

# Standardization Issues Methods and Tools to insure Interoperability

ADDRESS WP4 Task 4.4

CIMUg - Milan, June 16<sup>th</sup> 2010

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# Communication

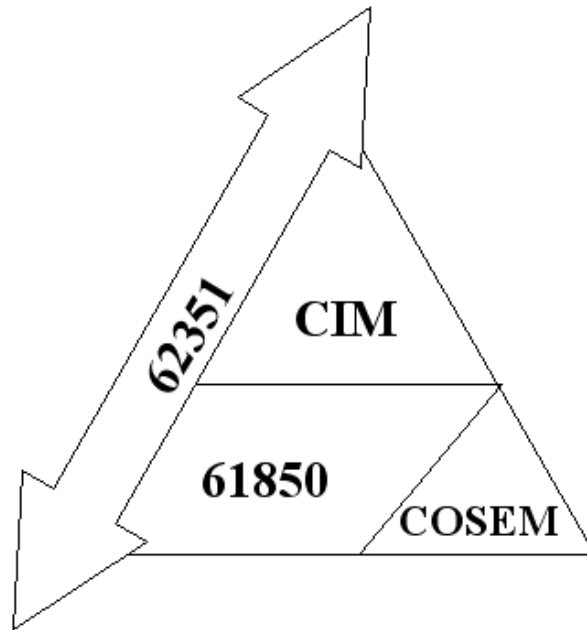
**address**  
interactive  
energy



The research leading to these results has received funding from the European Community's Seventh Framework Programme (FP7/2007-2013) under grant agreement n° 207643

# Key objective

- Promote standards in European projects in order to prevent « reinventing the wheel »
- Leverage international standards that can help to resolve smartgrid complexity



# HOW ADDRESS takes into account Standards

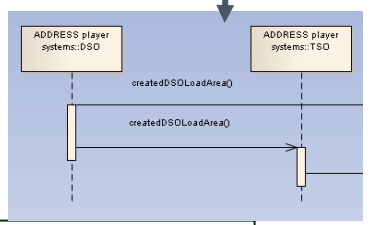
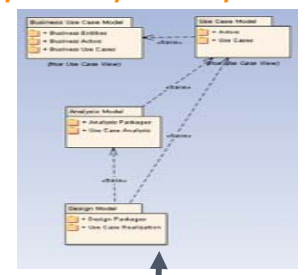
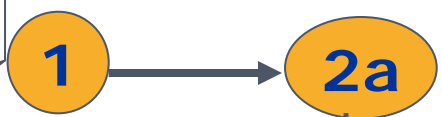
- WP4 Task 4.4 in charge of Methodology and Tools for ADDRESS promoted the following standards :
  - **ETSO role model** : Address actors have been defined and their different roles  
-> Some changes will be submitted to ENTSO-E to take into account Address actors, and roles.
  - **Publicly Available Specification** ,from IEC TC8, on **Use Case Description** based on Intelligrid EPRI Project : input to Address Framework
  - **IEC TC57 related standards**
    - **CIM** (Common Information Model) : Address extensions to CIM will be proposed to IEC TC57 Working groups
    - CIM-ETSO Harmonization on-going work
    - 61968-9 standard : interfaces to Meters will be leveraged in the context of **Address Energy Box**
    - 61968-13 standard : Distribution nextwork exchange model using CIM
    - **61850**
  - **IEC TC13 & DLMS-UA**
  - **IT standards like UML, XML**  
**UML** tool to describe Use Cases and integrate Common Information Model  
Tool to derive **XML** Schema Messages that will be exchanged between Address participants

# Synthesis : 5 Steps

steps 2b, 3,4,5 demonstrated on Toy (ABB lead)

Use Case Definition (text)

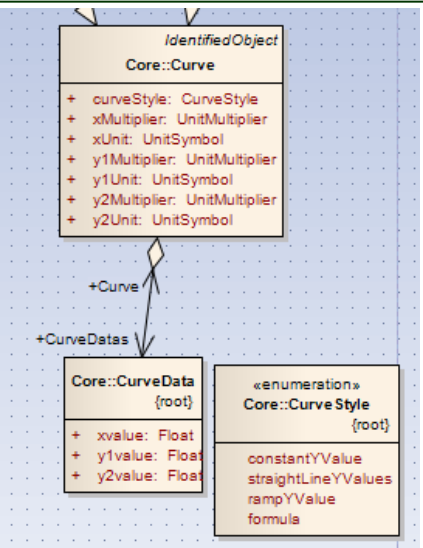
UML-2 Use Case (ENEL) Definitions WP1,WP2,WP3, WP5



Find Business Objects in CIM model or extend CIM



T4.4 UML needs for message Payload Definition from WP1,WP2,WP3,WP5 IEC WG14 verb+ payload



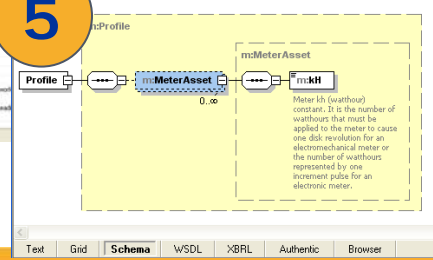
T4.4 EDF responsible for 3,4,5



Define Message Payloads from CIM-ADDRESS UML model

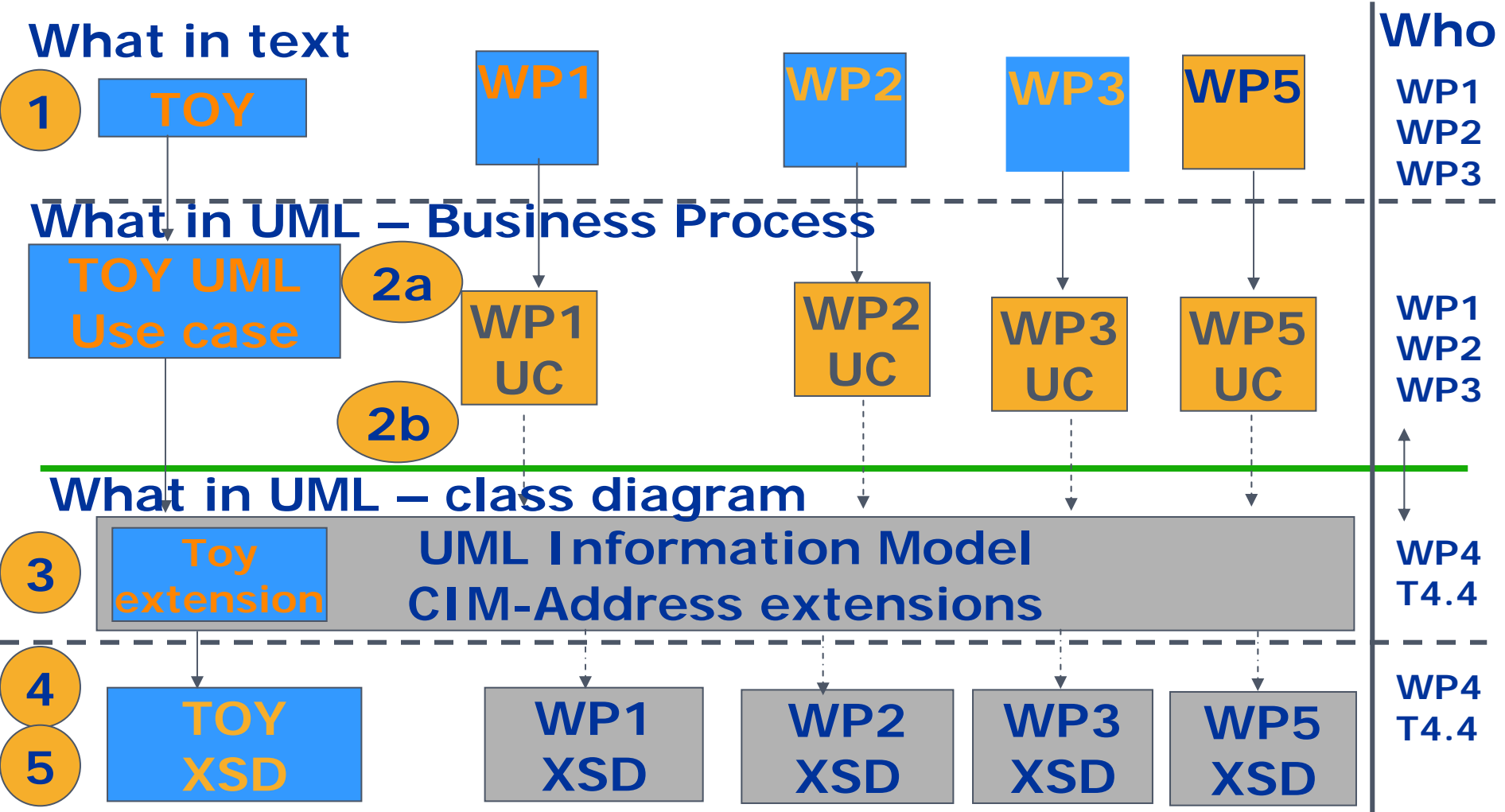


Generate XML XSD, WS



## UML MODEL CIM-ADDRESS

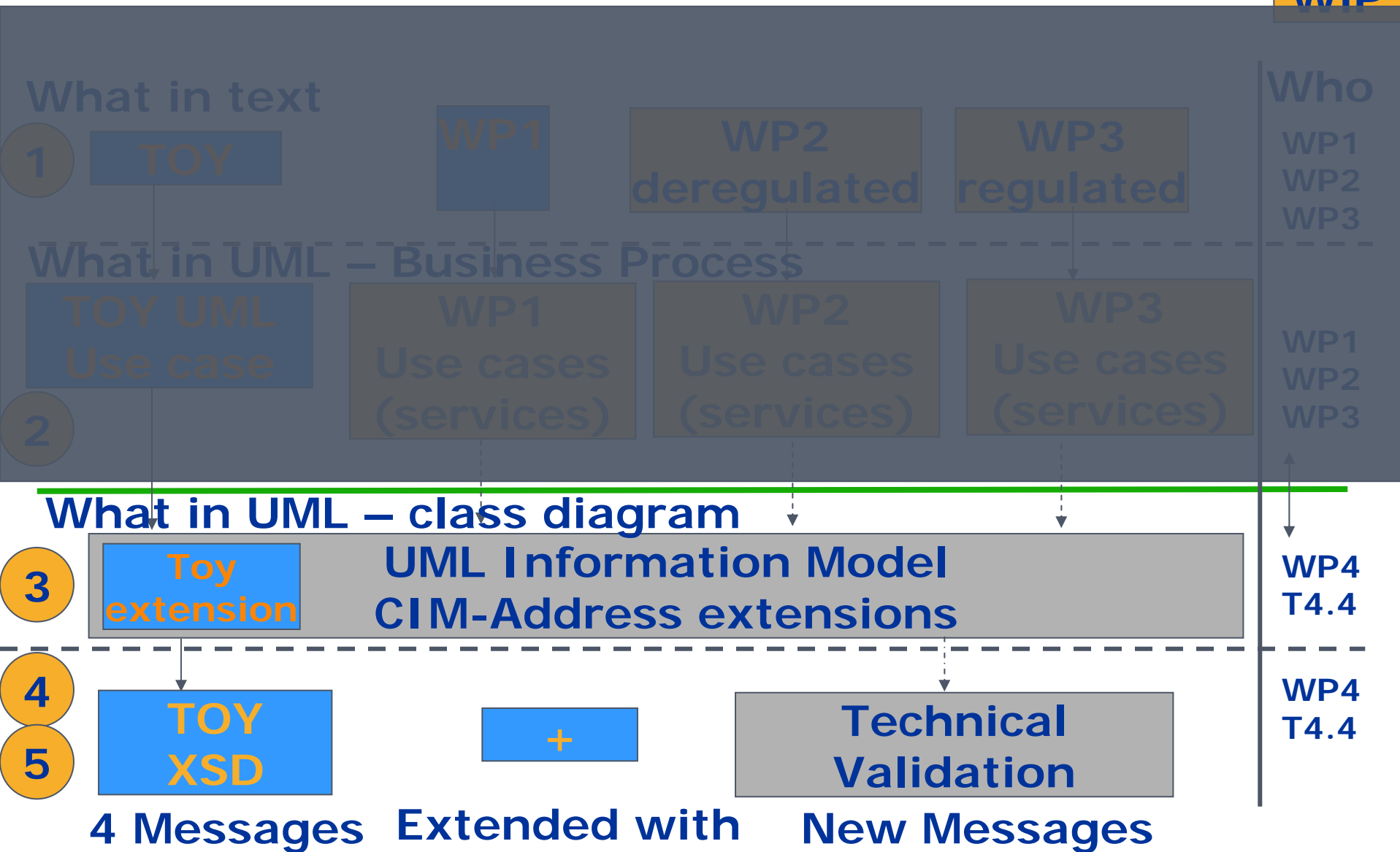
Uses Cases Next Steps : Message Payload Definition based on CIM-Address Information Model



# Proposal of Scope for the simulated Prototype

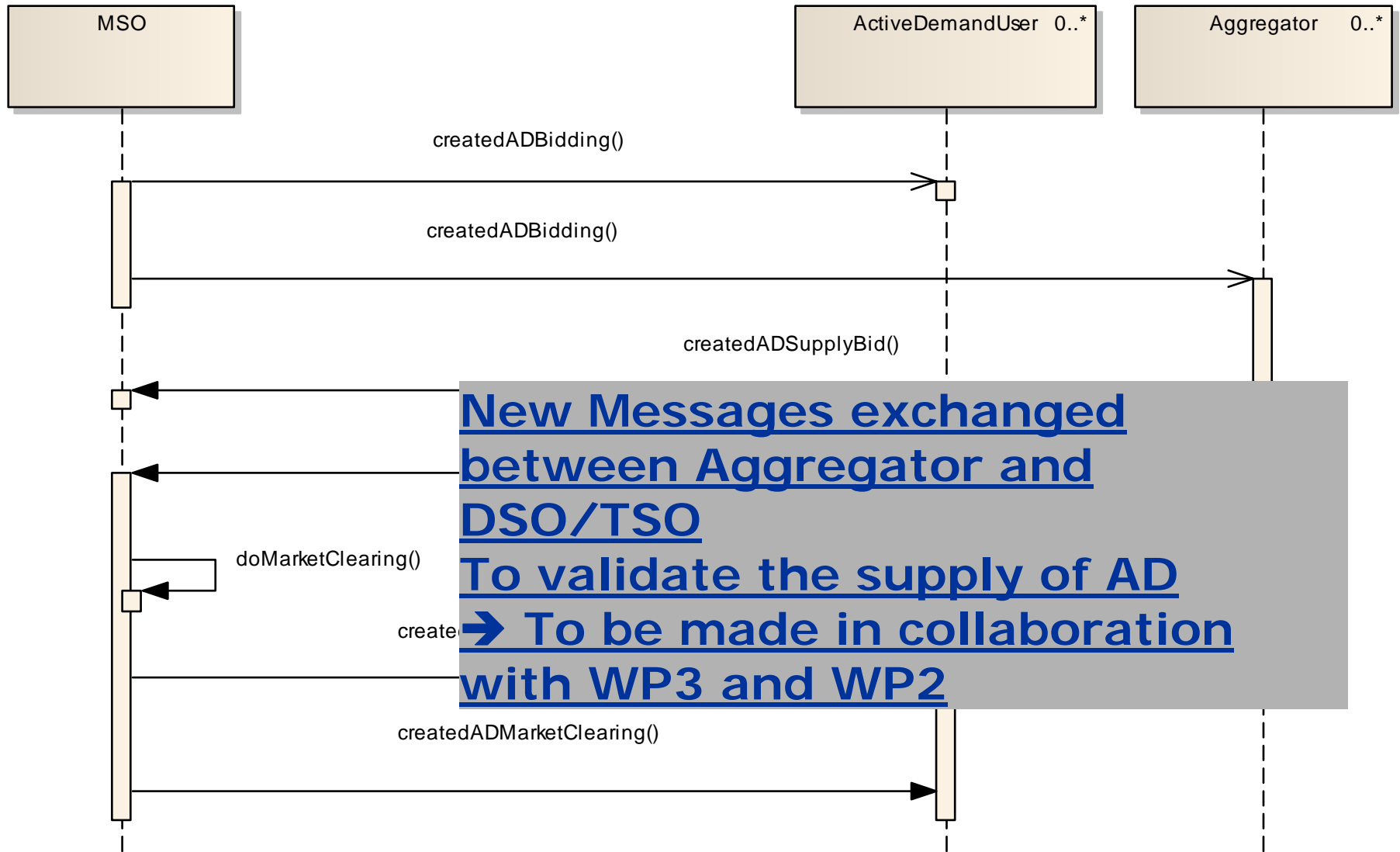
Done

WiP



# Technical Validation

sd Clear AD market



**New Messages exchanged between Aggregator and DSO/TSO**  
**To validate the supply of AD**  
**→ To be made in collaboration with WP3 and WP2**

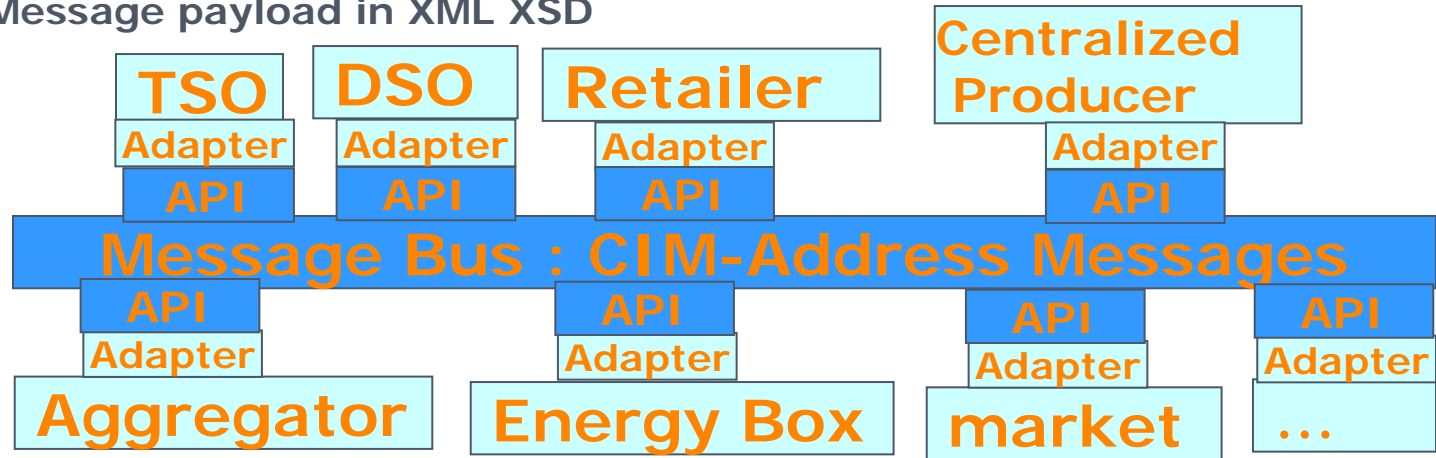
# Simulating Address : towards Field test

WP4  
T4.4

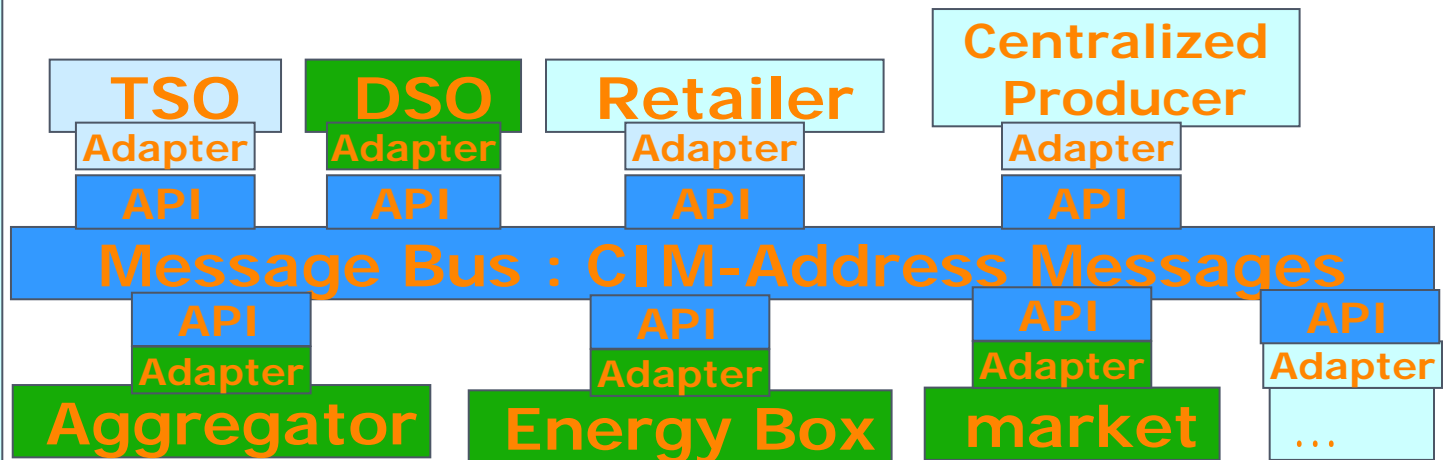
Adapter  
API

Adapter to each simulated or real application  
Message payload in XML XSD

Simulated  
prototype



Field Test  
=  
integration  
with some  
real  
application



# CONCLUSION

- ADDRESS leverages standards which will play a key role in Smartgrid
- ADDRESS will provide feedback to international standards organizations (ENTSO-E, IEC TC57, IEC TC13) through its dissemination package
  - Address requirements on ETSO role model
  - Address Uses Cases
  - Address CIM extensions
- ADDRESS Field tests will implement this Model Driven Integration Approach based on standards
- Other European projects would be able to take the same approach

<http://www.addressfp7.org>

# QUESTIONS ?

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