



## INNOVATIVE SOLUTIONS

**1.1** "SEMIC" is the European Commission initiative to foster the semantic interoperability of interconnected e-Government systems. DCAT Application Profile (DCAT-AP) for data portals in Europe is a specification based on the Data Catalogue Vocabulary (DCAT) developed by W3C. DCAT-AP provides a common specification for describing public sector datasets in Europe to enable the exchange of descriptions of datasets among data portals. DCAT-AP has an extension GeoDCAT-AP for describing geospatial datasets, dataset series and services. Another extension StatDCAT-AP aims to deliver specifications and tools that enhance interoperability between descriptions of statistical data sets within the statistical domain and between statistical data and open data portals.





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**2.1** The INSPIRE reference validator solution is the tool used by EU Member States data providers to validate their resources (metadata, data sets and services) against the requirements set by the INSPIRE Directive. It is also a key tool for INSPIRE coordinators, both at the national and European level, to monitor the progress of INSPIRE implementation, and for software providers to make sure their solutions are aligned with INSPIRE requirements.






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**3.1** The testing framework for spatial data and services(ETF) is an open source testing framework for validating spatial data, metadata and web services in Spatial Data Infrastructures (SDIs). The design of ETF is driven by three goals: be user-friendly, consistent with the standards and capable of testing all resources in an SDI.







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**4.1** The European Union Location Framework (EULF) Blueprint suggests in its recommendation 16 to "Facilitate the use of public administrations' location data by non-governmental actors to stimulate innovation in products and services and enable job creation and growth"





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**5.1** The fragmentation and heterogeneity of licenses is a well-known barrier. This does not help the creation of innovative services or products based on the integration of data from various sources. One of the recommendations issued from a study commissioned by the JRC to support the flourishing of the Digital Single Market is to "Support the creation of a harmonised licensing framework for geospatial data."





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**6.1** The ELISE action "Energy and Location Applications" is being implemented and tested through a series of use cases, involving different stakeholders (public authorities at local and regional level), businesses working in the energy sector and citizens (building owners).





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**7.1** To promote semantic interoperability among European public administrations, the European Commission has developed several e-Government Core Vocabularies. Core Vocabularies are simplified, reusable and extensible data models that capture the fundamental characteristics of a data entity in a context-neutral fashion. The Location Core Vocabulary provides a minimum set of classes and properties for describing a location represented as an address, a geographic name, or a geometry. This specification enables interoperability among land registers and any other ICT based solution exchanging and processing location information.





## INNOVATIVE SOLUTIONS

**10.1** Previous to the ELISE action, under Are3na, a methodology offered guidance on the governance issues related to PIDs when producing INSPIRE data in RDF. This guidance made it possible to publish authoritative spatial data on the Web and be better discoverable by search engines and modern knowledge graphs.







## INNOVATIVE SOLUTIONS

**11.1** Previous to the ISA2 ELISE action, the ISA Are3na, produced a methodology offering guidance on the governance issues related to PIDs when producing INSPIRE data in RDF. This guidance made it possible to publish authoritative spatial data on the Web and be better discoverable by search engines and modern knowledge graphs.





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**12.1** Transformative technologies present both opportunities and risks. Their actual effects largely depend on how technologies are introduced and used. In the case of "AI and automation (AI)" and "Internet of Things (IoT)", for example, positive effects related to AI are reduced human errors, speeding up repetitive tasks, increased efficiency and productivity. In relation to IoT, positive effects are Real-time monitoring, more optimal use of resources and. Negative aspects could be lay-offs, precarisation, social exclusion, algorithmic 'black-boxes', loss of control and decreased transparency, and Invasion of privacy.





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**8.1** The "Control body" is a very important role for the governance of reference codes coming from the "ISO 19135 Standard "Geographic information – Procedures for item registration". It is a technical expert or group of them making decisions on the content of a register. This role complies with the best practice of using "well-defined roles, responsibilities and procedures for register management".





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**9.1** Energy is among the priorities defined in the Commission's New Start for Europe strategy, and energy efficiency plays a significant role in several European Directives and initiatives.



