

FIG

FIG WORKING WEEK 2017

Helsinki Finland

29 May - 2 June 2017


Presented at the FIG Working Week 2017,
May 29 - June 2, 2017 in Helsinki, Finland

LADM Implementation in Colombia

– Process, Methodology and Tools developed and applied

Agencia de Implementación
bsf swissphoto
INCIGE

Proyecto:
**Modernización de la
Administración de Tierras
en Colombia**

 Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Departamento Federal de Economía,
Formación e Investigación DEFI
Secretaría de Estado para Asuntos Económicos SECO

**SWISS LAND
MANAGEMENT
Foundation**



Surveying the world of tomorrow -
From digitalisation to augmented reality

Organised by



Platinum Sponsors:





FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality

LADM Implementation in Colombia

– Process, Methodology and Tools developed and applied



Proyecto:
Modernización de la
Administración de Tierras
en Colombia



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Departamento Federal de Economía,
Formación e Investigación DEFI
Secretaría de Estado para Asuntos Económicos SECO

SWISS LAND
MANAGEMENT
Foundation



Lorenz JENNI, Michael GERMANN, Claude EISENHUT, Switzerland

Andrés GUARIN, Colombia

Víctor M. BAJO, Spain



Platinum Sponsors:





FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality

Requirements for Land Administration in Colombia

- **Peace Accords:** Cadastre in support of Land Tenure Regularization and Restitution Process
- **National Development Plan 2014 – 2018:** Multipurpose Cadastre, Institutionalized Exchange of information in support of Land Policies
- **Public Policy Document on Multipurpose Cadastre:** Principals
 - Interoperability, standardization (ISO 19152 – LADM)
 - Legal independence
 - Outsourcing of cadastre operation
 - Freedom of Methods



Platinum Sponsors:



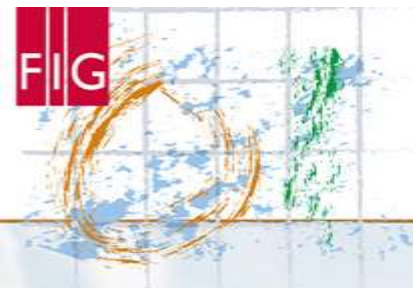


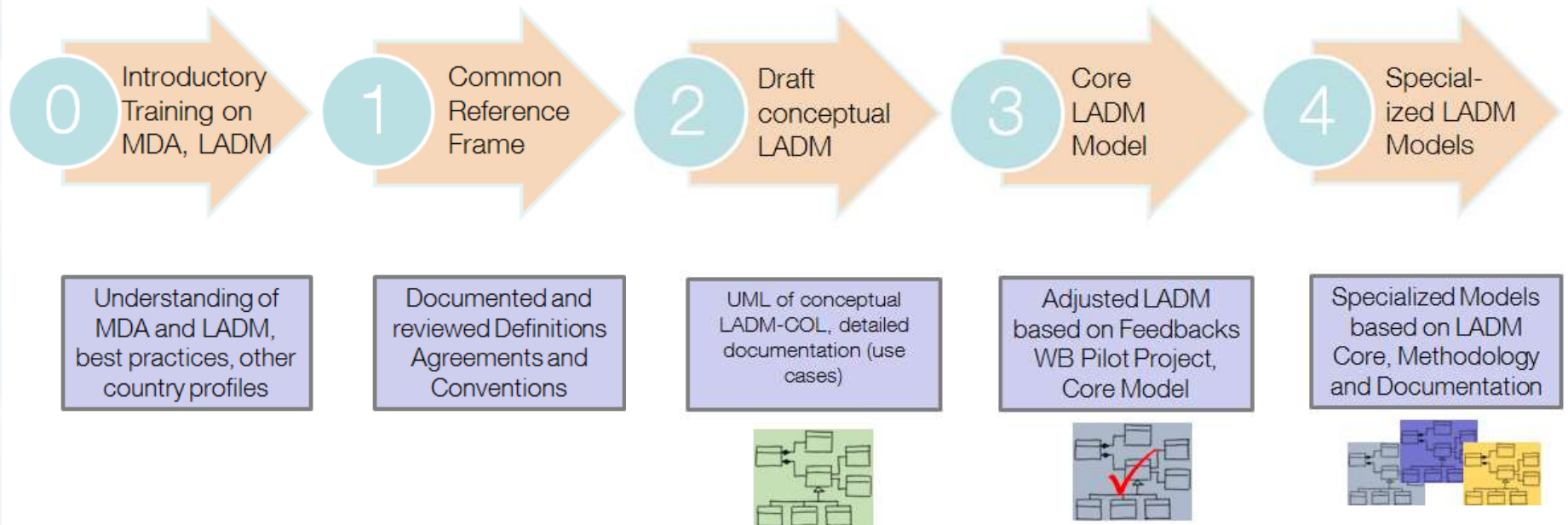
FIG WORKING WEEK 2017

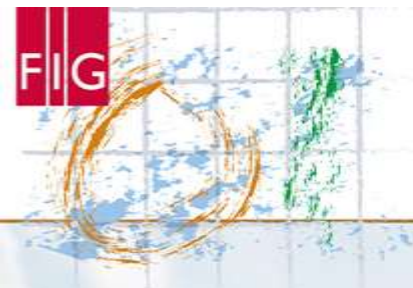
Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

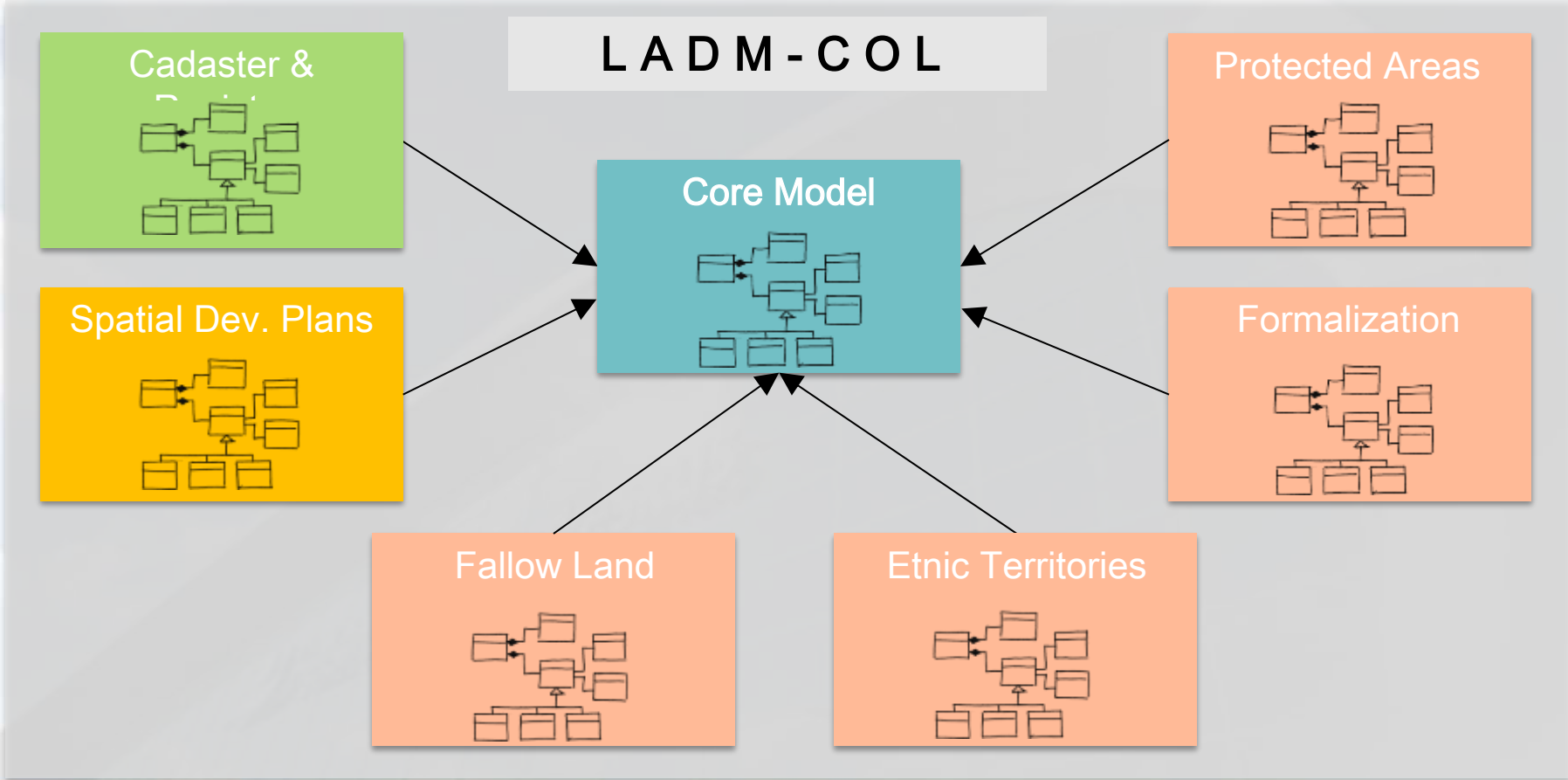
From digitalisation to augmented reality

LADM Country Profile – Applied Modelling Process





LADM Country Profile – Modular Approach



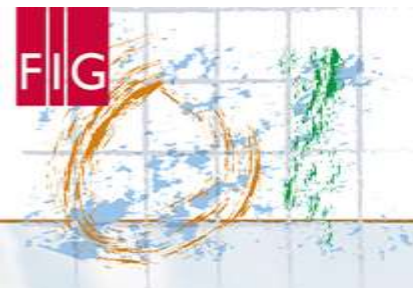


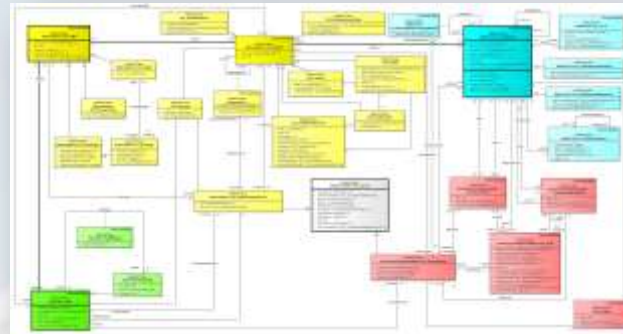
FIG WORKING WEEK 2017

Surveying the world of tomorrow -

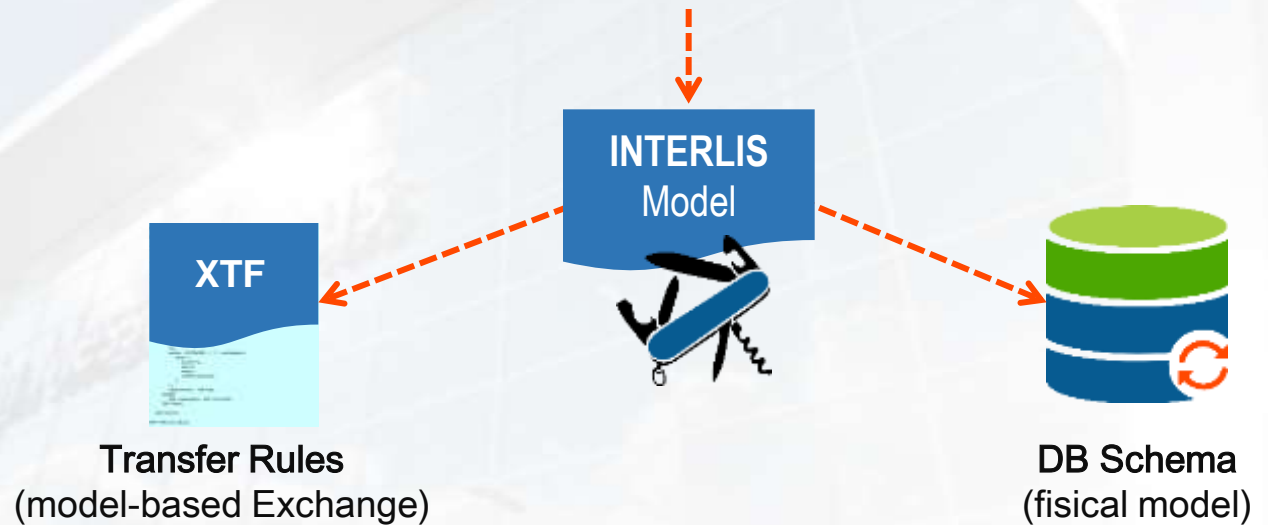
Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality

LADM Implementation with INTERLIS – *why?*



U M L L A D M



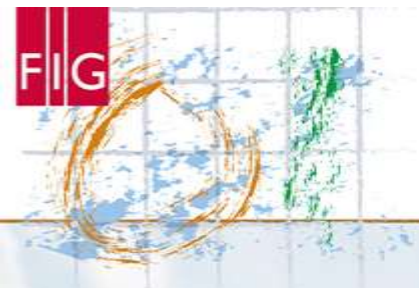


FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality

LADM Implementation with INTERLIS – *why?*

- it **allows to precisely describe data models** (as an ASCII text),
- it is **compatible with relevant international standards** (UML, XML), but: includes also geometry types;
- it includes a **system neutral (XML) exchange format** derived from the data model...
- ...this allows to check data against INTERLIS models, (**automated quality control**);
- and, the **LADM base model (ISO 19152) is ready to use**, enabling implementation of any country profile.



Platinum Sponsors:



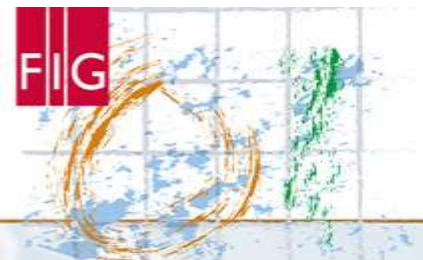


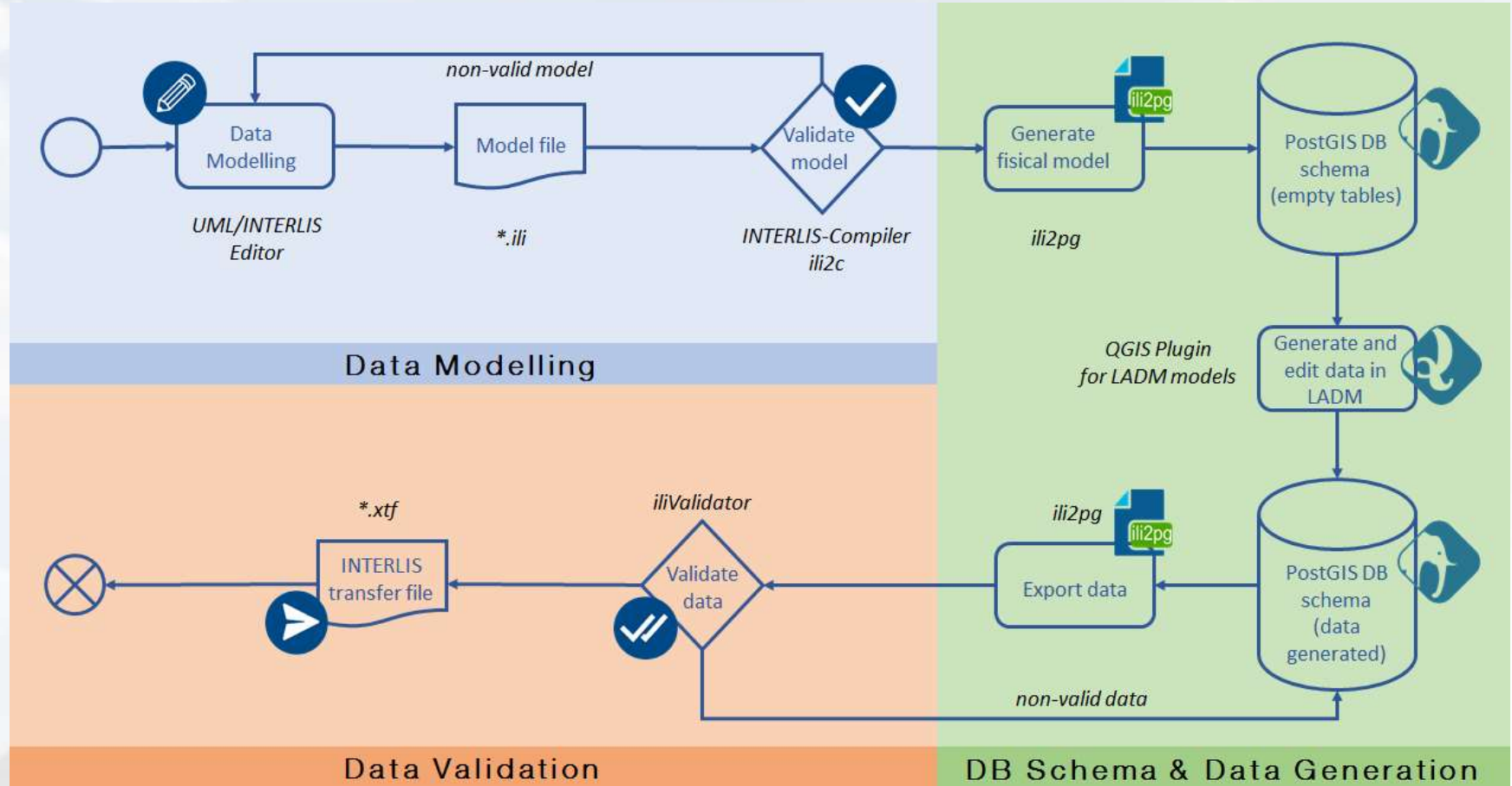
FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality

INTERLIS Model Implementation – used Tools



Platinum Sponsors:



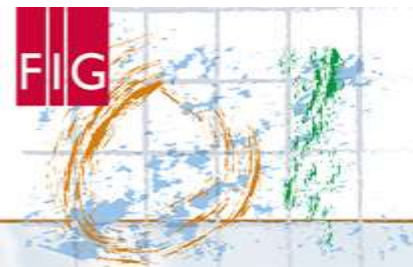


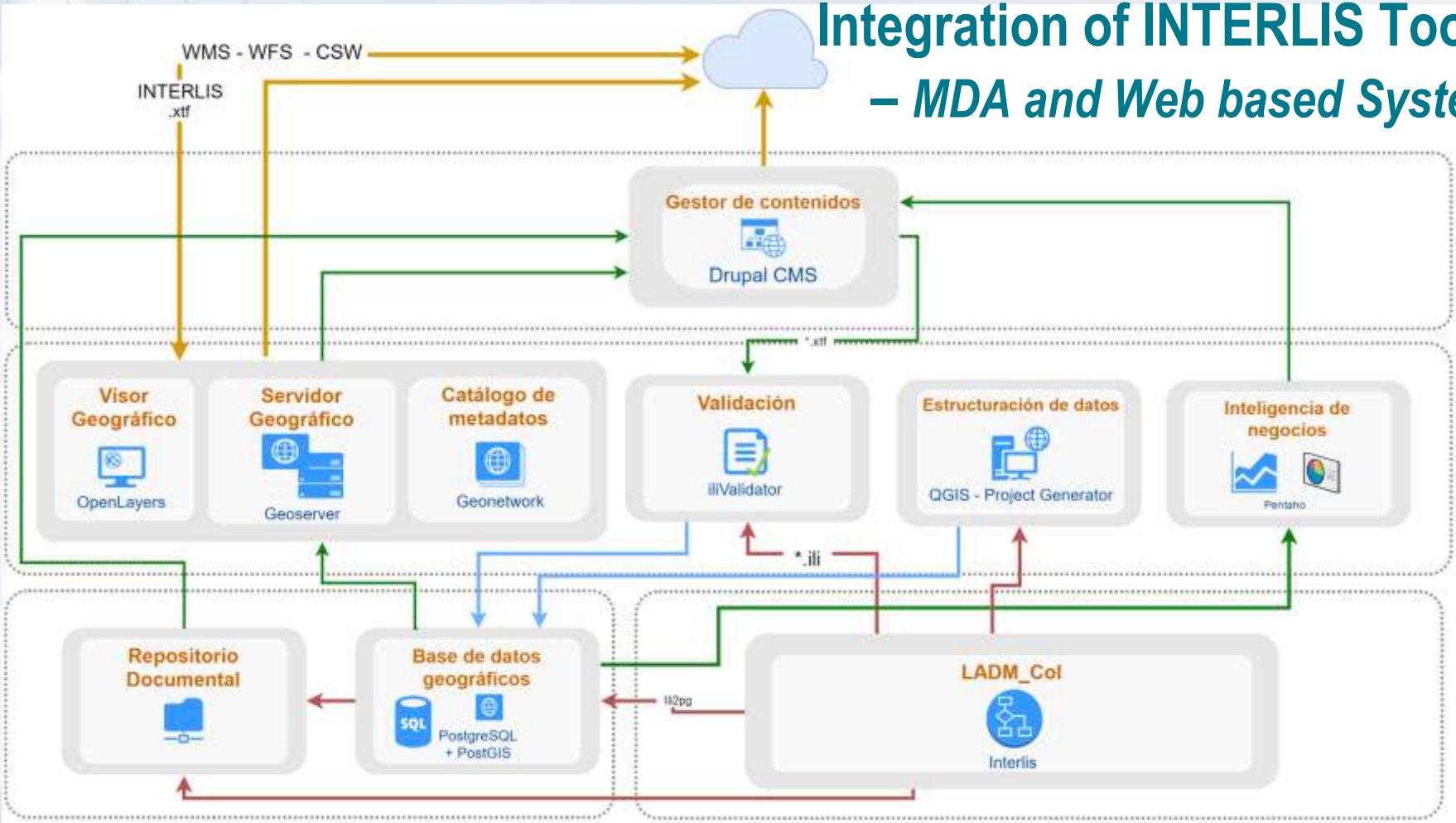
FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality

Integration of INTERLIS Tools - MDA and Web based System



Platinum Sponsors:

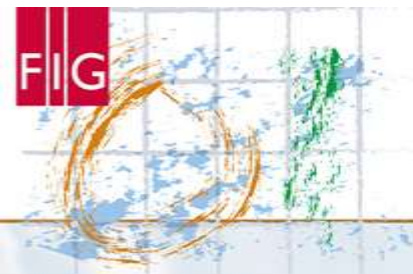


FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality

Integration of INTERLIS Tools – Validation Module

VALIDATE VALIDA

DATOS_EXPORTADO

No errors during datos_exportado

log

Impor...

VALIDATE VALIDATION RES

2017_05_22_CON_ERRORES

Download 2017_05_22_Con validation errors

log

gpk

Ver shp

Message: value Plutonio is not a member of the enumeration
Class: LADM_OT_OF_ZonaOT
ID: 27
Linea: 14



Platinum Sponsors:



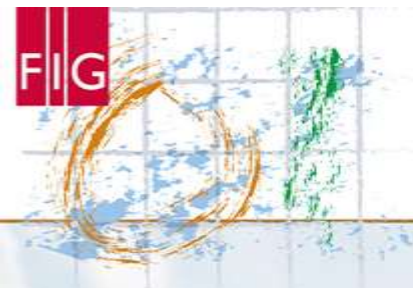


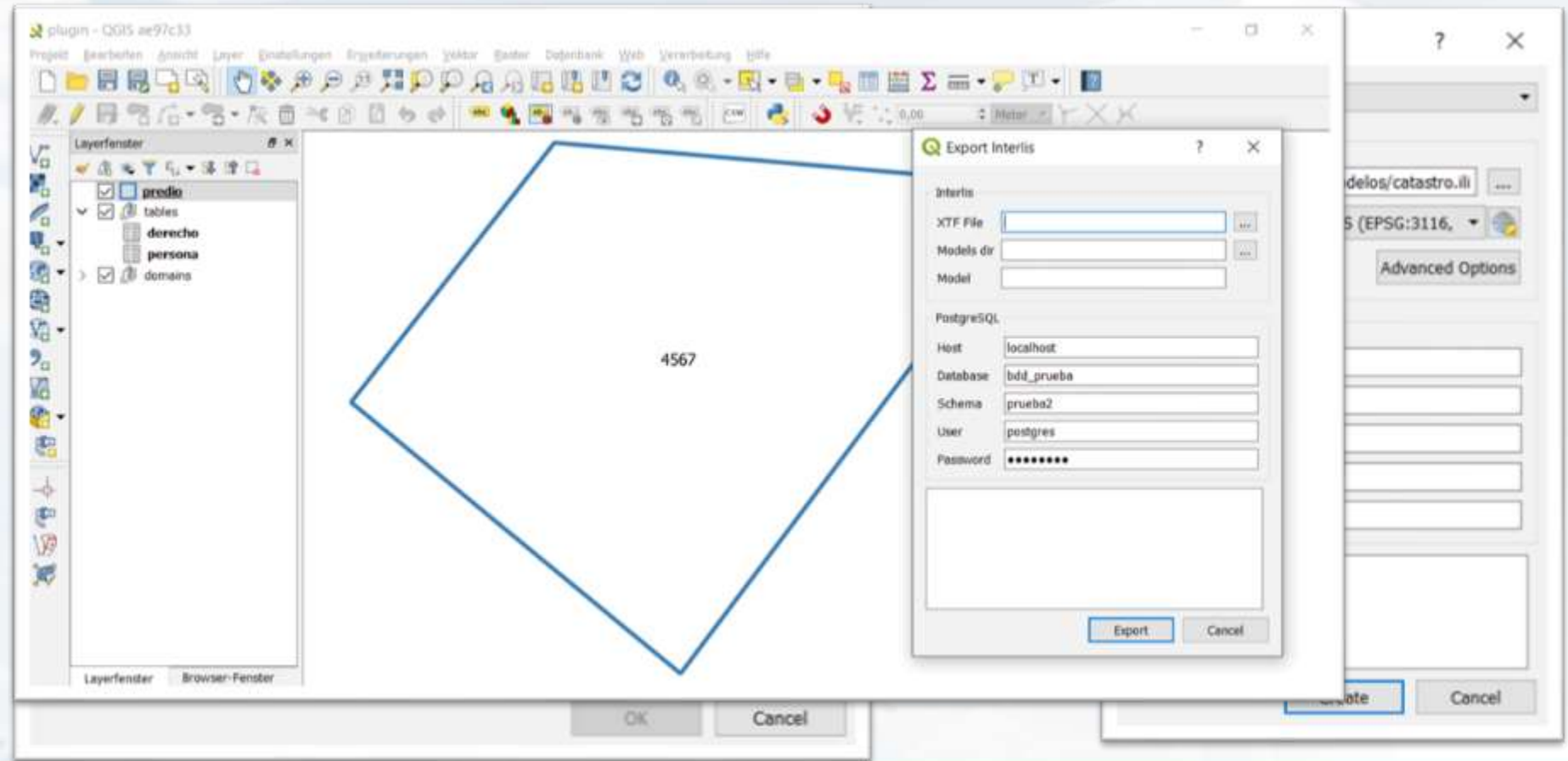
FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality

Integration of INTERLIS Tools – QGIS Plugin for Data Capture



Platinum Sponsors:





FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality

Lessons Learnt – *Regarding the applied Modelling Process*

- Achieve consensus on a set of **common initial definitions and agreements**
- LADM is a conceptual model: **involving thematic specialists in the modelling process** is therefore essential
- **Prioritize**: focus first on the Cadastre – Registry Topic; identify first the BAUnits
- **It's an Iterative process**: the conceptual model is just one step (implementation!)
- Provision of adequate trainings to **understand the LADM as a conceptual model**



Platinum Sponsors:





FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality

Lessons Learnt – *Regarding the used INTERLIS Approach*

- **INTERLIS fully supports the Modular Approach for the LADM**, which is a clear advantage in a complex institutional setting as in the case of Colombia
- **A freely available Ecosystem of Tools is available**, to fulfills all the requested tasks of implementing the LADM with INTERLIS
- The **Modularity** of the tools **provides great flexibility for integrating** them into hybrid GIS environments (FOSS/proprietary, web/desktop)
- **Build-up adequate know-how**: implementing LADM using INTERLIS must be accompanied by expert courses and on-the-job training in the language



Platinum Sponsors:





FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality

Conclusion – *ready to use Toolkit for LADM Implementation*



- Modelling Process and Methodology
- INTERLIS base Models
- Software and Tools (free available, Open Source)
- Detailed Documentation



Platinum Sponsors:



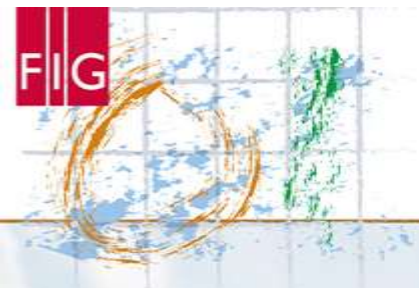


FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality

Thank you



Platinum Sponsors:

