

LCM and MTS v2.0

Baveno, March 23-25, 2015

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OUTLINE

OUTLINE

- 🔍 LPIS Core Model as container of EU requirements with legal implementation options...
- 🔍 Eligibility Profile as container of local requirements and local choices...
- 🔍 Principles and examples of eligibility profile development...
- 🔍 Conformance Testing eligibility profile vs. LCM, MBT, MTS...
- 🔍 Information Sharing xsd, xml, Registry...



Light bulb icon
the light bulb icon means that topic will be
extensively discussed during training day.

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DEVELOPMENT METHODOLOGY

Requirement analysis In this phase users' requirements are studied and analysed in order to clarify what business processes the information system has to support.

Development of high level use-cases This phase helped to clarify how the users intend to interact with the system and what are the pre- and post-conditions of these actions.

Development of the first cut application schema This step outlines an initial conceptual data model according to the rules of the chosen and verified reference model.


"As-is" and gap analysis This phase is a kind of reality check, where the proposed application schema is confronted with existing technical solutions and data flows.

Schema refinement Continuous revisions should accompany the full life-cycle of the model. Each major review results in releasing a new version of the model.


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STRUCTURE



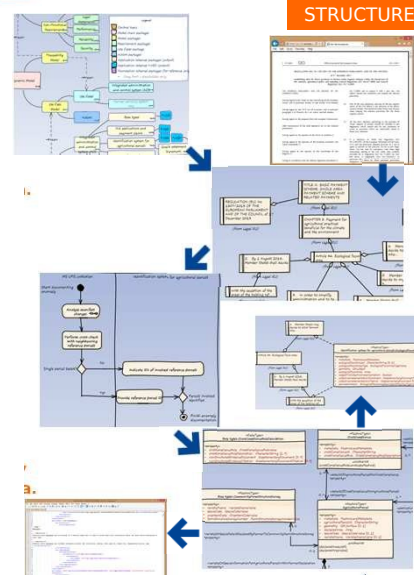
MODEL STRUCTURE

Overview model In order to understand the structure of the model a high level overview is given.

Requirement model The requirement model contains all the statements of the legal text that represent a functional or a non-functional requirement.

Dynamic model The dynamic model contains the actors and high level use-cases further detailed by sub-use-cases, activity, or sequence diagrams.


Conceptual model Application schemas are conceptual data model that can be used by one or more applications (software implementations). They deal with the semantics and the structure of the data.




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TG<-UML>-> GML>-> XSD



DYNAMIC

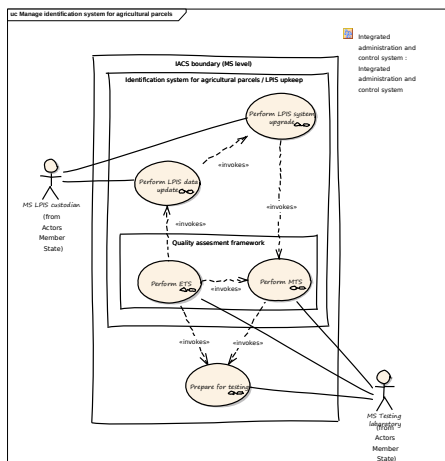


DYNAMIC MODEL

Model this model, called LPIS Core Model (LCM), contains the main concepts needed for evaluating conformity.

Test suites both Model Test Suit (MTS) and the Executive Test Suit (ETS) have been documented in text and UML (Unified Modelling Language).


Technical guidance the UML models were introduced to document different processes, such as LPIS update and upkeep.




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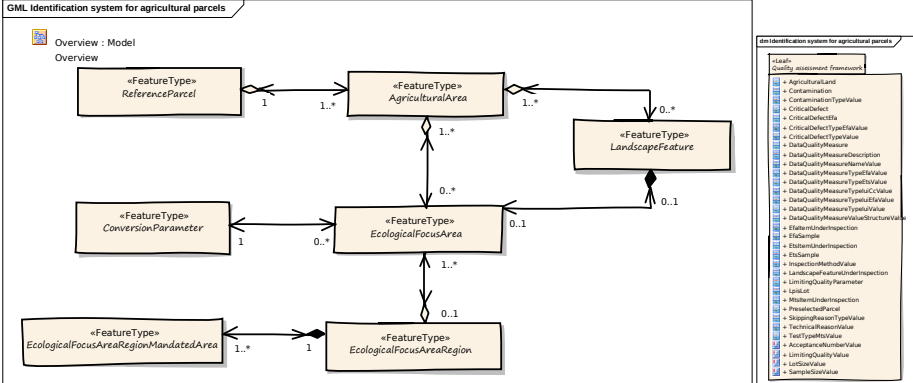


CONCEPTUAL



LCM CORE CLASSES

Overview : Model




Most of all ISO TC 211 (geographic information) standards and the application schemas developed in frame of INSPIRE have been used. As for notation, the GML profile of UML has been selected.


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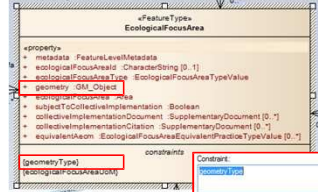


EP EXAMPLE

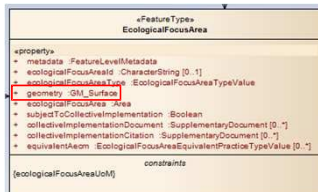


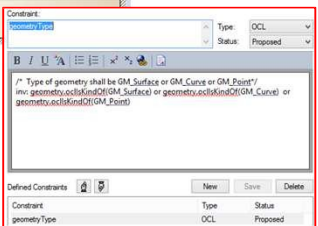
ELIGIBILITY PROFILE

CORE MODEL surface, curve, point

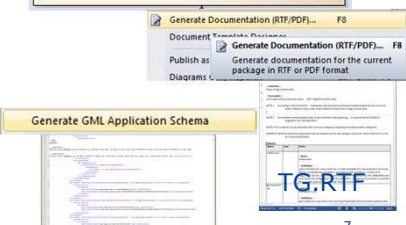


MS DECISION e.g. surface only







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* .XSD, * .XML



EP



ELIGIBILITY PROFILE

Develop EP Analysis of the relevant regulatory texts (EU, MS, Region) to extract technical requirements valid for the geographic scope of the system.

-- Name --
Develop eligibility profile

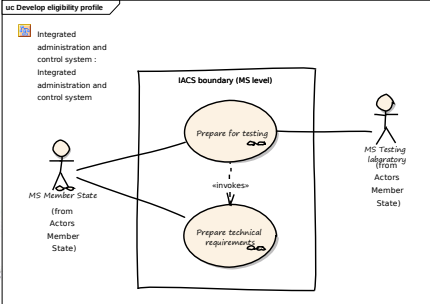
-- Definition --
Analysis of the relevant regulatory texts (EU, MS, Region) to extract technical requirements valid for the geographic scope of the system.

-- Description --
In course of analysis the text is decomposed to statements (elementary logical units). For each statement it should be determined whether it contains a technical requirement. In consequent steps the identified requirements are processed.

NOTE. This is a high level use case valid for any sub-systems of IACS. However, at the moment it is applied to LPIS only.

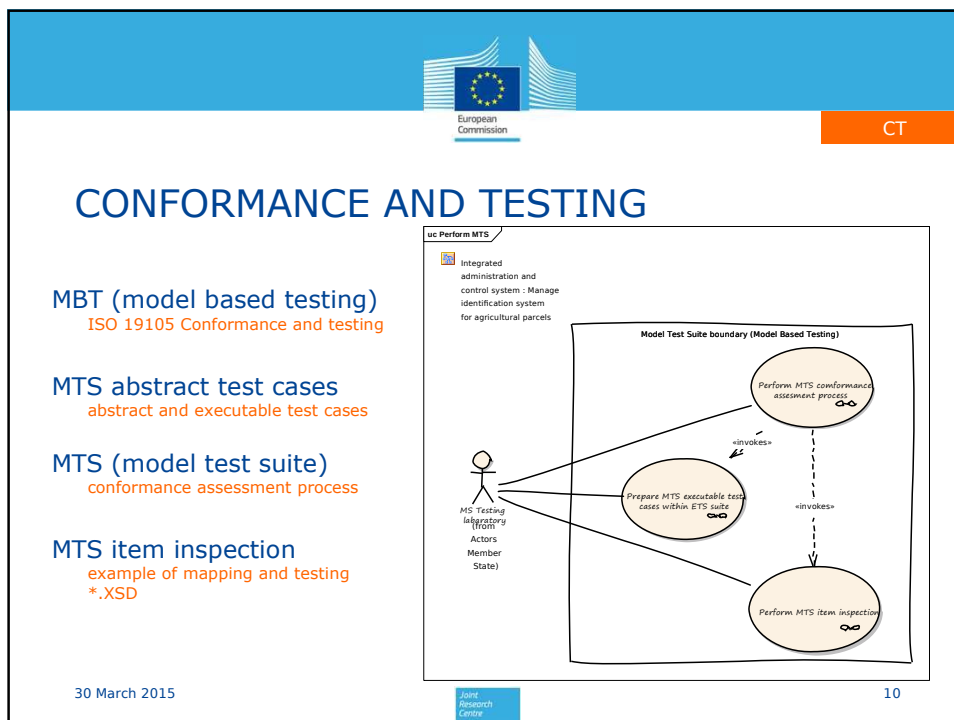
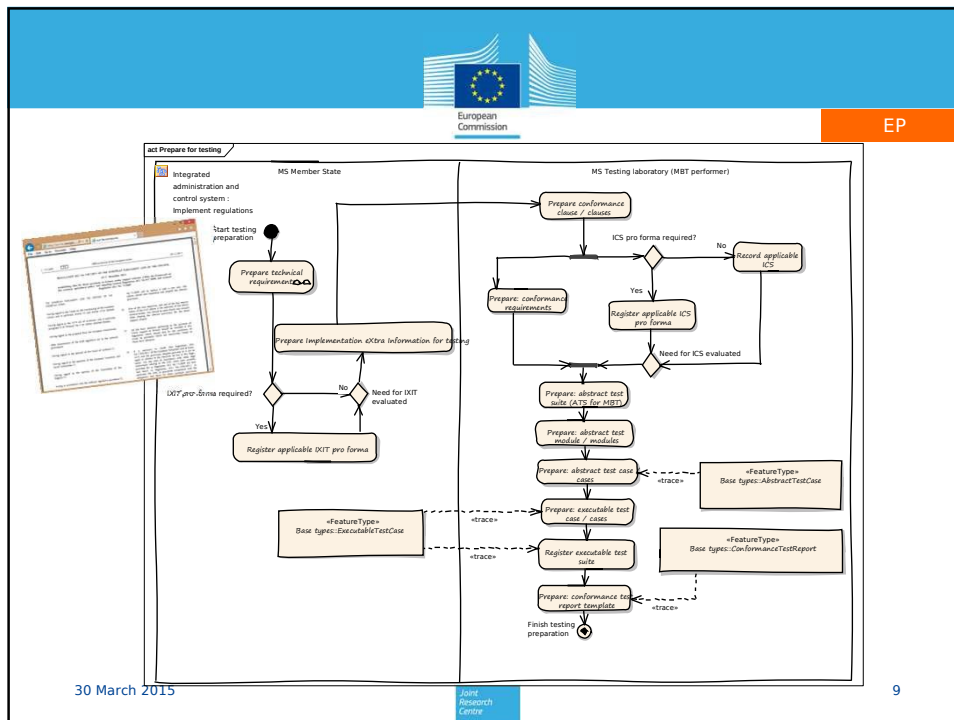
NOTE. Element: Use Case diagram.

uc Develop eligibility profile

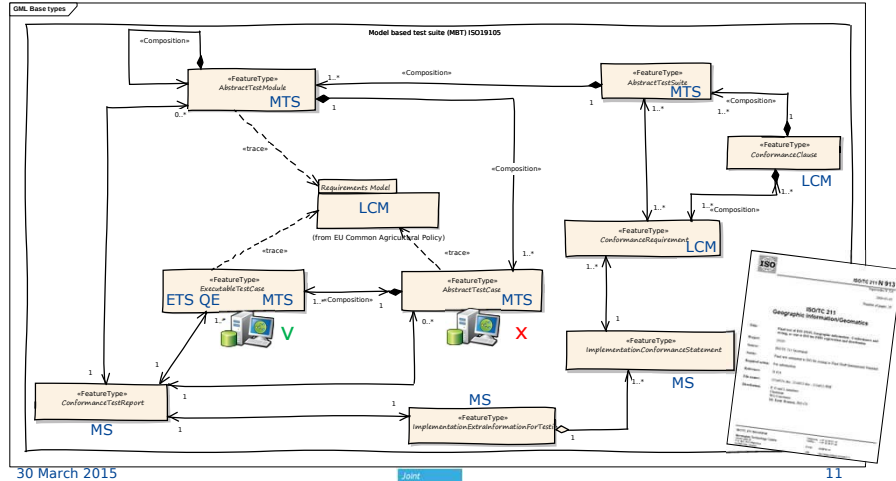


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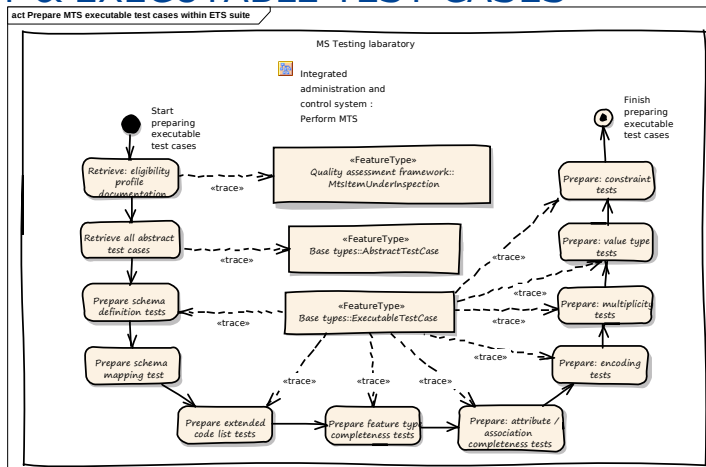
CONFORMANCE AND TESTING

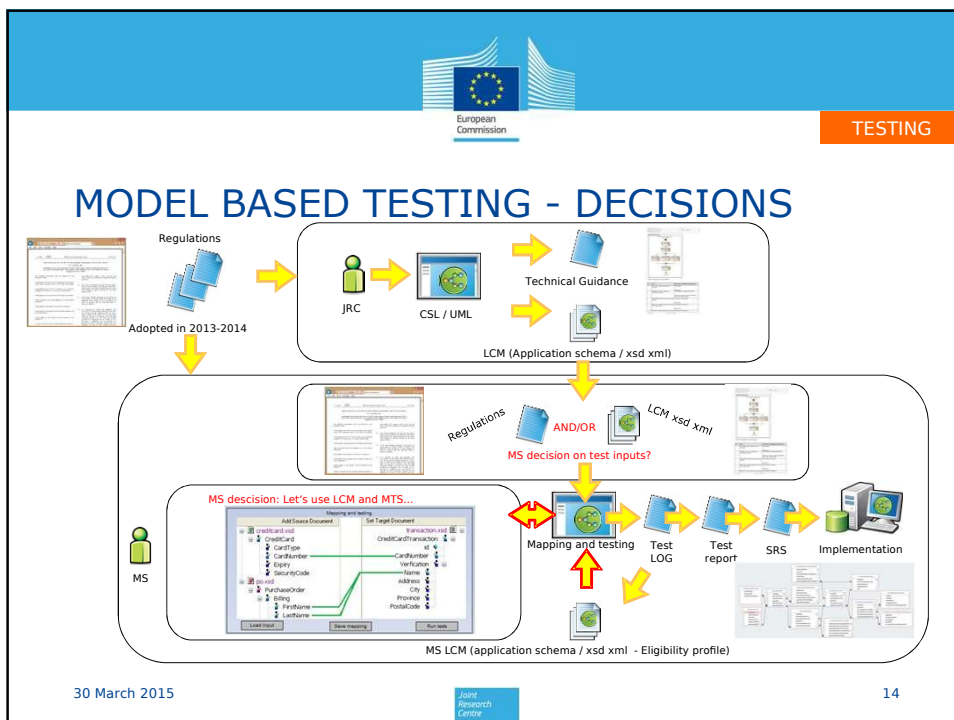
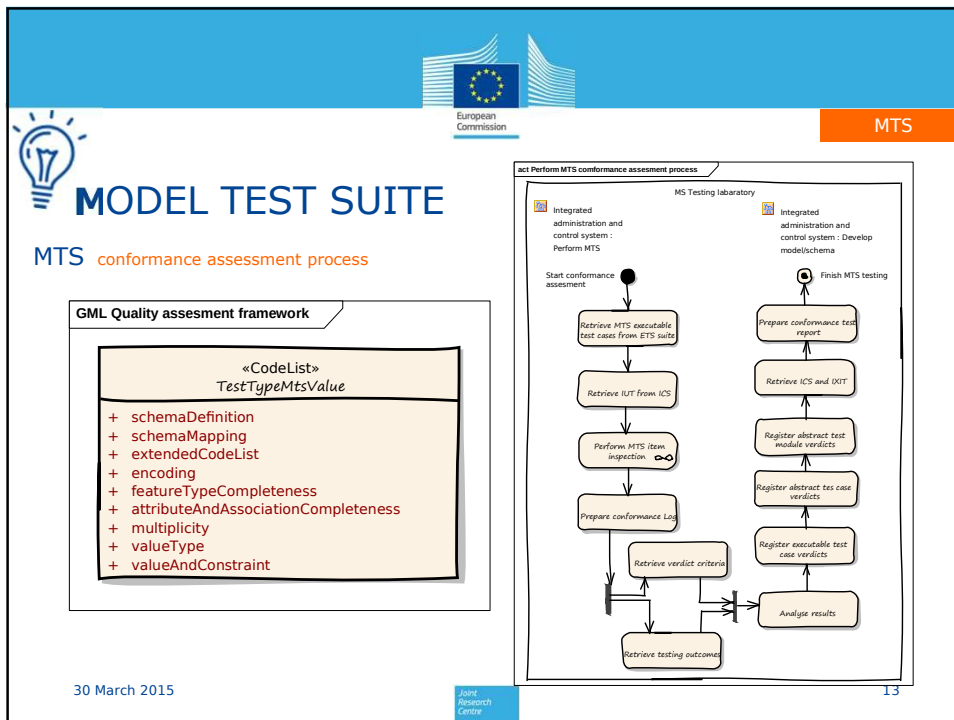



ABSTRACT & EXECUTABLE TEST CASES

BASIS GML...

- GML
 - ApplicationSchema
 - Leaf
 - FeatureType
 - Type
 - DataType
 - CodeList
 - Union
 - Enumeration
 - Property
- Relationships
 - Generalization
 - Association
 - Aggregation
 - Composition
 - Property









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TESTING




MODEL BASED TESTING MESSAGES

MTS outputs:

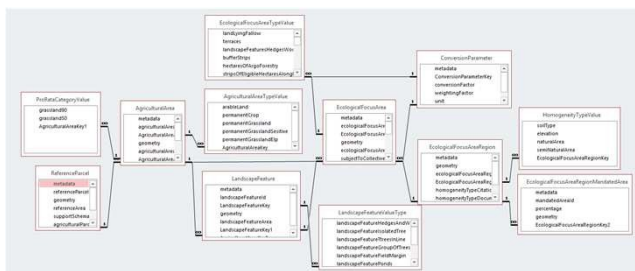
 **TESTING REPORT of conformance testing**

.... Overall testing report:

Application schema: (FAIL/PASS)
 Leaf: (FAIL/PASS)
 Feature type: (FAIL/PASS)
 Type: (FAIL/PASS)
 Data type: (FAIL/PASS)
 CodeList: (FAIL/PASS)
 Union: (FAIL/PASS)
 Enumeration: (FAIL/PASS)
 Property (classes): (FAIL/PASS)
 Relationships: (FAIL/PASS)
 Generalization: (FAIL/PASS)
 Association: (FAIL/PASS)
 Aggregation: (FAIL/PASS)
 Composition: (FAIL/PASS)
 Property (Relationships): (FAIL/PASS)

 **LOG of conformance assessment**


FAIL: The source element (x) do not have corresponding target element.
 FAIL: The type of target element (x) do not match the type of source element (x).
 FAIL: The target element (x) do not have documentation.
 FAIL: The multiplicity of target element (x) do not match the multiplicity of source element (x).



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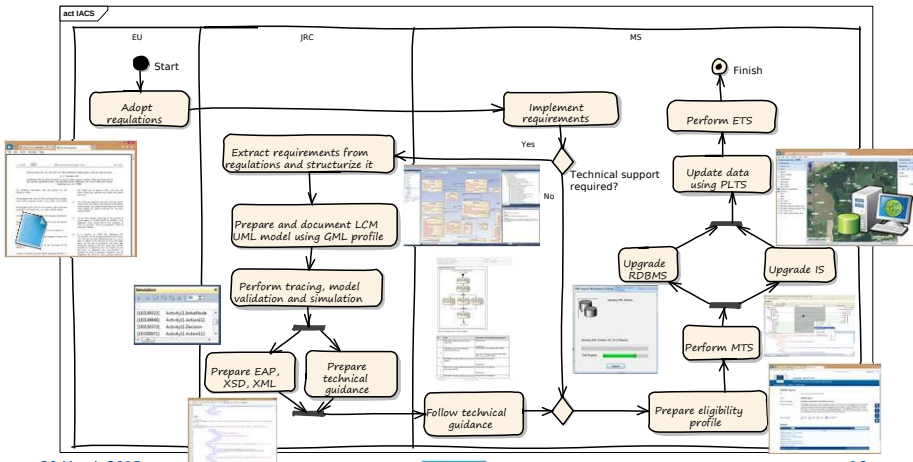
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VISION


INFORMATION SHARING



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RESOURCES

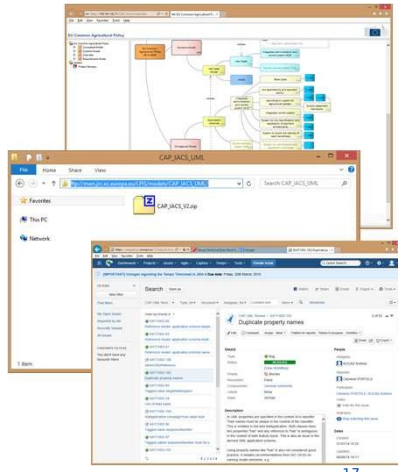


INFORMATION SHARING


 **Preview UML model:**
http://139.191.142.71/CAP_IACS/index.htm

 **Download UML model from:**
ftp://mars.jrc.ec.europa.eu/LPIS/models/CAP_IACS_UML/CAP_IACS_v2.zip

 **Register your feedback here:**
<https://webgate.ec.europa.eu/CITnet/jira/browse/CAPUML/?selectedTab=com.atlassian.jira.projects-plugin:summary-panel>



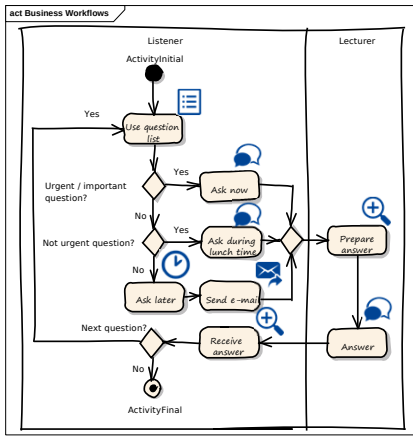
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QUESTIONS



➔



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Thank you!

