



# Geospatial data integration for EU-wide territorial policy support

## *Challenges and opportunities*

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# Outline

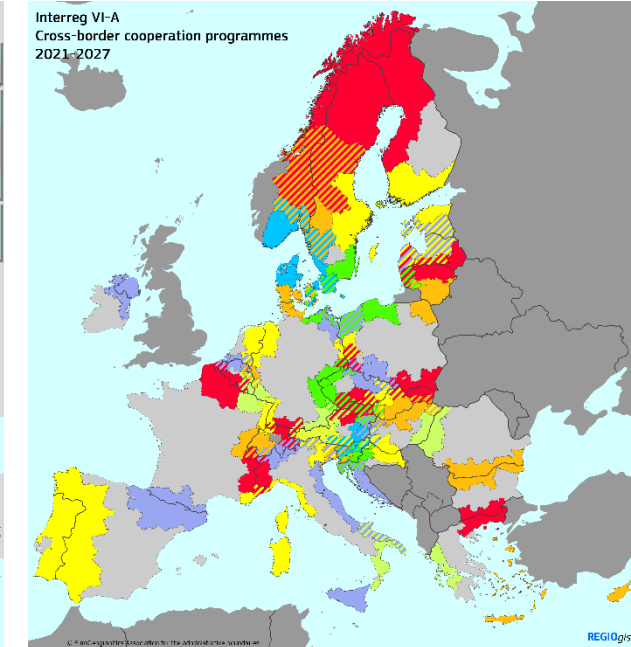
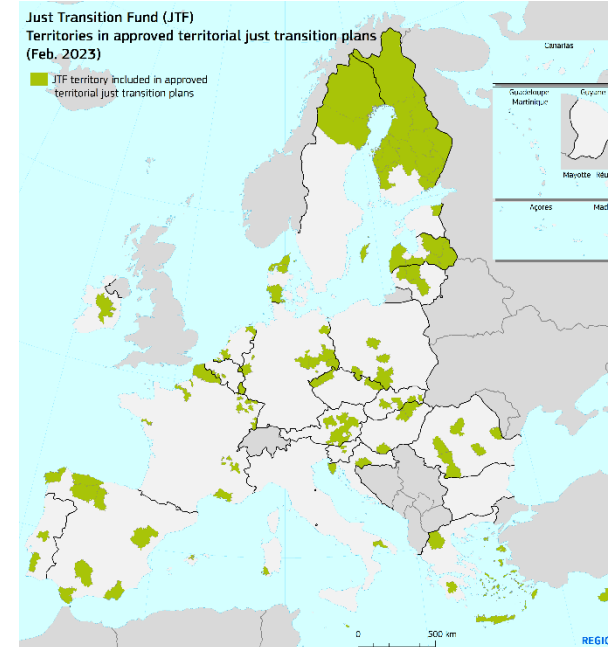
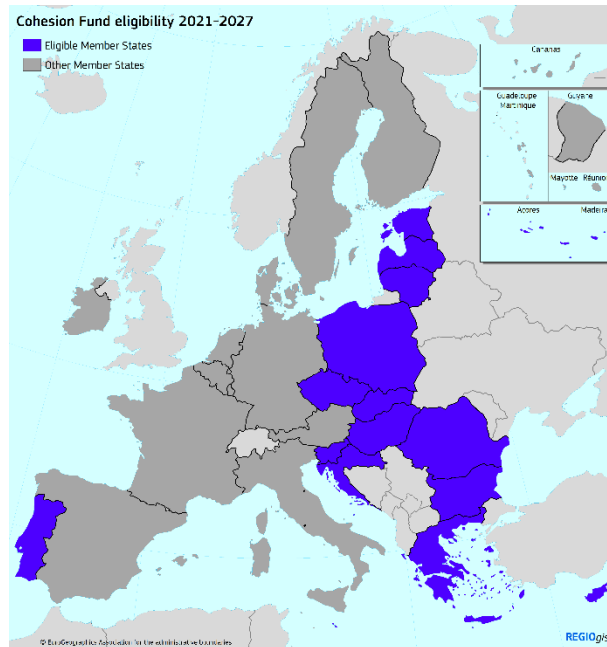
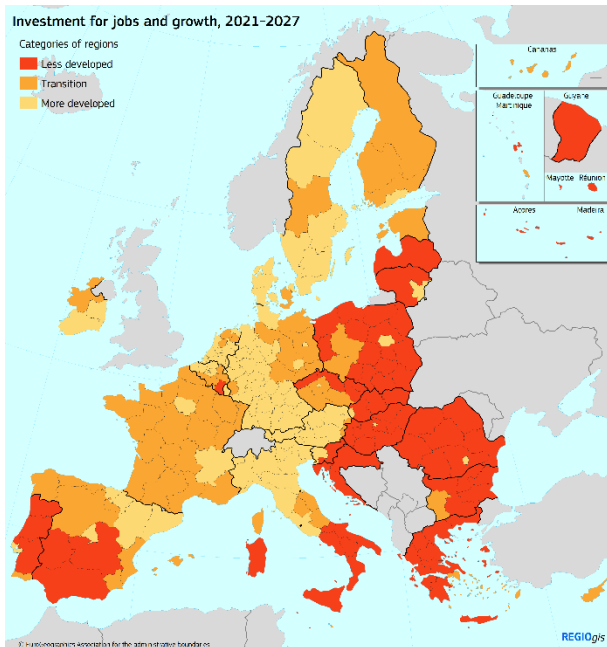
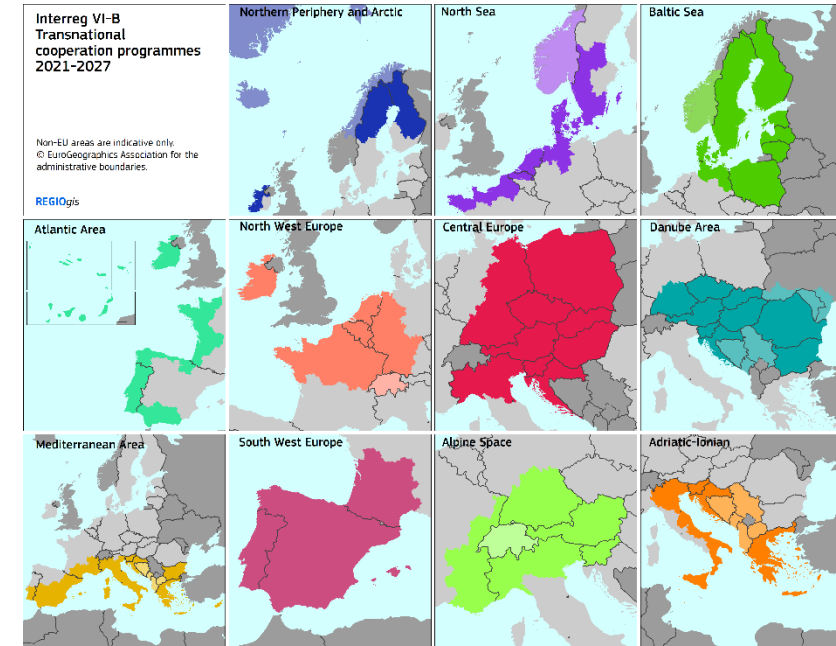
- Geospatial data for EU cohesion policy
- Geospatial data integration needs and challenges
- Data integration: focus on rail and public transport
- Opportunities for future developments

# Cohesion policy objectives 2021-2027

- 1) A **more competitive** and **smarter** Europe: innovative and smart economic transformation and regional ICT connectivity
  - 2) A **greener, low-carbon** Europe: energy transition, green and blue investment, circular economy, climate change mitigation and adaptation, risk prevention and management, sustainable urban mobility
  - 3) A **more connected** Europe: enhancing mobility
  - 4) A **more social and inclusive** Europe: implementing the European Pillar of Social Rights
  - 5) A Europe **closer to citizens**: sustainable and integrated development of all types of territories and local initiatives
- + **Just Transition Fund** (JTF): addressing the **impacts of the transition** to the EU targets on climate neutrality

# Funds and targeted areas

- ERDF and ESF+ support to all regions
  - Aid intensity according to the level of development of the regions
  - Additional focus on outermost and northern sparsely populated regions
- Cohesion Fund in less developed Member States
- Just Transition Fund in areas impacted by transition to climate neutrality
- Interreg programmes for cross-border and transnational cooperation

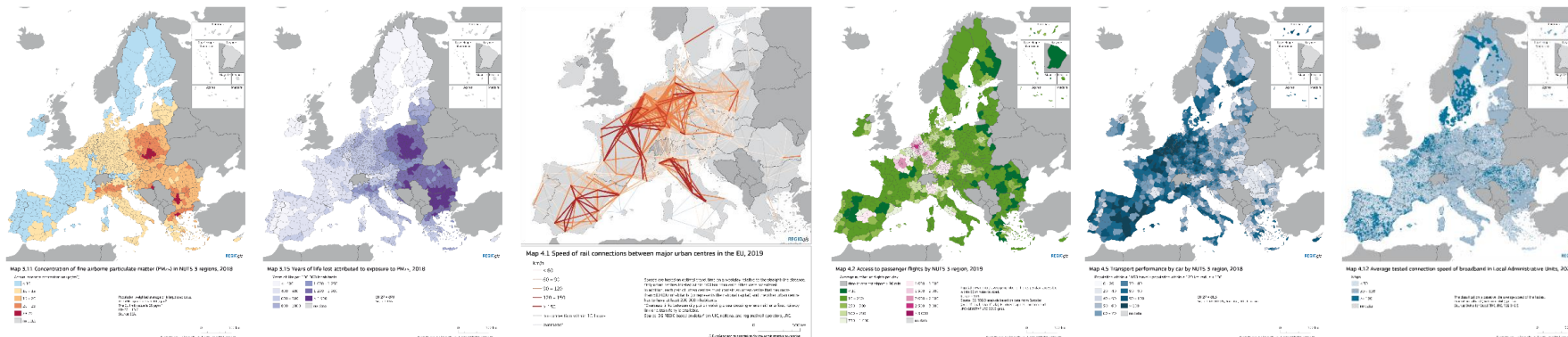


# Key role for territorial statistics and geospatial information

- Policy conception: criteria for eligibility and to determine the distribution of the allocations
  - Mostly regional and territorial statistical indicators
  - Geospatial info (population grid) used for cross-border cooperation areas
- Analysis and reporting: reports on social, economic and territorial cohesion (every three years)
- Maintenance of a quantitative and georeferenced knowledge base to assist policy development, programme monitoring and evaluation

# Themes of intervention closely linked to geospatial information

- Among programmed cohesion policy allocations for the 2021-2027 period:
  - Approx. EUR 90 bn for projects related to **climate** action
  - Approx. EUR 13 bn for **education** and **healthcare** infrastructure
  - Approx. EUR 18 bn for **road** infrastructure
  - Approx. EUR 20 bn for **rail** infrastructure
- Analysis and reporting in the Cohesion Report
  - Geospatial data underpinning in particular the chapters on a greener, low-carbon Europe and on a more connected Europe



# Thematic areas of data integration needs (1)

- Land use / land cover and related statistics, in particular in urban areas
  - Use the same territorial concepts for statistics production and (Copernicus) data derived from remote sensing
  - Use the same reference years and coordinate production cycles
- Environmental reporting
  - Urban wastewater, industrial emissions, air quality, noise,...
  - Ensure the use of well-defined territorial concepts (agglomerations, industrial facilities,...)
  - Establish links to (national) geocoded business registers

# Thematic areas of data integration needs (2)

- Climate change
  - Assessing territorial impact requires data collection and integration from a wide range of data providers
  - Many data on energy, transport or greenhouse gas emissions usually reported at national scale only, hence the need for spatial proxy data (population, land cover, land use) to downscale national statistics
- Public services (e.g. education, health care)
  - Harmonise location data collection (using persistent unique identifiers)
  - Link location to thematic characteristics of facilities



# Thematic areas of data integration: focus on rail (and public transport) (1)

- Several existing European data flows that can – in principle – be used for EU-wide analysis of rail infrastructure, services and performance
  - Eurostat: trains by network segment – ad-hoc definition and identifiers of segments
  - Geodata representing the network: authoritative (EuroGeographics) and voluntary geographic information (OSM) – not necessarily routable
  - Timetables (+ associated locations): Multimodal Transport Information Services (MMTIS) Delegated Regulation – challenge of openness of data
  - DG REGIO – International Transport Forum (ITF) indicator framework assessing passenger rail performance: combining station locations, timetables, road network and gridded population data

# Thematic areas of data integration: focus on rail (and public transport) (2)

- European Agency for Railways (ERA)
  - Manager of the RINF (Register of Infrastructure): wide range of technical characteristics of the network, based on geolocated operational points, connected by means of sections of line
  - RINF exploited as linked data
  - Challenge of ensuring data quality and regularity of reporting by national data providers
  - Promising efforts to extend the knowledge graph including links to georeferenced network layout
- Currently still substantial effort needed by the data users to integrate data on different aspects of the rail and public transport ecosystem

# Opportunities for future developments

- Regular production of harmonised core data, suitable for multiple purposes:
  - Population grid, CLC+, imperviousness
- Aim towards more open data (e.g. MMTIS national access points data)
  - Benefiting not only EU-wide analysis, but also use by the wider public (via apps developments)
- Extend linked data
- Identify concrete integration issues where targeted cooperation between data providers can streamline data flows, leading to reduced effort and enhanced useability

# References

- 8th Cohesion Report: [https://ec.europa.eu/regional\\_policy/information-sources/cohesion-report\\_en](https://ec.europa.eu/regional_policy/information-sources/cohesion-report_en)
- Cohesion Open Data Platform: <https://cohesiondata.ec.europa.eu/>
- Technical paper: Redefining passenger rail performance and proximity to stations: [https://ec.europa.eu/regional\\_policy/sources/work/rail-2022/rail-2022-technical.pdf](https://ec.europa.eu/regional_policy/sources/work/rail-2022/rail-2022-technical.pdf)
- Technical paper: Assessing performance of public transport using grid data: [https://ec.europa.eu/regional\\_policy/sources/work/assessing\\_performance\\_of\\_urban\\_public\\_transport\\_using\\_griddata.pdf](https://ec.europa.eu/regional_policy/sources/work/assessing_performance_of_urban_public_transport_using_griddata.pdf)
- Working paper: How fast are rail trips between EU cities and is rail faster than air? (forthcoming – publication expected in Spring 2023 - see: [https://ec.europa.eu/regional\\_policy/information-sources/publications\\_en](https://ec.europa.eu/regional_policy/information-sources/publications_en) )
- Definition and analysis of grid-based towns: [https://ec.europa.eu/regional\\_policy/en/information/maps/urban-centres-towns](https://ec.europa.eu/regional_policy/en/information/maps/urban-centres-towns) (including a forthcoming technical paper – covering aspects of access to services (health care and education))
- ERA Register of Infrastructure: <https://rinf.era.europa.eu/rinf/>
- Copernicus Land Monitoring Service: <https://land.copernicus.eu/>