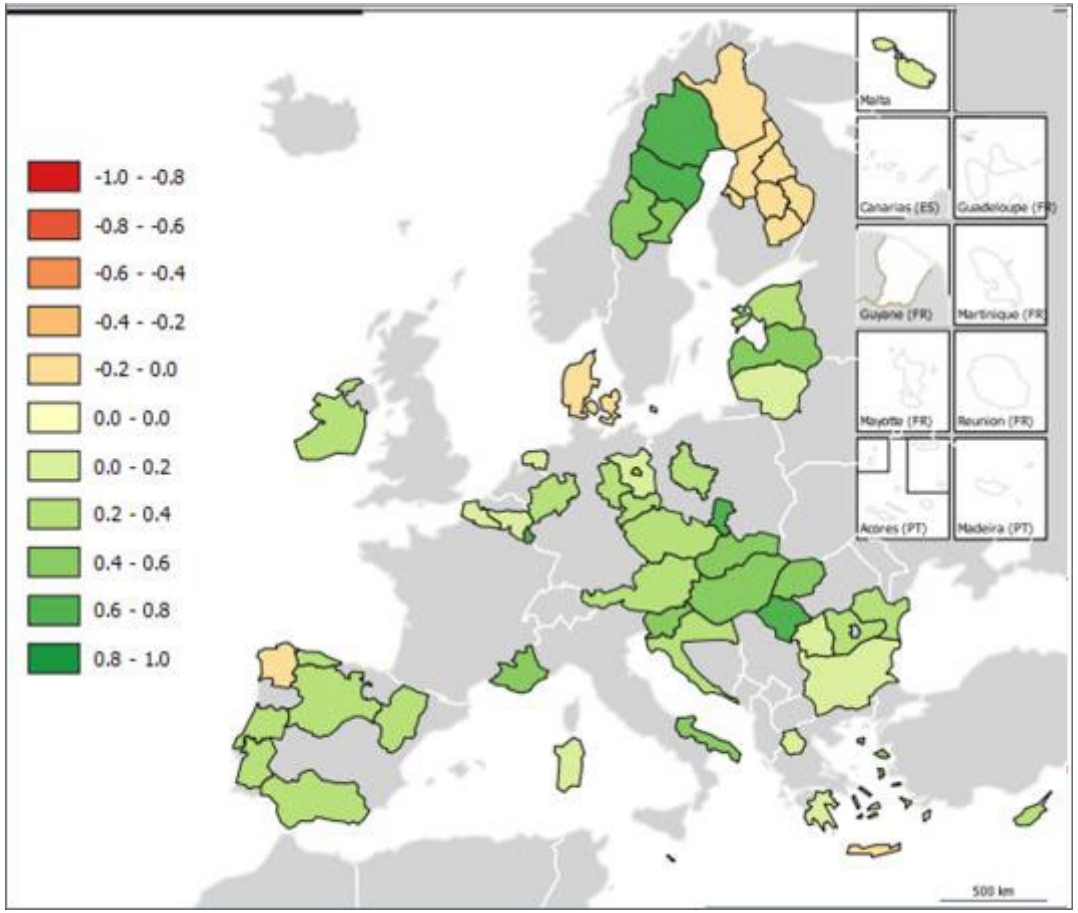
Correspondence with regional profiles

How prioritisation reflects scientific profiles?

Correlations between priority areas and publication shares across scientific fields



Source: Prognos / CSIL (2021).

- Average correlation **across EU**: 0.30
- Average correlation in **JTF regions**: 0.29
  - Fossil fuel regions: 0.28
  - Carbon intensive regions: 0.32
- Many JTF regions informed their prioritisation based on their scientific profile.
  - Especially aligned: Luxembourg, Śląskie, West (RO) and Övre Norrland

Evidence from case study

Picardie (correlation: 0.6): region where universities have a strong influence (as several in the country)

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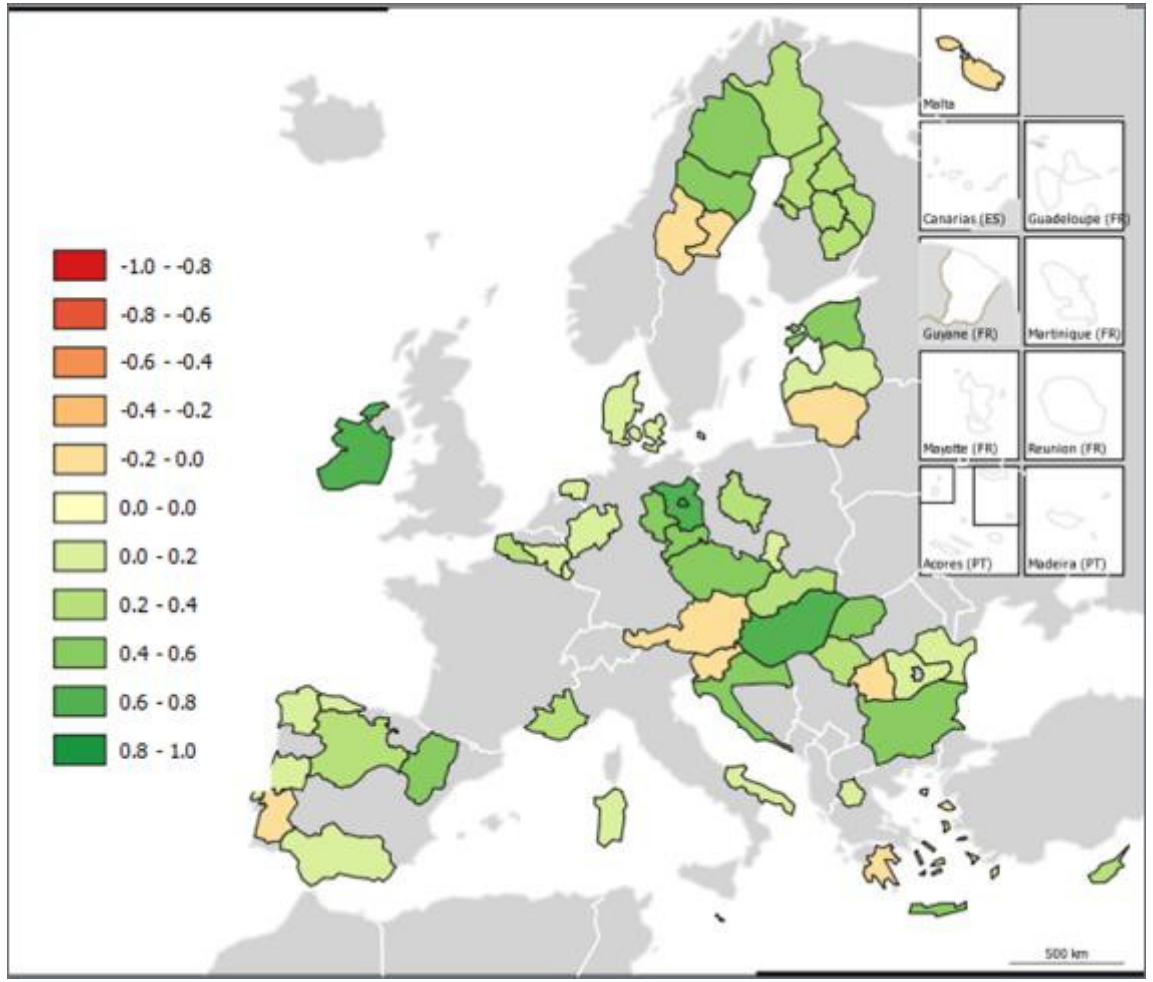
How prioritisation reflects the technological strengths?

Correlations between priority areas and patent shares across technology fields



- Average correlation EU: 0.25
- Average correlation in **JTF regions**: 0.26
  - Fossil fuel regions: 0.27
  - Carbon intensive regions: 0.23
- S3 priorities closely match their technological profiles
  - Especially Berlin/Brandenburg, Ireland and Hungary closely align their priorities to their technological profiles

Evidence from case study

Berlin/Brandenburg (correlation: 0.7): *'Strengthening strengths' approach*

Source: Prognos / CSIL (2021).

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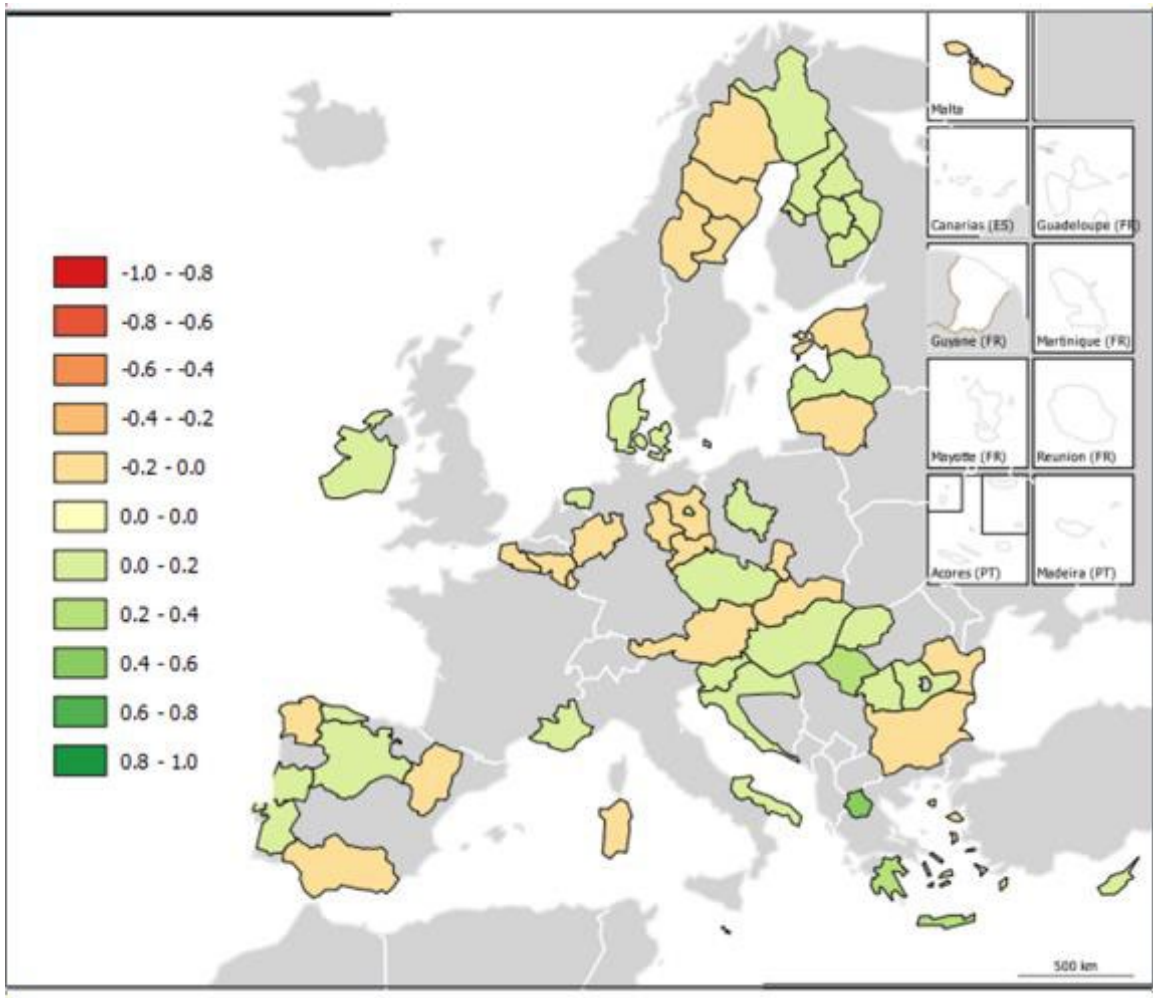
How prioritisation reflects economic profiles?

Correlations between priority areas and employment shares across NACE sectors



Source: Prognos / CSIL (2021).

- Average correlation EU: 0.01
- Average correlation in **JTF regions**: 0.04
  - Fossil fuel regions: 0.05
  - Carbon intensive regions; -0.01
- JTF regions tend to perform slightly better in aligning their priorities to their economic profiles
  - Crete, Western Macedonia (both EL) and Vest (RO) have the strongest correlations.

Evidence from case study

Western Macedonia (correlation: 0.5): region with engines of growth in transformation

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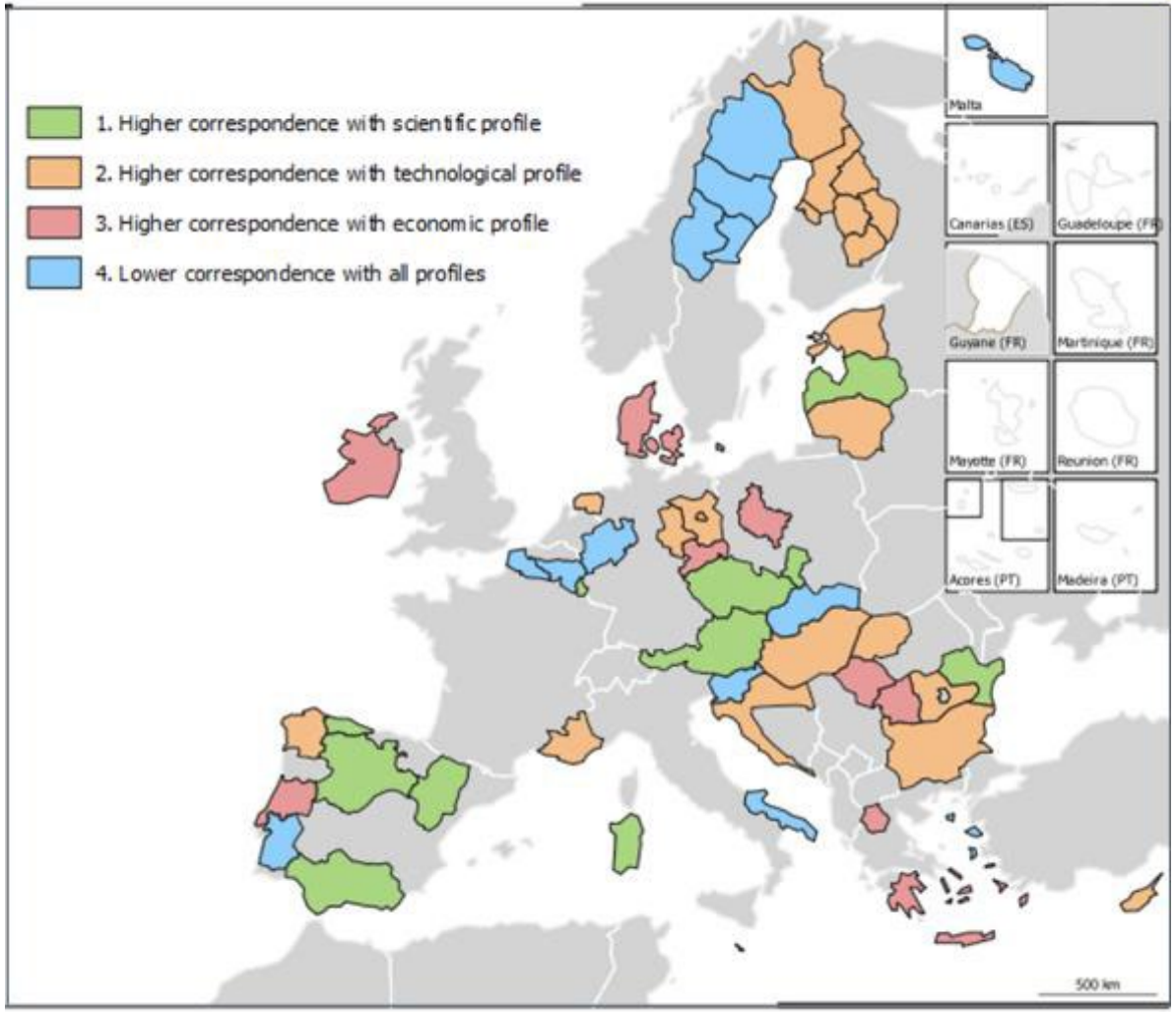
Categorisation of S3 according to their correspondence with the MS/regional profiles

Four groups of strategies:

1. 11 **(23%)** S3 strategies align closely to scientific profiles
2. 14 **(29%)** S3 strategies align closely to technological profiles
3. 11 **(23 %)** S3 strategies align closely to economic profiles
4. 12 **(25%)** S3 strategies do not align closely to any profile but: reveal **higher ambition** in terms of technological innovation and diversification goals



Source: Prognos / CSIL (2021), based on a Principal Component Analysis and a hierarchical cluster analysis. The map shows the cluster corresponding to the most recent versions of the S3 strategies.

Evidence from case studies

Different **prioritisation philosophies** utilised, from path dependence to more disruptive approaches:

- Upgrading along the value chain **(Denmark)**

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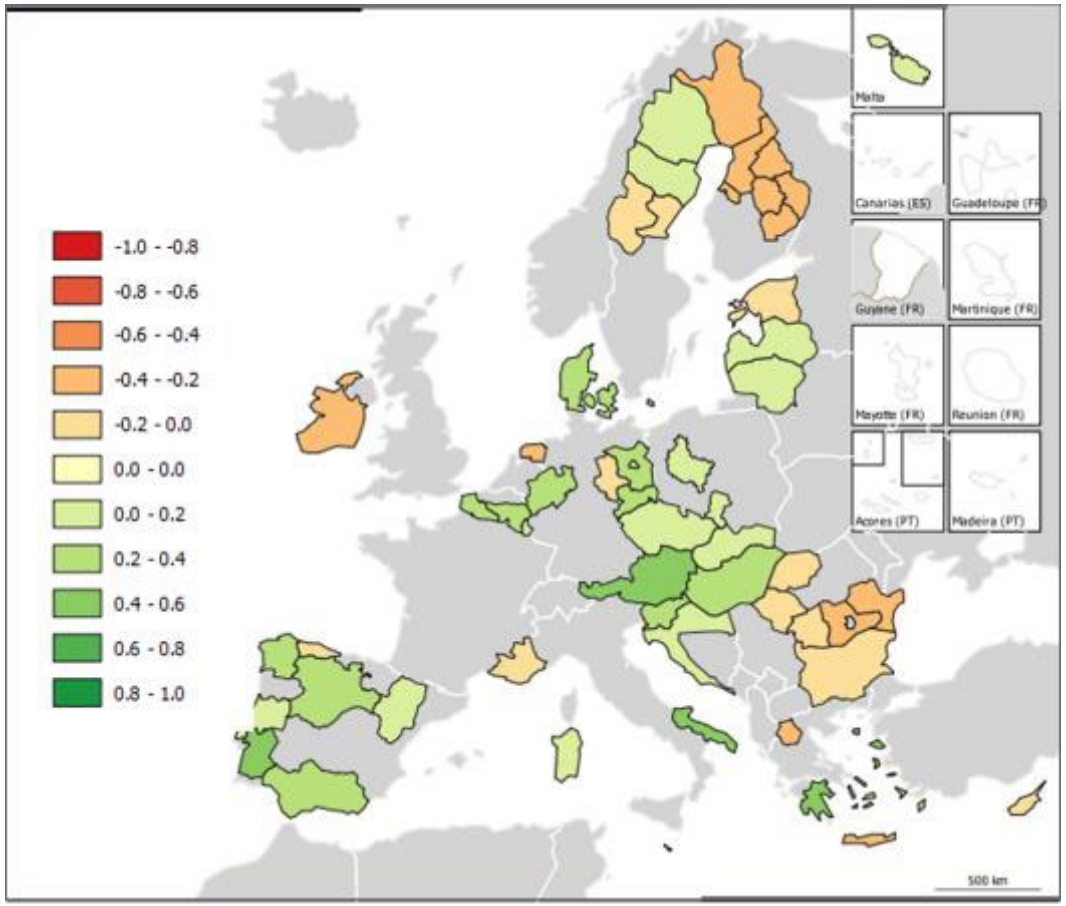
To what extent does the prioritisation in the JTF regions address diversification, specialisation, upgrading or related variety?

Correlation between priority areas and an index of technological ambition



Source: Prognos / CSIL (2021). The index of technological complexity combines the indicators of technological relatedness density and technological complexity.

Large parts of Central and Eastern Europe, Southern Europe, and Scandinavian regions seem to have adopted a more cautious approach compared to Western Europe.

- JTF regions have a slightly higher average correlation (0.1 vs 0.08 in EU) = somewhat more ambitious

Selected **JTF regions** that pursued **unrelated and complex technologies:**

- Apulia (Italy),
- Peloponnese (Greece),
- North Aegean (Greece),
- Austria

Selected **JTF regions** that pursued **related and less complex technologies**:

- South Muntenia (Romania)
- North & East Finland
- Western Macedonia and Crete (Greece)

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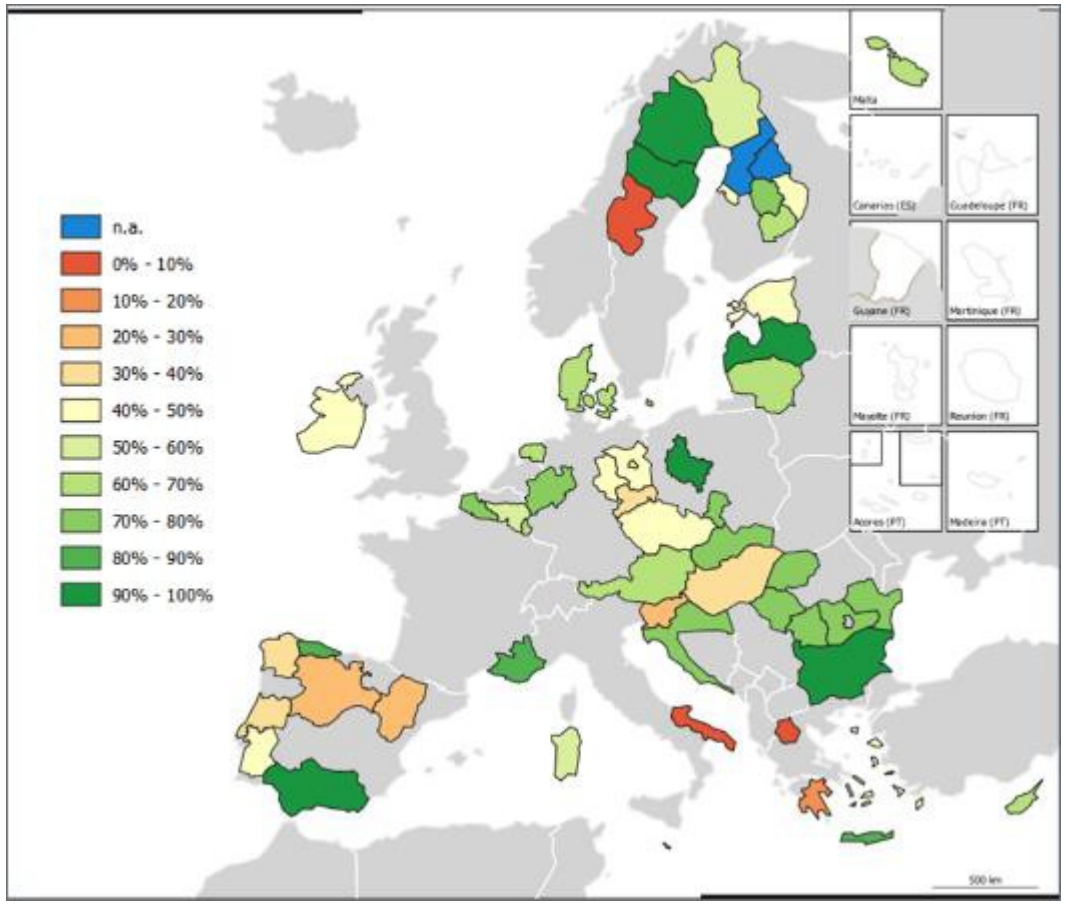
Implementation of S3 priorities

Has the selection process led to the projects' implementation in the priority areas?

Share of projects that are linked to the priority areas are lower in JTF regions



- **JTF regions: 50% of all ERDF-funded projects considered** (16,388 out of 32,700) display a linkage to the corresponding S3 priorities
- **EU: 57% of all ERDF-funded projects considered** (49,749 out of 86,487) display a linkage to the corresponding S3 priorities

The **case studies** illustrate certain specificities within MS/regions:

- **Denmark:** Some regions experienced a lack of critical mass in certain specialisation fields: too many priority areas.
- **Lithuania:** Implementation showed that overly specific priorities have led to the exclusion of relevant projects.
- **Western Macedonia:** Imbalances of resources between national and regional OPs.

Source : Prognos / CSIL (2021).

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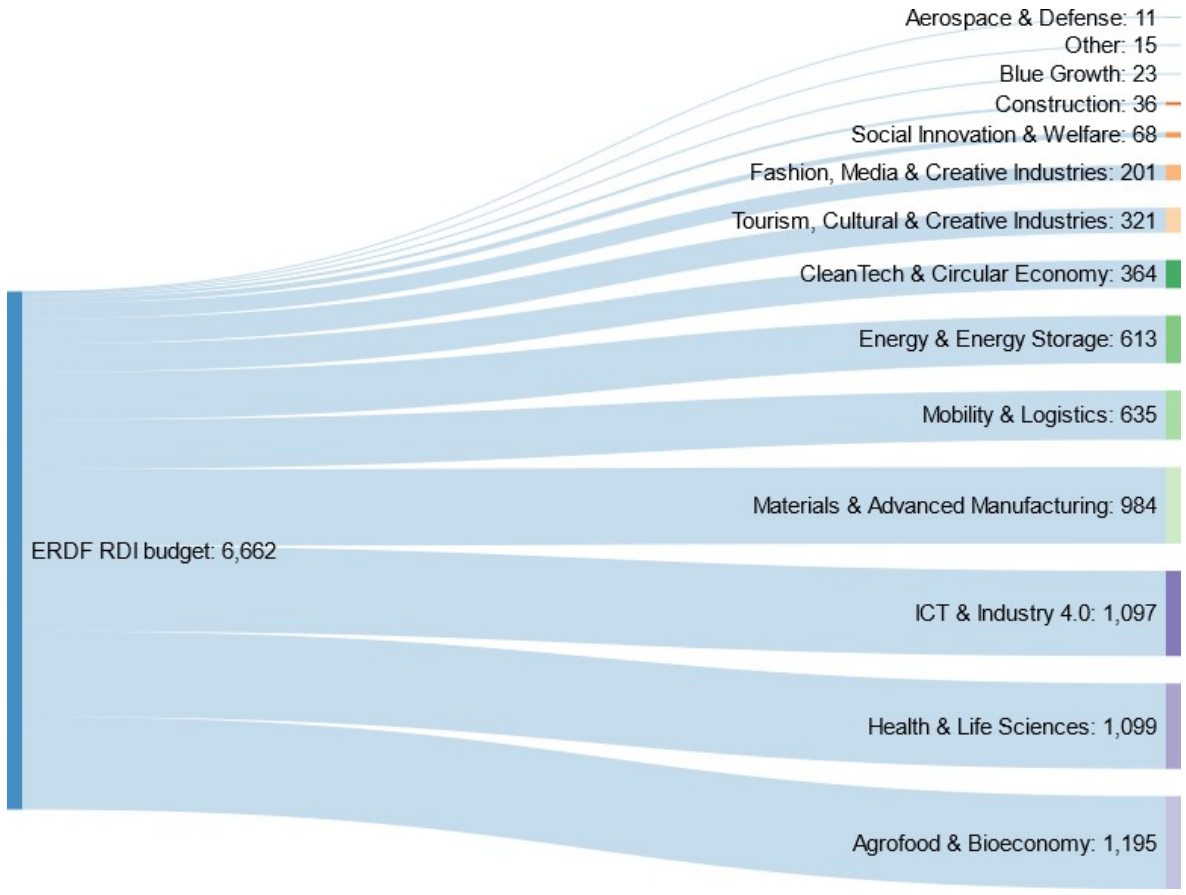
Have JTF regions directed their funds into priorities supporting economic diversification?

Overarching thematic domains and total budget spent on ERDF projects (2014-2020) in JTF regions



- Almost **EUR 6.7 billion** channeled into projects associated to S3 priority areas
- Around **51% of these project budgets were directed towards three thematic domains**:
  1. 'Agrofood & Bioeconomy' (18%),
  2. 'Health & Life Sciences' (16%),
  3. 'ICT & Industry 4.0' (16%)

Source: Prognos / CSIL (2021). Note: The figure is based on the projects that were successfully connected with the priority areas of 44 regions. The overall budget that has been linked to these and which is the basis for this figure is EUR 6.7 billion.

Lessons learned & outlook for JTF regions

Thank you very much

© imagepoint – Mark Brun

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Smart Specialisation in the JTF regions – Groningen (N-NLs)

Luc Hulsman

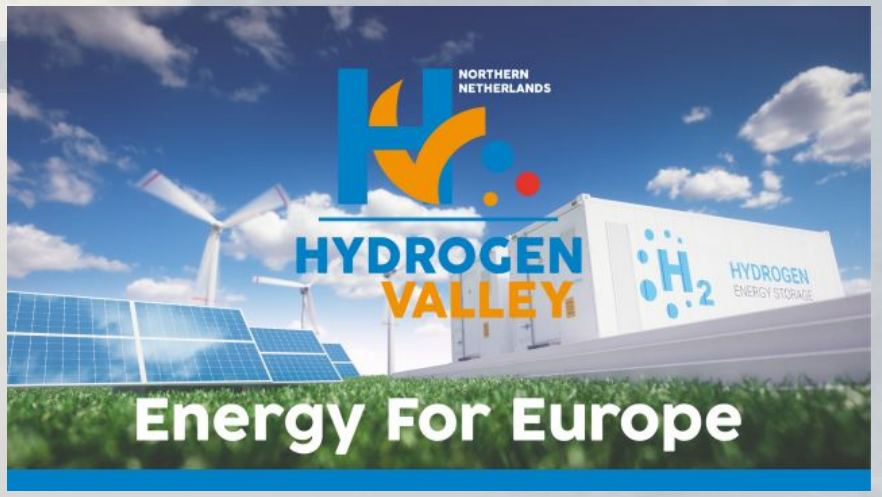
17 November 2021

Just Transition : climate transition ánd economic transformation

N-NLs RIS3 : transitions at the core

"translating transition challenges into economic opportunities"

- **natural gas production**
- **gas dependant industry**



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Smart Specialisation in the JTF regions – Groningen (N-NLs)

Ústecký kraj

TJTP – S3 approach, 4 pillars

1) System Innovation
2) Change industrial mindset
3) Energy domain structure
4) Landscape revitalization

- **CCDRC – Comissão de Coordenação e Desenvolvimento Regional do Centro** is a regional agency of the Portuguese government that deals with environment, land use, urban planning and regional development in Centro Region of Portugal. CCDRC is also responsible for the management of the ESIF Operational Programme at the regional level.

RIS C3NTRO
INNOVATION FOR A BETTER FUTURE
Estratégia de Investigação e Inovação para uma Especialização Inteligente

Innovation Hubs

1. Valorisation of natural endogenous resources
2. Development of sustainable industrial solutions
3. Mobilisation of technologies for quality of life
4. Promotion of territorial innovation

Priority Domains

- Natural Resources and Bioeconomy
- Production Technologies, Tooling and Materials
- Digital Technologies and Space
- Energy and Climate
- Health and Well-being
- Culture, Creativity and Tourism

Green Transition
Adaptation to climate change, Circular Economy and Energy transition

Digital Transition
Industry 4.0 and Society 5.0

Social Transition
Demographic challenge, Skills challenge and Quality of employment

Global Challenges