

# Revolution? Evolution!

## LPIS technical support and documentation

Baveno, 23 March, 2015

[www.jrc.ec.europa.eu](http://www.jrc.ec.europa.eu)



Serving society  
Stimulating innovation  
Supporting legislation

## Purpose of the presentation



Or are there any reasons to change?

**If yes**

- Why?
- What ?
- Why now?
- Which extent???

## 50 Reasons Not To Change





European Commission

## Our legacy: targeted, but isolated efforts

DG JRC: technical support related to

- imagery,
- LPIS, OTSC, and GAEC technical aspects (inspections and measurements included)

Communication medium: WikiCAP

- Important, but isolated contributions
- manual updating
- unclear governance rules, but democratic participation
- deficiency in consistency
- lack of transparency
- sequential navigability
- “one size fits all” – presentation regardless the users’ needs





European Commission

Baveno, October 2013

## Problems to be resolved

Several years of LPIS QA guidance that is regularly updated

- Weaknesses of present guidance documentation;
- Lack of accurate notation used in communication;
- Inconsistency of rules . Business rules to feature level metadata records (Act ->Log);
- Maintenance and support issues.



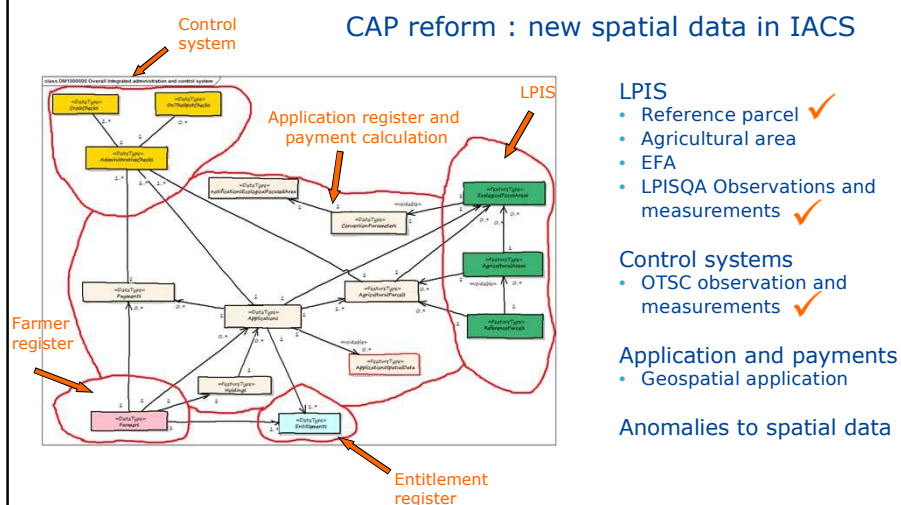


Joint Research Centre

## Reason 1, 2, and 3 for change

- A tool is needed that ensures consistency of the content
- Dissemination channels should satisfy various groups of readers
- Navigability in technical documents should support logical links

## CAP reform : new spatial data in IACS



- LPIS
- Reference parcel ✓
  - Agricultural area
  - EFA
  - LPISQA Observations and measurements ✓

- Control systems
- OTSC observation and measurements ✓

- Application and payments
- Geospatial application

Anomalies to spatial data

✓ Feature types already in use

## Reason 4, 5, and 6 for change

- CAP reform: new feature types needed
- More spatial data in more subsystems of IACS
- Shared components make a system integrated

## Spatial Data Infrastructures





## Reason 7 for change

- For improving the potential for data re-use it is necessary to streamline with the existing geospatial standards and SDI initiatives

10



Baveno, October 2013


# INSPIRE



- Directive 2007/2/EC (INSPIRE) Directive lays down general rules to establish an Infrastructure for Spatial Information in Europe for the purposes of Community environmental policies and policies or activities which may have an impact on the environment
- INSPIRE is built on the SDIs established and operated by the Member States
- Even though there is no obligation for new data collection, it is a strong trigger for the MS to develop national SDIS and share data in interoperable way and according pre-defined conditions




11



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# Collaboration

- What has been already done?
  - Shared technical solutions (standard and model driven approach, notation, data encoding, conformance testing,)
  - Collaboration in overlapping themes (specification development in cadastral parcels, orthoimagery, land cover, land use, agricultural facilities)
- Potential for future
  - Extending INSPIRE core models according to the requirements of IACS
  - Combining data from IACS and INSPIRE in GIS analysis
  - Make use of operational components for
    - Registers for promoting interoperability (Feature concept dictionary, glossary, code lists)
    - Sharing/publishing information (code lists, geoportal)
  - Reuse the element of the INSPIRE Generic Conceptual Framework for documenting LPIS core model



12

## Reason 8 and 9 for change

- Greening is environmental – coherence with INSPIRE
- Reuse technical solutions of INSPIRE (comprising data model elements and specification methodology of INSPIRE (both for LCM and eligibility profiles)

## Reason 10 for change

LPIS community mature enough for change (skilled in technology – xml, gml, formal conceptual and business models)

## In summary... Change is an opportunity

1. To make the documentation consistent
2. To serve users/readers better
3. To add value to the documentation with full navigability
4. To specify the new feature types
5. To enable using more spatial data in more subsystems of IACS
6. To reinforce the integration of subsystem in IACS
7. To add value with interoperability/standards
8. To streamline with INSPIRE
9. To spare resources in development/maintenance
10. To benefit of skills and expertise of LPIS community

### ~~50 Reasons Not To Change~~



## Why now?

1. From 2015 operations according to the new CAP regulations
2. Smaller justified changes /corrections have been delayed





## Which extent?

### What was working before stays

- No change in the general workflows
- No impact on deadlines

### Additional content introduced:

- Formal data quality model (both for MTS and ETS) introduced
- Business model with activities for eligibility profile development and MTS introduced

### Minor impact on terminology justified by

- Usage of standard based technical terms
- Eliminating inconsistencies
- Simplification of the application schema (e.g. code lists, simple calculation parameters are not labelled as data quality measures, etc.)

### Major change

- LPIS core model to introduce the new feature types required by the regulations and guidance documents of DG AGRI

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17



## How?

Holistic approach: instead of targeted (and sometimes isolated) instructions/guidance

- Inputs/outputs are received/disseminated in standard ways
- Technical solutions are maintained in one place
- Structure and main content of documentation is automatically generated
- Additional information and illustrations can be added to this structure

We need a tool



Model driven specification development and documentation

- CAP overview model with all the subsystem
- Each subsystem may contain requirement, conceptual and business models
- Only LPIS package is specified in details, the rest of the packages are placeholders

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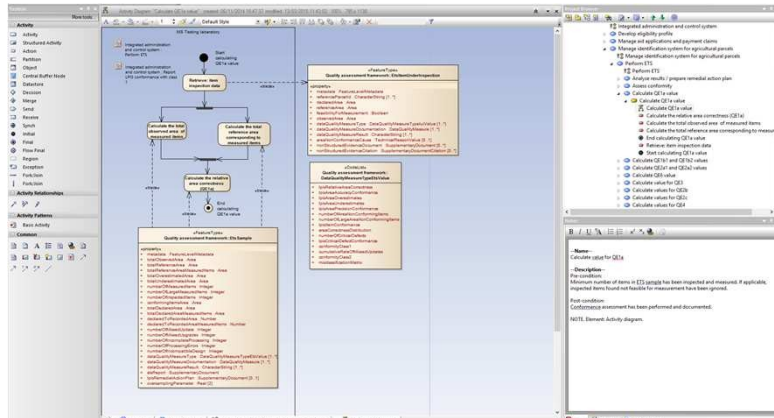
- [illegible]

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## Native file in CSL

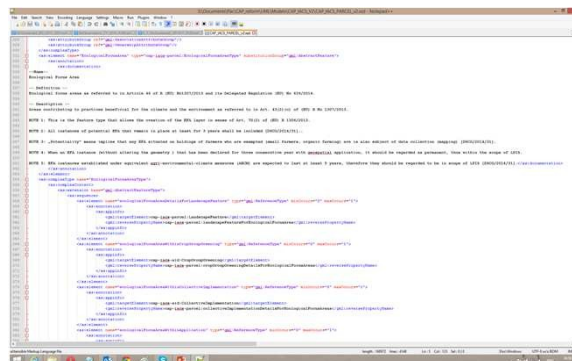
- Special software and knowledge of UML is needed
- Useful for developers (e.g. for developing the eligibility profile, software)
- Full navigation and complete specification with documentation accessible



23

## .xsd export files

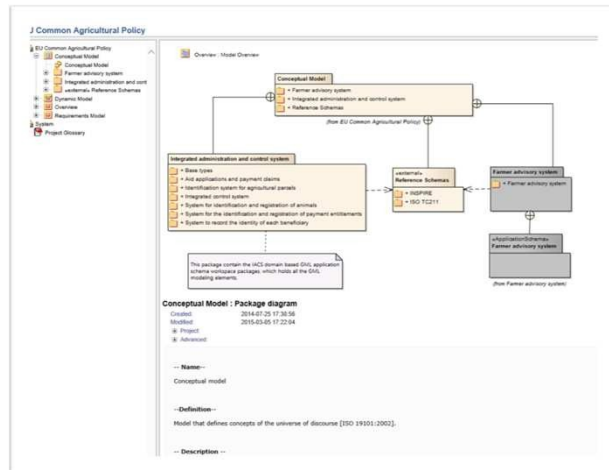
- Platform independent, but CSL tool is needed
- Machine readable (not targeted for human reading)
- Useful for developers (e.g. for developing the eligibility profile, software)
- Complete specification and documentation accessible



24

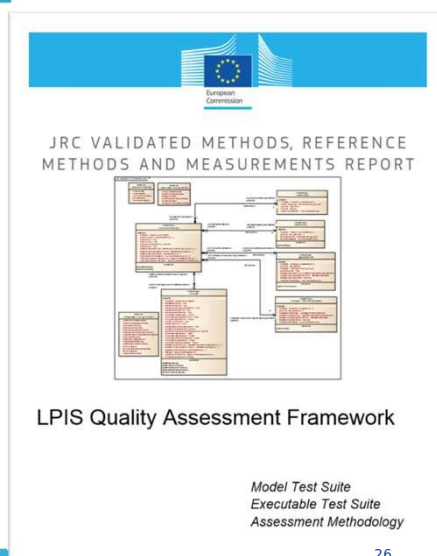
## html view

- Platform independent
- Knowledge of UML is advantage
- Target audience: LPIS domain experts
- Full navigation functionality
- Complete specification and documentation accessible



## Text documents

- Series of documents:
  - LPIS Quality assessment framework
  - LPIS Core Model and Eligibility Profile Development
  - LPIS upkeep
- Official versions, issued as "Technical guidelines"
- Version control with time stamp
- Additional chapters: introduction and executive summaries
- Knowledge of UML is advantage but is not a must
- Target audience: LPIS domain experts
- No navigation (some links are inserted)
- Complete specification and documentation



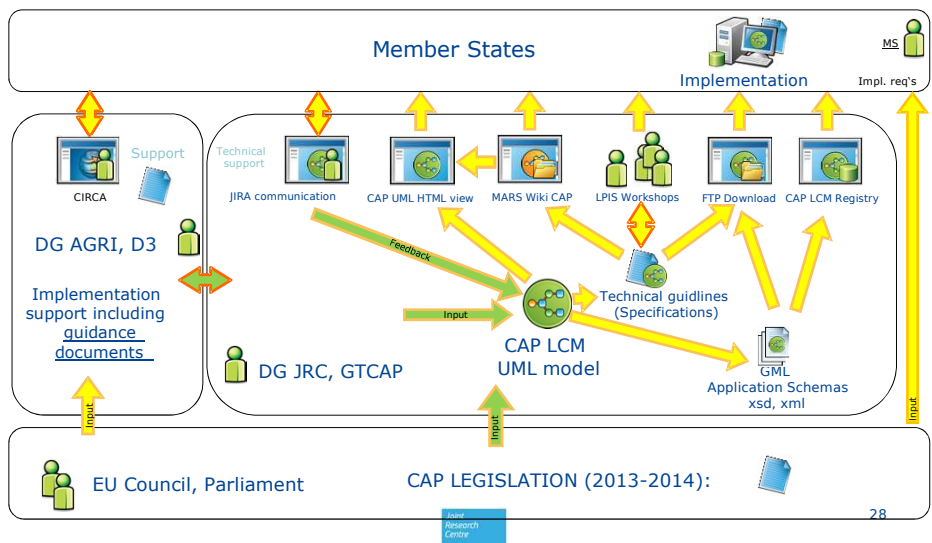
## Model driven documentation (2)

### WikiCAP

- Role of generic container with Table of content
- Generic support material
  - Introduction to UML notation, glossary
  - Links to generic background materials
  - Procedures for revision requests
- Subject-oriented sections
  - Pointers to model driven documentation
  - Practical examples (imagery, interpretation, measurement and processing help)
  - Forum (question and answers)

Insert picture

## LPIS Architecture



## Next steps

- Transparent revision and improvements (15 May 2015)  
Jira
- Generation of the xml/gml schemas needed for data exchange in LPIS QA 2015 (1 June 2015)
- Testing (30 July 2015)
- Improvements
- Operational application (1 September 2015)
- Continuous support

30 March 2015

29

Thank you!

