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Progress of UN-GGIM: Europe Working Group A on Core Data

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UN-GGIM: EUROPE

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Plan

- Introduction
- Core data complementing INSPIRE
  - General approach
  - Theme examples
  - Conclusions
- FAQ
- How you can contribute

Introduction

May 2014 Preparatory Report to UNGGIM Europe

- Authoritative geospatial data are used to
  - support both the implementation of public policies
  - the development of downstream services
- Geospatial data are required to be homogenous
  - **to enable the implementation of public policies in a coherent and coordinated way among countries**
  - opportunities exist if services developed by industry can be exploited without requiring country specific adaptation
- Available geospatial data remain heterogeneous between European countries
  - → Some datasets at European level which may duplicate and be inconsistent with the existing data in use at a national level

→ Therefore it is desirable to intensify the coordination between countries and the European institutions to identify, define, produce and distribute pan-European harmonised geospatial **core data**

Creation of Working Group A on Core Data

- 15 European countries
  - Austria
  - Belgium
  - Finland
  - France (chair)
  - Italy
  - Germany
  - Netherland
  - Greece
  - Poland
  - Spain
  - Sweden
  - Switzerland
  - Turkey
  - UK
- Observers
  - JRC, EEA, EuroSDR

UN-GGIM: Europe Core Data WG «A»

What is Core Data?

- Core data is **priority data**
  - Geospatial data
  - The most useful to analyse, achieve or monitor the SDGs
  - Directly or indirectly

Objectives of the Working Group "A" on European Core Data

- **Define Core Data** and encourage UN European Member States to produce and supply it
  - Common requirements → common (minimum) content
- **Define priorities** for producing new data or for improving existing data
  - Recommendations for Content: meant for decision-makers and data providers

WG A work plan

Recommendations for Content

Core data scope

Recommendations for Content

Economic model, political and financial frameworks for supporting core data availability

The Two Steps of the Working Group "A" on European Core Data

- **First Step**
  - Selecting Core Data Themes

- **Second Step**
  - Defining Content of Core Data Themes

1st Step
List of selected core data themes

Annex I

Coordinate Reference Systems

Geographical Grid Systems

Geographical Names

Administrative Units

Addresses

Cadastral Parcels

Transport Networks

Hydrography

Protected Sites

Annex II

Elevation

Land Cover

OrthoImagery

Geology

Annex III

Statistical units

Buildings

Soil

Land use

Human health and safety

Utility and governmental services

Environmental monitoring facilities

Production and industrial facilities

Agricultural and aquaculture facilities

Population distribution - demography

Area management/restriction/regulation

Natural risk zones

Atmospheric conditions

Meteorological geographical features

Oceanographic geographical features

Sea regions

Bio-geographical regions

Habitats and biotopes

Species distribution

Energy resources

Mineral resources

To know more

– INSPIRE KEN Webinar about UN-GGIM on December 2016:

https://eurogeographics.org/knowledge-exchange/inspire-ken/inspire-meetings-events/

- UN-GGIM: Europe Website (to find WG Core data deliverables)

http://un-ggim-europe.org/content/wg-a-core-data

Core data complementing INSPIRE

General approach

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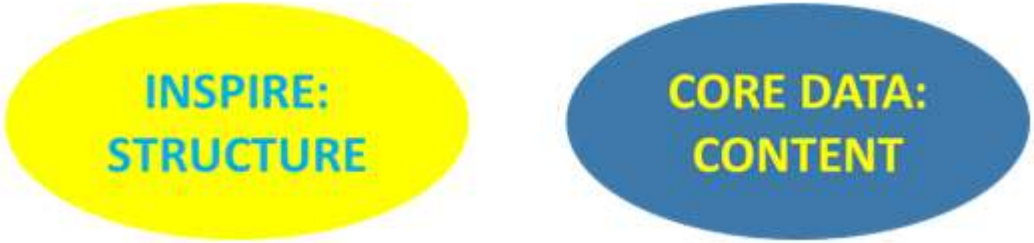
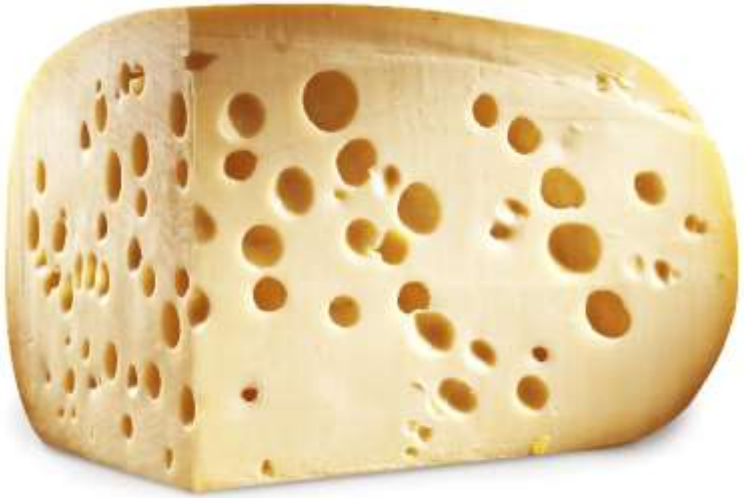
How is core data complementing INSPIRE?

- INSPIRE is about **harmonisation of existing data**
  - Common (exchange) model
  - Still heterogeneous content (no scale, voidable attributes)
- Core data is about encouraging **production of new data** (or upgrade of existing data)



Comparison with INSPIRE



The INSPIRE big cheese
with lots of holes

Users begin to complain:
not so much to eat!

The core data cheese:
smaller but compact
and really filled

Comparison INSPIRE / Core Data

	INSPIRE	UN-GGIM: Europe WG core data
Driver	European Commission (DG ENV, JRC, Eurostat, EEA)	United Nations (UN-GGIM: Europe Executive Committee)
Geographic scope	European Union **Political Europe**	**Geographical Europe**
Universe of Discourse	Policies and activities that may have impact on the **Environment**	**Sustainable Development** (environment, economy, society)
Main topic	**Data delivery**	**Data production**
Status	European Directive **Legal obligation for MS**	UN Recommendation **Encouragement to MS**

Objectives of core data WG

- Work out 'Recommendations for Content' for the selected themes
- Based on
  - Existing standards: mainly INSPIRE
  - User requirements with focus on SDG related use cases

Methodology for core data WG

- Features and attributes
  - Core data is about **minimum content**

    → in general, we have less than INSPIRE

    → extract priority information from INSPIRE data models
  - Core data has wider Universe of Discourse than INSPIRE
    - INSPIRE about environment, core data about SDG
    - We may have more than INSPIRE → add missing elements

Methodology for core data WG

- Other content components
  - Hardly nothing in INSPIRE
  - Core data is adding quality recommendations
    - Geographic extent
    - Level of detail, scales
    - Quality criteria (accuracy, completeness, …)
    - Data capture rules

Principles of core data recommendations

- 3 types of recommendations:
  - **Core recommendation**: highly required, achievable => ideally, short term action
  - Good practice: bring added value to core data => to be encouraged
  - *Further considerations: data for innovative applications => long term*

Principles of establishing core data recommendations

- An iterative process:
  - Preparation phase (investigation, discussions, …)

    → initial draft
  - Review by WG A on core data

    → consolidated draft
  - Review by whole geo-statistic community

    → definitive deliverable

First results

- Different focus & added value according to INSPIRE themes:
  - "well-defined themes" : CP, AD, AU, …
    - Mainly quality criteria
  - "rich themes" with lots of features of attributes : TN, HY
    - Mainly extracting core information
  - "empty themes": EL, OI, LC
    - Levels of detail
    - Content (DTM+DSM or just DTM, infra-red or just RGB, …)

Theme	Analysis	Decision Making					Draft Deliverable		Consolidated Deliverable *WG A Review*		Definitive Deliverable *General review*	
AD												
AU												
CP												
GN												
HY												
TN												
EL												
OI												
LC												
SU												
BU												
LU												
US												
AM												

Core data complementing INSPIRE

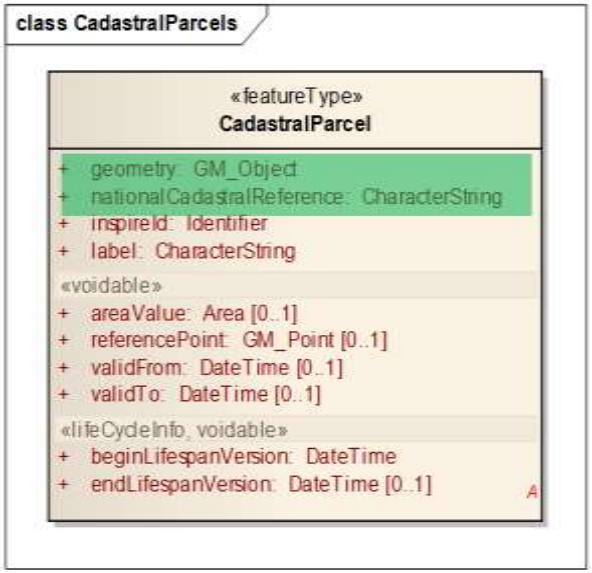
Theme examples

Examples

- Case 1: restricting INSPIRE data model (CP)
- Case 2: extending INSPIRE data model (GN)
- Case 3: adapting INSPIRE data model (Basic Services)

Case 1: Cadastral Parcels

- Extracting priority features and attributes from INSPIRE data model



Case 1: Cadastral Parcels

- Other content components – Adding quality recommendations:
  - Encourage cadastral parcels forming a partition of territory
    - Geographic extent: whole (land) territory
      - Cadastration of public domain encouraged
    - Completeness
    - Good topology (no gaps or overlaps)
    - Cadastral parcels as single areas
  - Encouraging efficient link with land registry
    - Temporal consistency between cadastral map and land registry

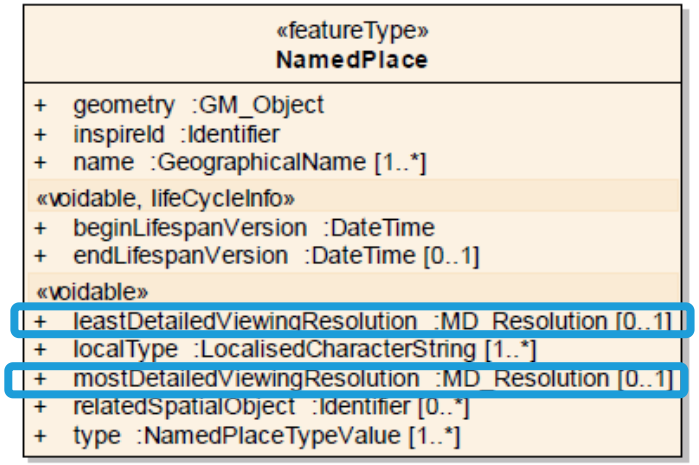
Case 2: Geographical Names

- Extending INSPIRE data model
  - More detailed classification of named places
    - Use of EGN code list
    - Or national code list matchable with EGN one
  - Objective criteria for selection of named places (e.g. for mapping)
    - Population (for named places)
    - Area (by representing named place with true geometry not just by a point)
      - Document the reliability of "true" geometry

Core data models are just illustrations (not resources)

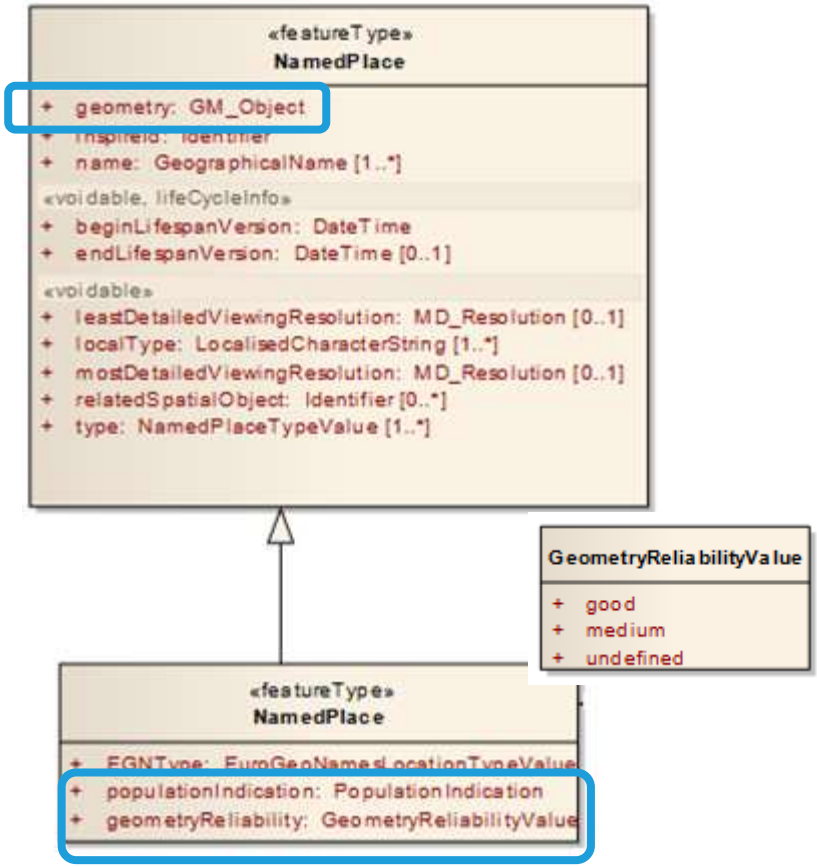
Case 2: Geographical Names

INSPIRE



Interpreted selection criteria in INSPIRE.

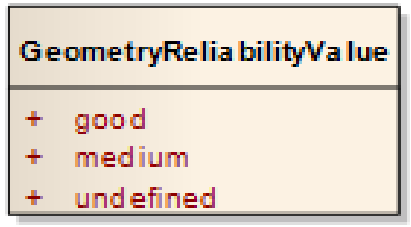
Core data



Objective selection criteria encouraged for core data

Case 2: Geographical Names

- Geometry reliability



Good

Medium

Undefined

Case 2: Geographical Names

- Other content components - Adding quality recommendations
  - Production driven: scope limited to named places not in other themes
    - Populated places
    - landform, land cover
    - …
  - Different quality rules for endonyms and exonyms.

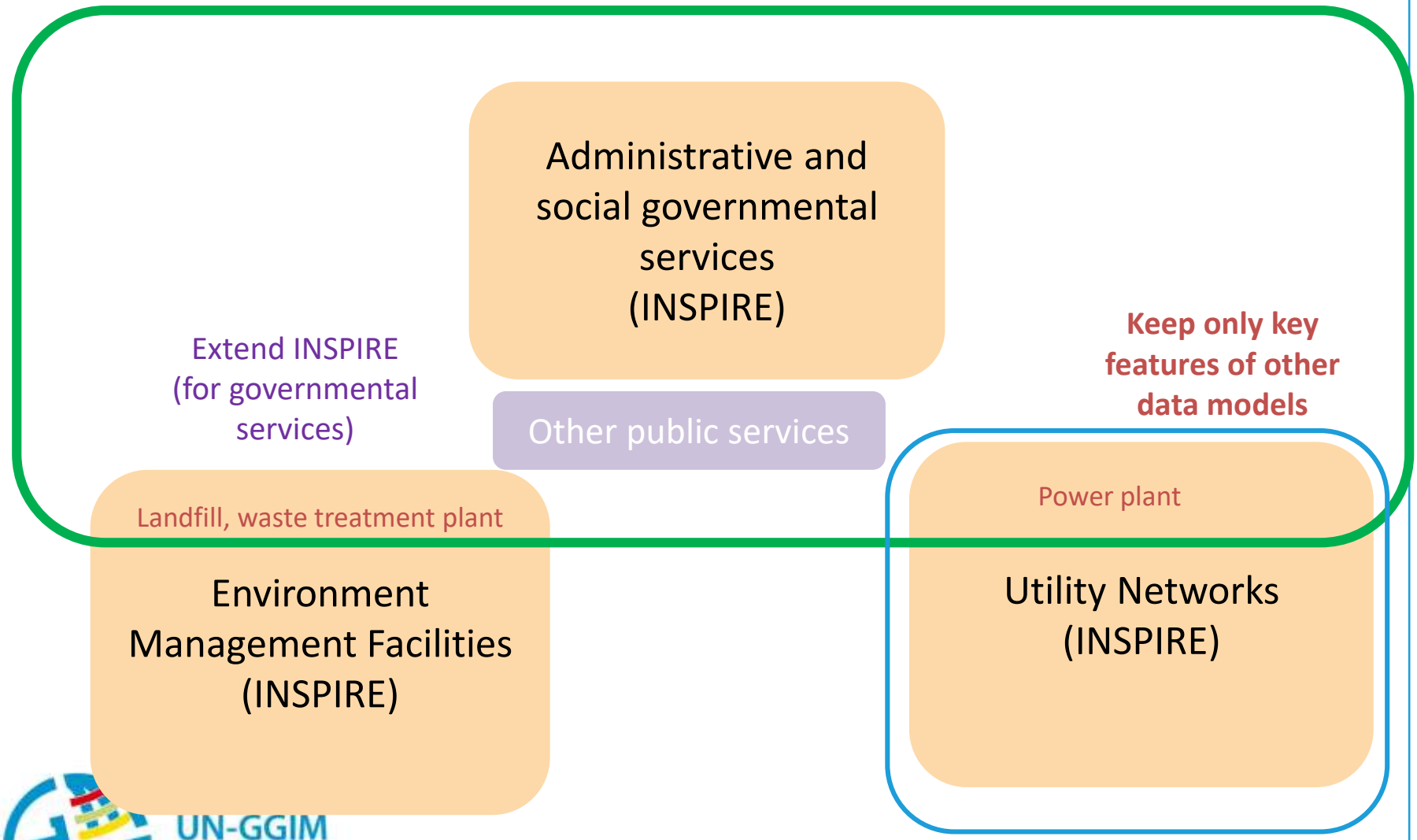
Case 3: Basic Services

- Context
  - INSPIRE theme US was selected as last one among core data themes
  - At least, sub-theme "Governmental Services" was very useful and feasible
  - Many SDG mention "access to basic services"

Scope of theme US was strongly revised

Core theme was renamed « Basic services »

Case 3 : Basic Units



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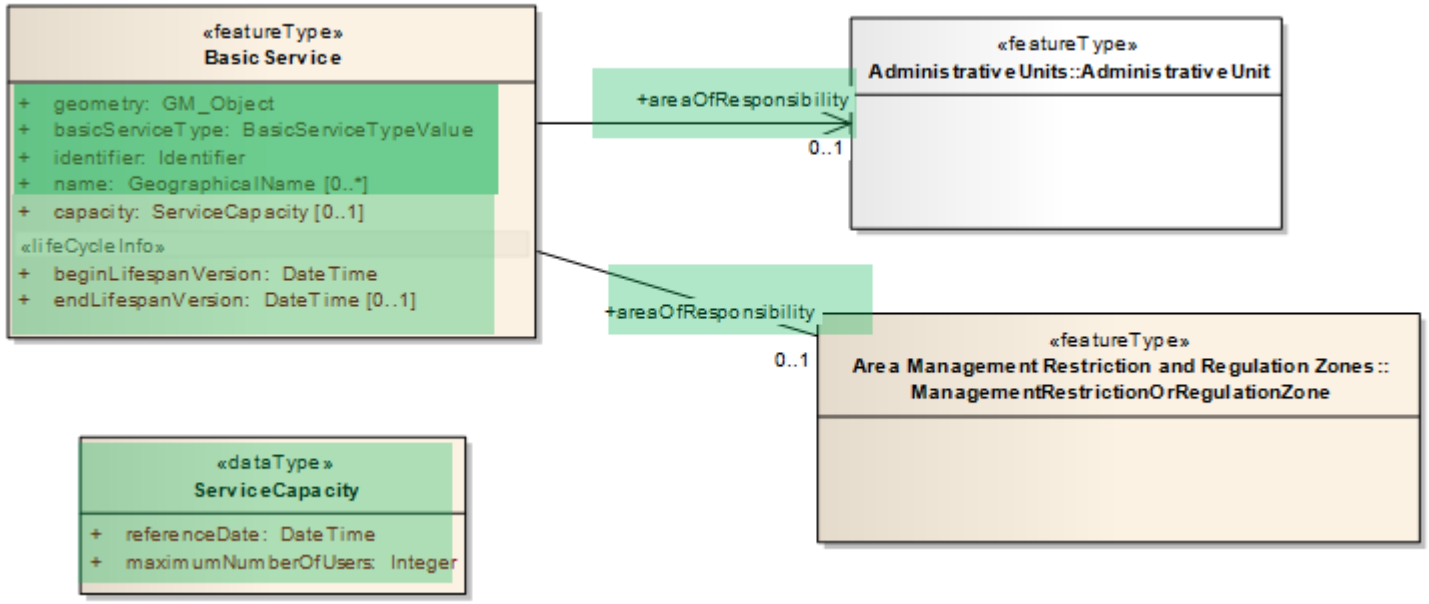
Considerations for future?

Case 3 : Basic Units

- Modifying INSPIRE data model
  - **Specific core data model**
    - Widely based on US GovernmentalServices
    - Rationale: different scope, INSPIRE code list not extensible



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Core data complementing INSPIRE

Conclusions

Main differences with INSPIRE

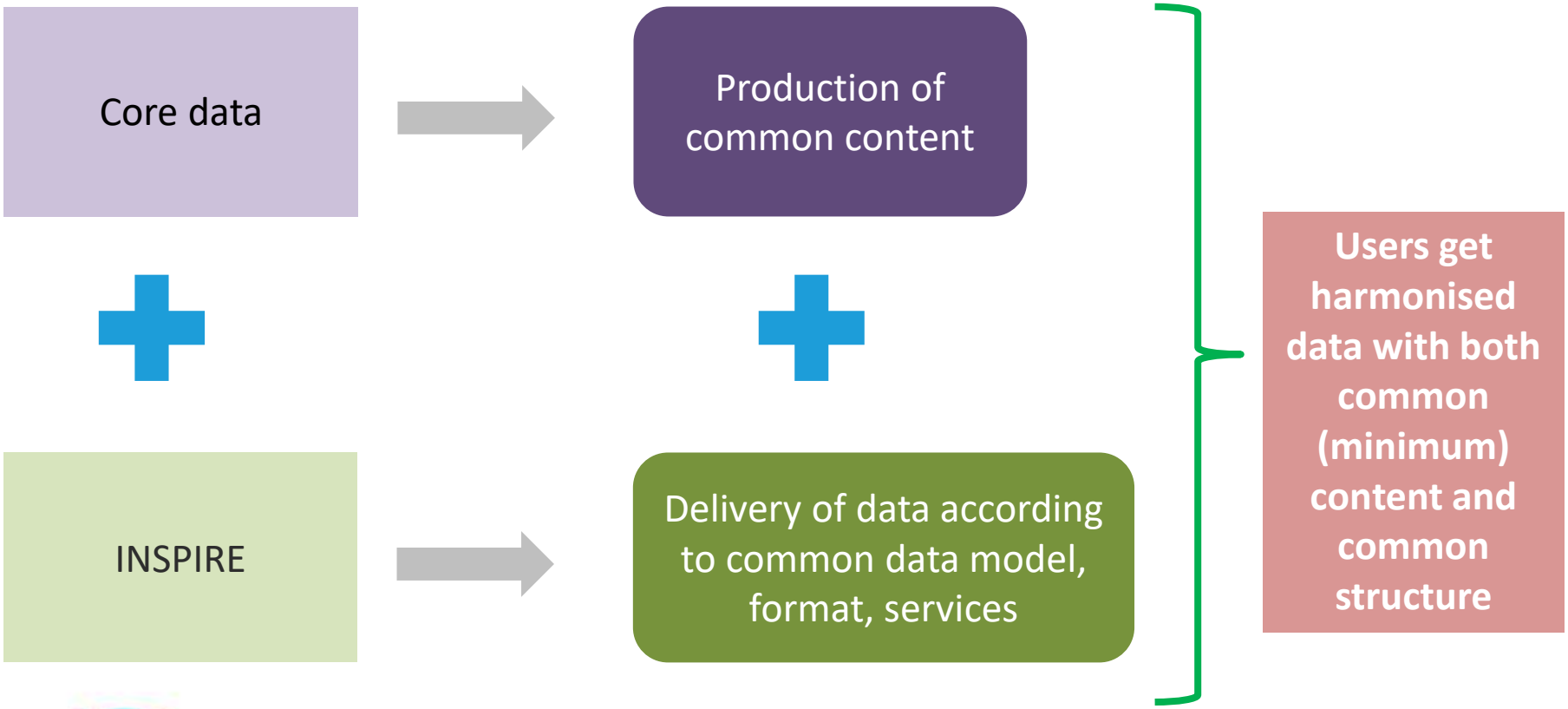
INSPIRE	Core data	Consequences
Harmonise existing data	Define priorities	Selection of core features and attributes => globally, we have less than INSPIRE
Delivery	Production	If necessary, revise scope of each theme => avoid overlaps
For environment	For sustainable development	Some extensions may be required

Core data and INSPIRE: Producer point of view

- Core data "recommendations for content"
  - Widely based on INSPIRE data specifications
  - **Compatible with INSPIRE**
    - Generally, a selection of priority features and attributes
    - If extensions or modifications, **overlapping content is matchable with INSPIRE**

Core data will be easy to transform into INSPIRE data models

Core data and INSPIRE: user point of view



Frequently asked questions

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What is the European Commission position regarding core data?

- JRC and EEA are observers of the WG Core data
- Globally a **big interest about the approach of core data** (e.g. Eurostat)
- Even if some reservation when core data recommendations don't fully align with INSPIRE data specifications (JRC observer)

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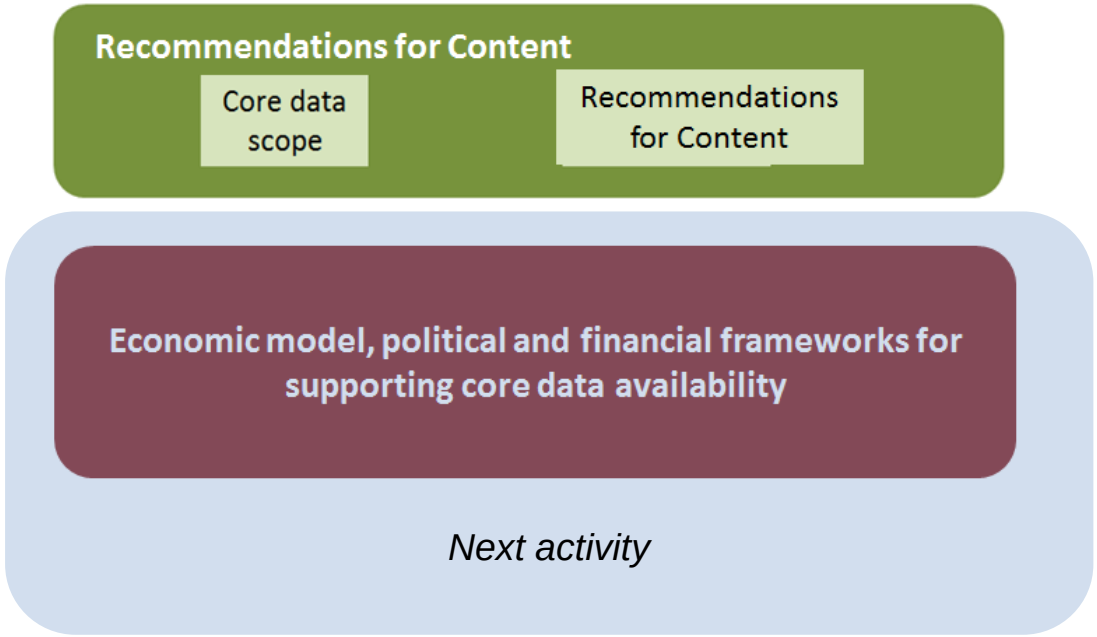
How to ensure production of core data?

- Should be investigated & decided in next activity



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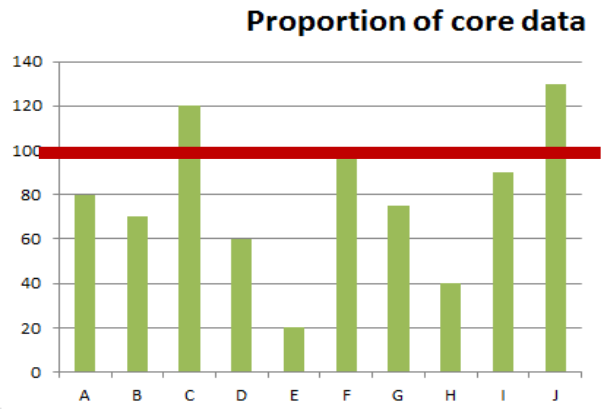
How to ensure production of core data?

- However, some draft answers
  - **Core data is already (partly) available**



- *Core data is (mainly) about enhancing existing data.*
- *Efforts to implement core data will depend on themes and on countries.*
- *Core data is desirable minimum content; some countries may have more or better data.*

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Core data is about filling the (main) gaps.

How to ensure production of core data?

- However, some draft answers (cont.)
  - Good willing of data producers
    - Because of **relevant recommendations**!
    - Pushed by WG A through review process and communication
  - Pushed by users
    - **Interest of statistical community**
  - Potential input to future versions of EuroGeographics **Core Reference Data**
    - First version limited to TN and HY for CLC Backbone
    - Next versions might include more core themes

We support the Core recommendations and Good practices and either they are implemented or are useful to be implemented in the future - Lithuania (Review on CP)

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How to ensure production of core data?

- Expected difficulties to address
  - Core data is about recommendations
    - **No legal obligations**

    → no guarantee it will be implemented everywhere
  - Might be more difficult to promote core data among the **data producers that are not NMCAs**
    - Sea data (GN – EL)
    - Regulated areas
    - …
    - Land Cover – Land use
    - Basic services

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Will we have to set up core data services in addition to the INSPIRE services?

- Core data is expected to be delivered:
  - Through (enhanced) national products
  - Through (enhanced) INSPIRE data
  - Rather than in addition to them

Economic model, political and financial frameworks for supporting core data availability

To be investigated in next activity

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What is the articulation between core data and Global Fundamental data?

- To be discussed after next presentation!

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How you can contribute?

- By **answering the invitations for contributions** of WG A
  - Contribute to the review of Core Data "recommendations for content"
    - Deliverable about "Buildings" just opened to review (till August 2018)
  - Answer questionnaire(s) if any
- By **disseminating awareness about core data activities** within your NMCA and within your national community
- By **promoting the implementation of core data** (once deliverables are definitive)

Thank you for your attention

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