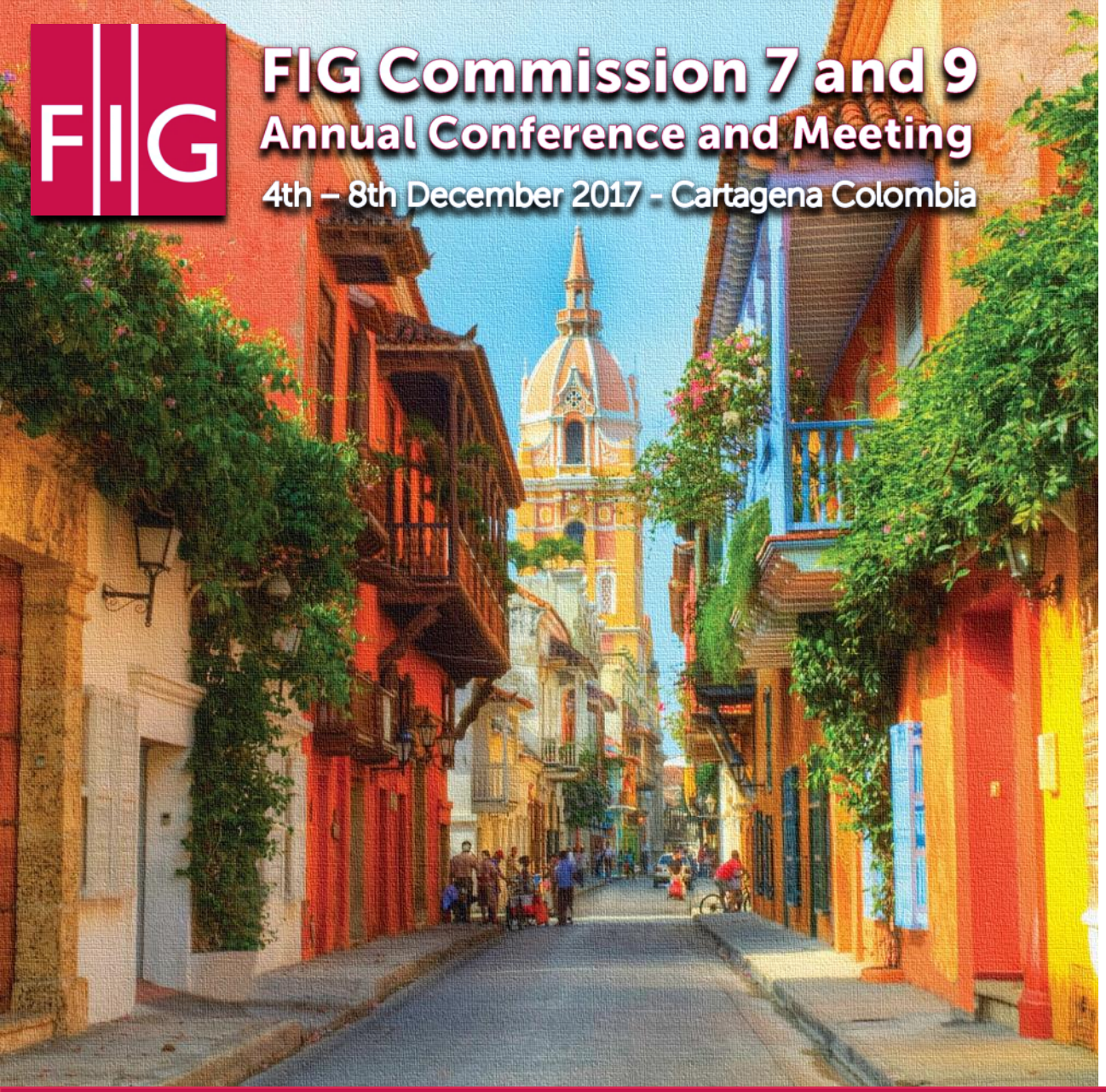
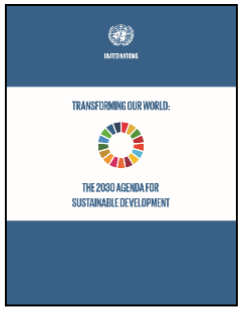


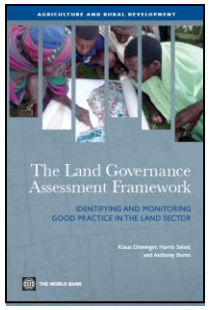
LADM
II

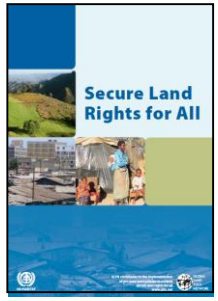
Cartagena
6 December 2017
Christiaan Lemmen

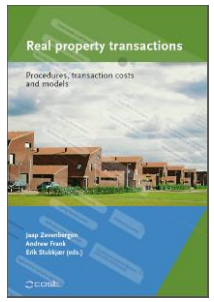
Universidad de los Andes

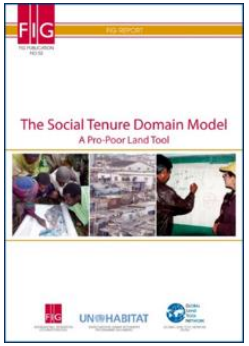
Sustainable Development Goals

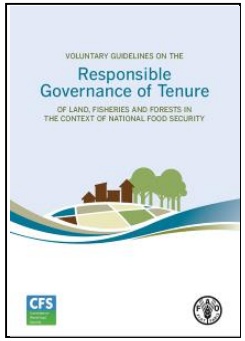

TRANSFORMING OUR WORLD:
THE 2030 AGENDA FOR
SUSTAINABLE DEVELOPMENT

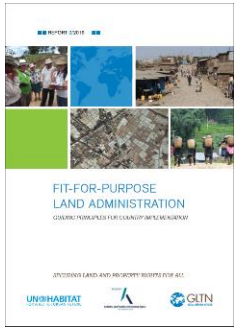

AGRICULTURE AND RURAL DEVELOPMENT
The Land Governance
Assessment Framework
IDENTIFYING AND MONITORING
GOOD PRACTICE IN THE LAND SECTOR


Secure Land
Rights for All


Real property transactions
Procedures, transaction costs
and models

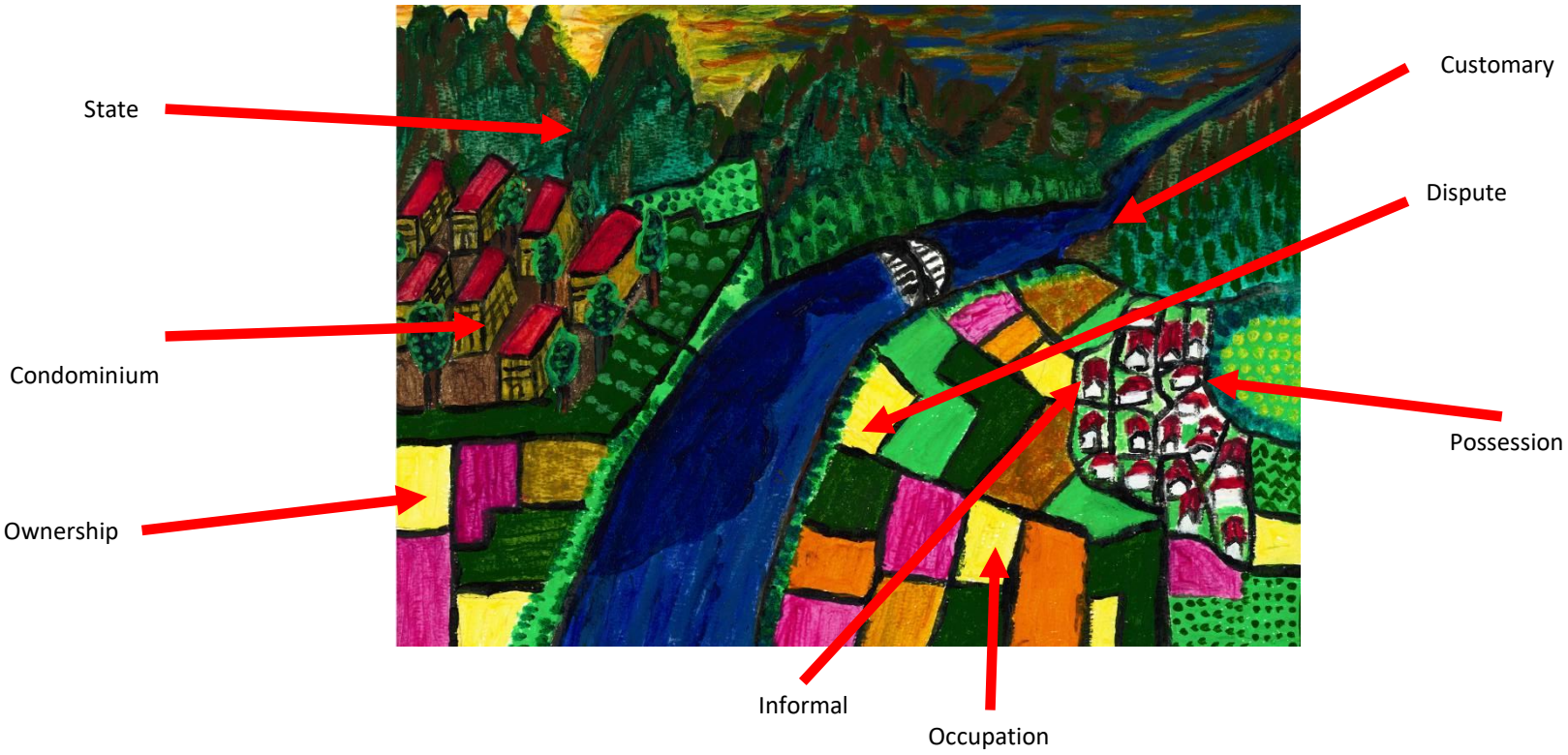

The Social Tenure Domain Model
A Pro-Poor Land Tool


VOLUNTARY GUIDELINES ON THE
Responsible
Governance of Tenure
OF LAND, FISHERIES AND FORESTS IN
THE CONTEXT OF NATIONAL FOOD SECURITY

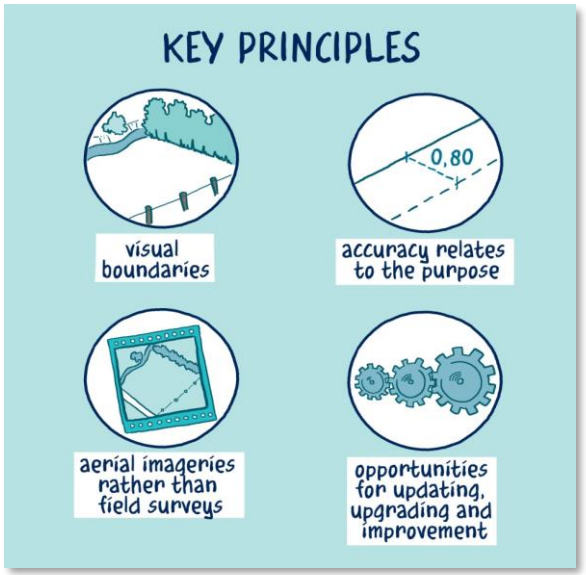

FIT-FOR-PURPOSE
LAND ADMINISTRATION

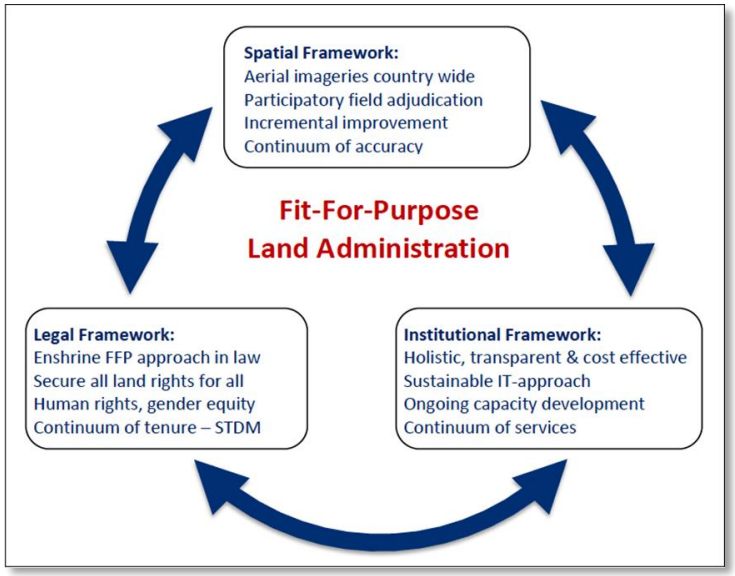
RICS RESEARCH
Crowdsourcing Support
of Land Administration
rics.org/research

Continuum of Land Rights



FitForPurpose Land Administration

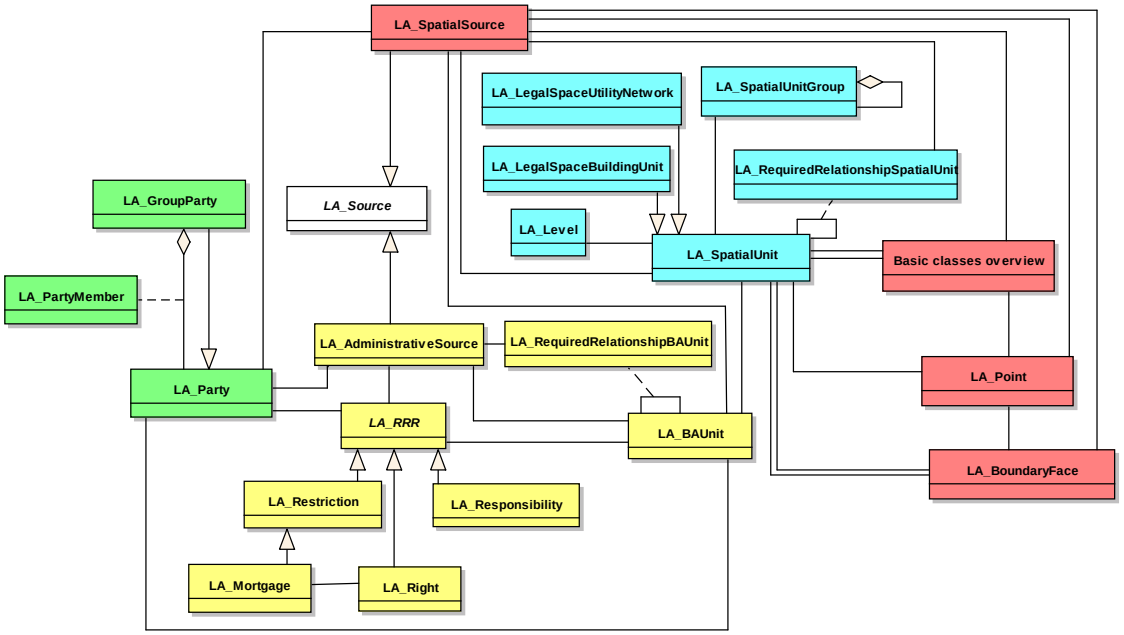




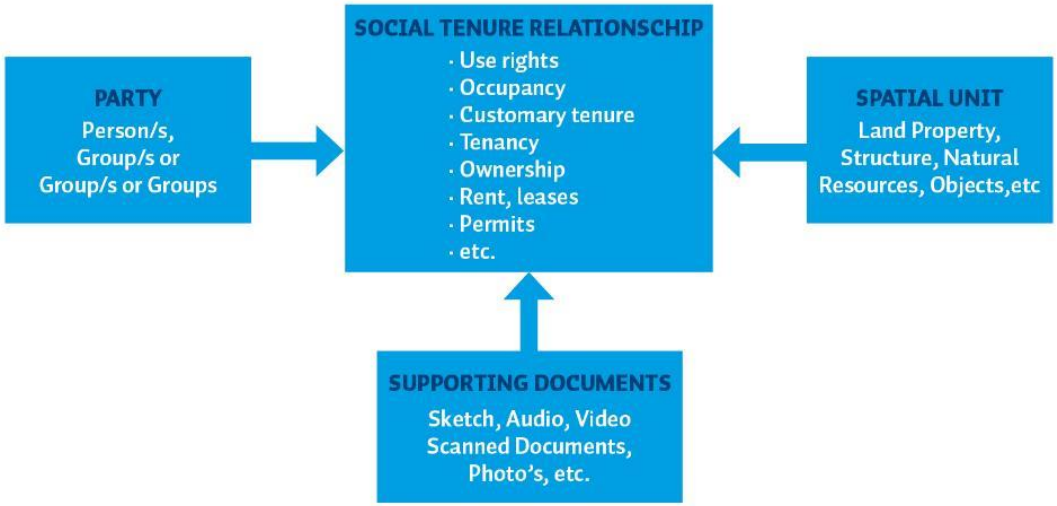
UN HABITAT
FOR A BETTER URBAN FUTURE

GLTN
GLOBAL LAND TOOL NETWORK

Land Administration Domain Model



STDM Conceptual Model



DISTRITO 18
CARPETAS
Computerise

Intervention at UN-GGIM, Aug. 2016

Thank you, Mr Chair,

the International Standard on land administration – the ISO 19152

Land Administration Domain Model, is one of the success stories of ISO in the field of geospatial information. Initiated and led by FIG the development of this standard profited highly on the knowledge, experience and expertise of FIG and several other contributors. We are very pleased that this International Standard have found broad application and now underpins the Fit-for-Purpose approach in land administration and the Social Tenure Domain Model, the latter characterized as a specialization of ISO 19152.

As this standard is now up for revision, ISO/TC 211 looks forward to collaborate with the Expert Group on Land Administration and Management, FIG, the World Bank, the OGC Domain Working Group on Land Administration, which all are liaison members of ISO/TC 211, or under the umbrella of a liaison member, and any other relevant organization to revise the standard to still. or even better, fit the requirements of both highly developed and less developed countries.

Thank you!

DRŽAVNA GEODETSKA UPRAVA
Gruška 20 / 10 000 Zagreb
www.dgu.hr

DGU

DEMLAS

RAZVOJ VIŠENAMJENSKOG SUSTAVA UPRAVLJANJA ZEMLJIŠTEM
DEVELOPMENT OF MULTIPURPOSE LAND ADMINISTRATION SYSTEM

University of Zagreb
Faculty of Geodesy
project DEMLAS

LADM
country profile Croatia

Nikola Vučić

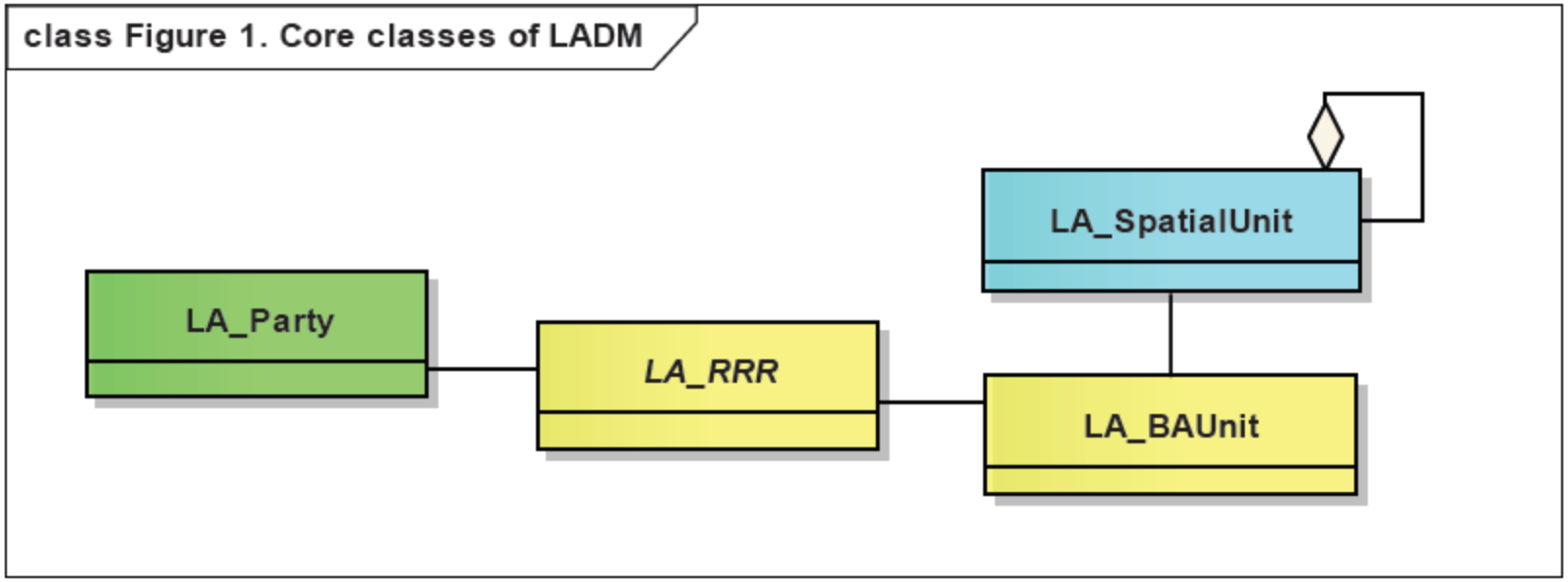
Markku Markkula - Finland

Indigenous Land Registries Standard Project

The Canadian General Standards Board (CGSB) will be developing the standard for the Indigenous and Northern Affairs Canada

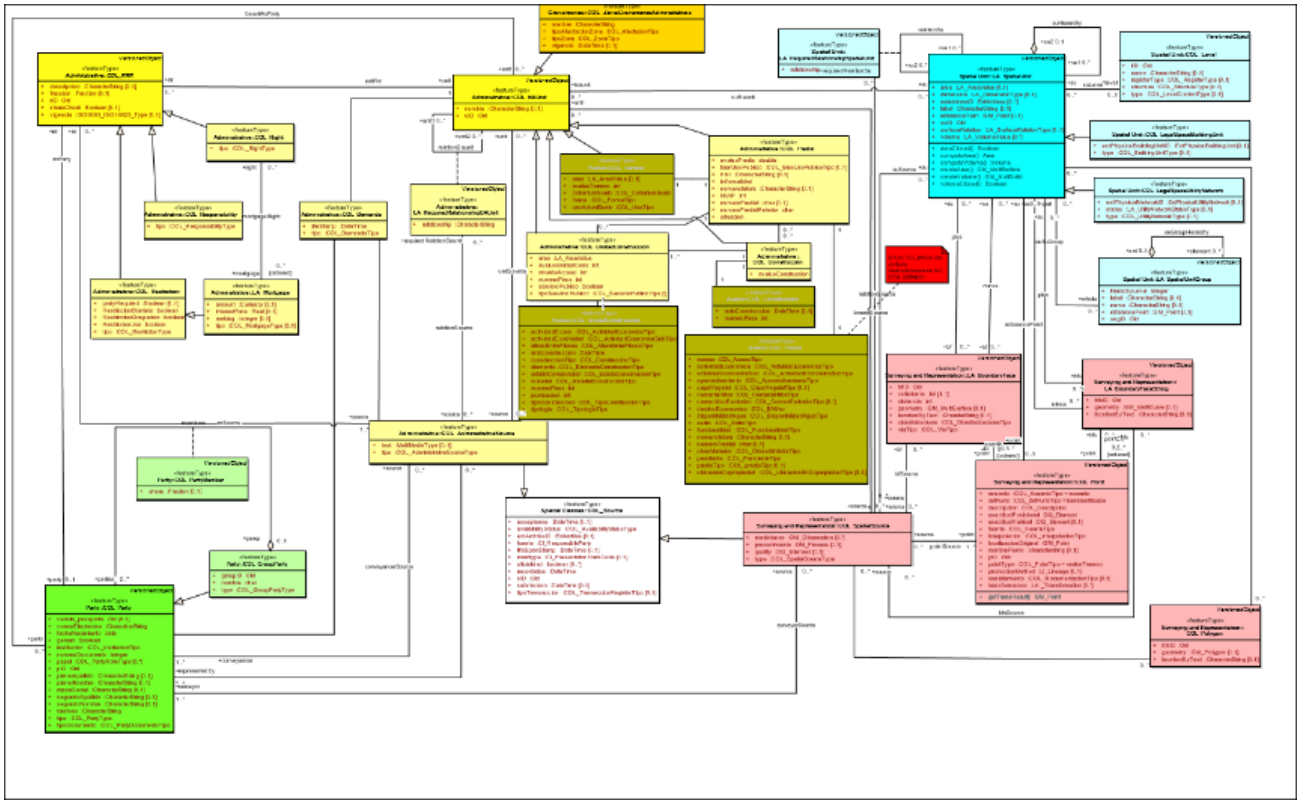
- Issues
  - Code Lists
  - Registration Processes

Mozambique - LADM in SiGIT



- SiGIT was designed with the LADM being the pillar for its architecture.
- There are 3 groups of classes: Party, Administrative and Spatial.
- SiGIT architecture considered however additional extensions, for specific data and land administration processes, including statistics.

LADM Country Profile Colombia



STDM COUNTRY IMPLEMENTATION BRIEF

STDM implementation entails mapping (imagery based or GPS) participatory enumerations and gender and age disaggregated data

1. **Uganda**
   - 89 informal settlements have now been profiled in the upscaling of the STDM implementation.
   - Working with KCCA towards issuance of occupancy certificates
   - Vegetable Oil Development Project (VODP) is using STDM to link farm landholdings with tenure security in Bugala Island.
   - Supporting MoL for customary tenure in Norht Uganda
2. **Kenya**
   - STDM is used in enumeration and mapping for KISIP (component II)
   - In informal settlements - community land information system established and owned by communities, issuance of allotment certificates in Mombasa
   - Pilot STDM implementation in Bomet County to map out communal water points and grazing land
   - Using STDM in the VGGTs project between FAO, GLTN and Turkana County.

STDM COUNTRY EXPERIENCES Cont'd

3. **D R C**
   - STDM in land mediation and land tenure security, in North Kivu and South Kivu provinces
   - Beni University trained for STDM capacity enhancement
4. **Namibia**
   - STDM used for implementation of the Flexible Land Tenure Act in order to promote tenure security in Gobabis Municipality
5. **Philippines**
   - STDM implemented to enhance community development in Muntinlupa City
6. **Zambia**
   - STDM used for customary land certification in Mungule and Chamuka Chiefdoms
   - STDM used for occupancy licenses in Kanyama informal settlement

Other experiences:

- Piloting on STDM family lands in **St Lucia and St Vincent**
- Implementation by DW in **Angola**
- Starting initiatives in **Nepal, Dafour, Erbil**

Ethiopia – Hansa Luftbild

Including standard processes into LADM. Especially case management and maintenance

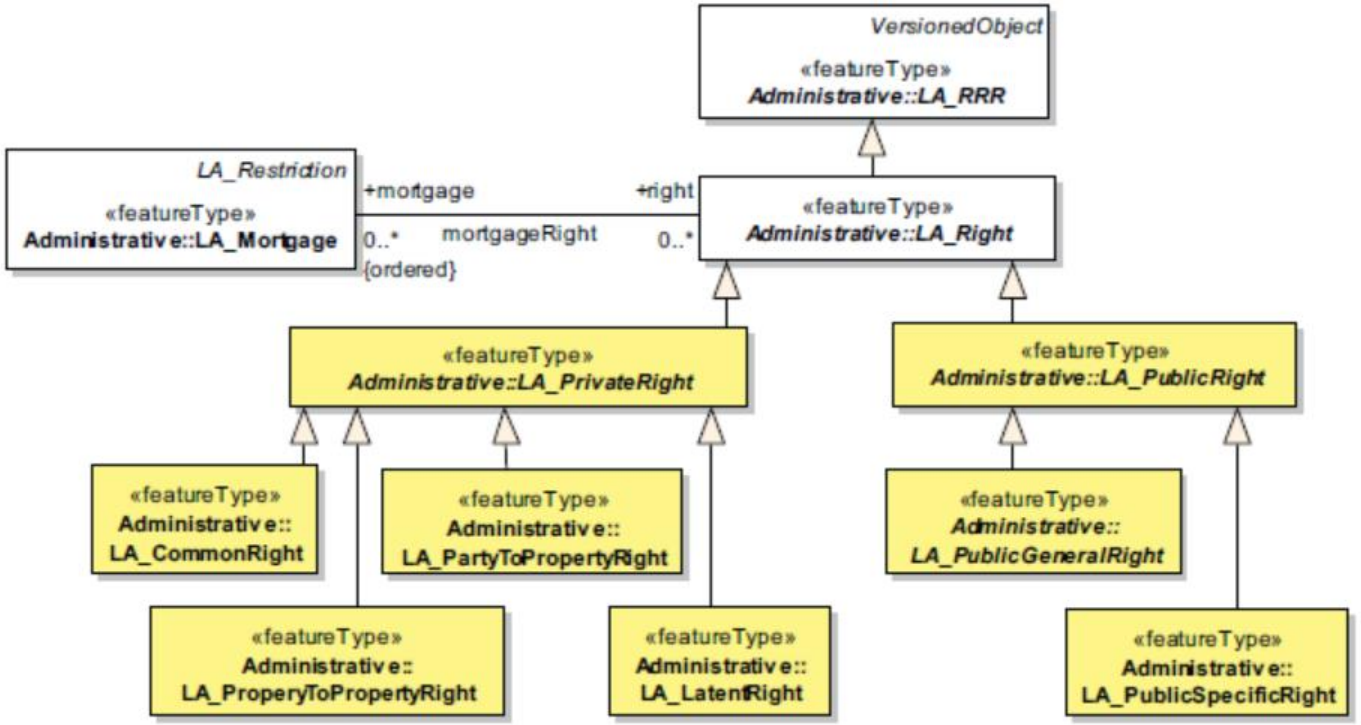
- Call it Application / Case / Transaction / …

Handling informal and vague RRR.

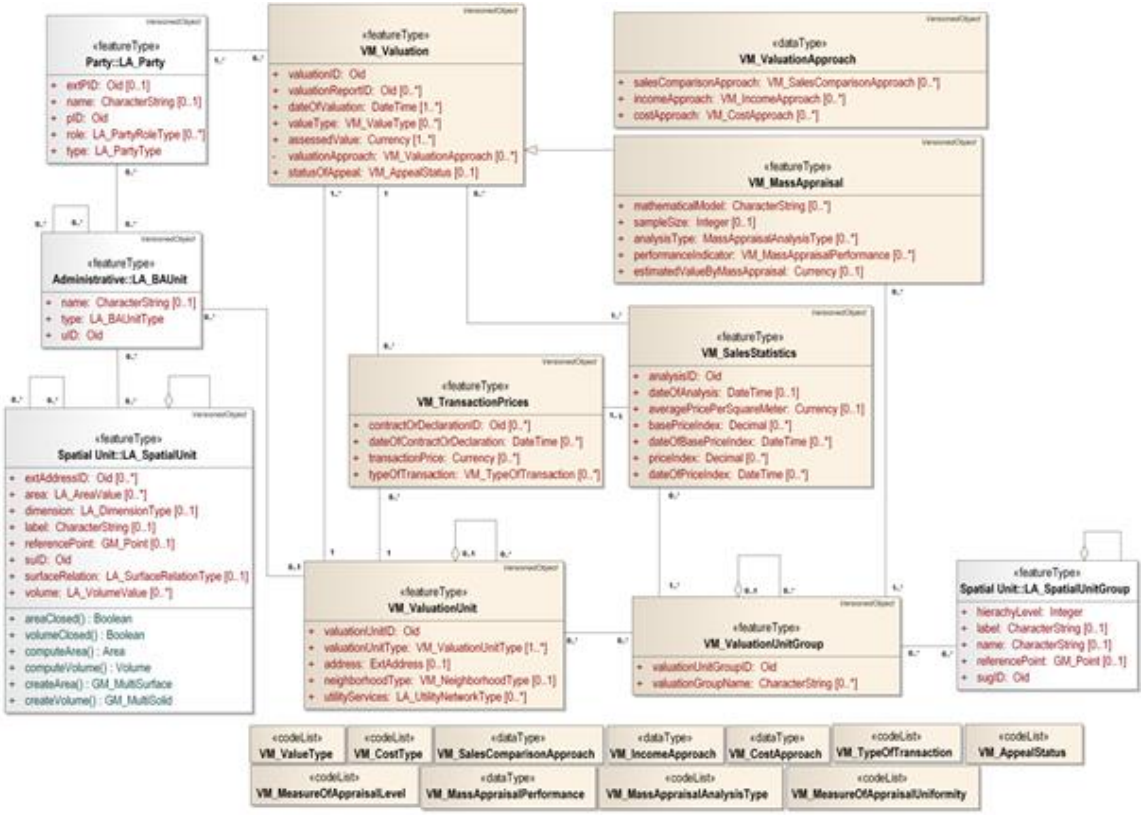
- Pastoralist / trips / communal rights
- Informal settlement

Guidelines / how-to / best practice on how to build a software system on LADM. Something like a pattern catalogue.

RRR - Paasch

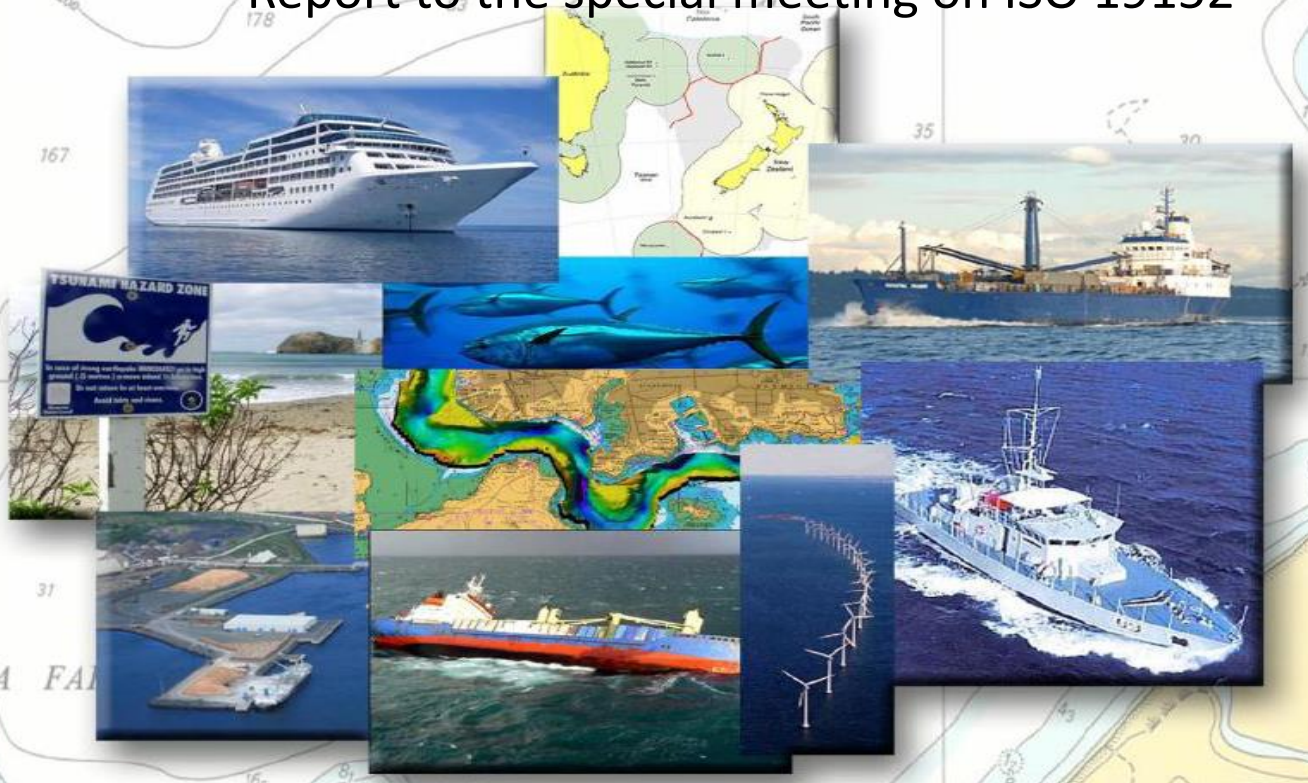

VersionedObject
«featureType»
Administrative::LA_RRR
LA_Restriction
«featureType»
Administrative::LA_Mortgage
+mortgage
0..*
mortgageRight
{ordered}
+right
0..*
«featureType»
Administrative::LA_Right
«featureType»
Administrative::LA_PrivateRight
«featureType»
Administrative::LA_PublicRight
«featureType»
Administrative::
LA_CommonRight
«featureType»
Administrative::
LA_PartyToPropertyRight
«featureType»
Administrative::
LA_PublicGeneralRight
«featureType»
Administrative::
LA_ProperyToPropertyRight
«featureType»
Administrative::
LA_LatentRight
«featureType»
Administrative::
LA_PublicSpecificRight

Valuation Module - Cagdas



The International Hydrographic Organization (IHO) Maritime Limits and Boundaries Project S-121

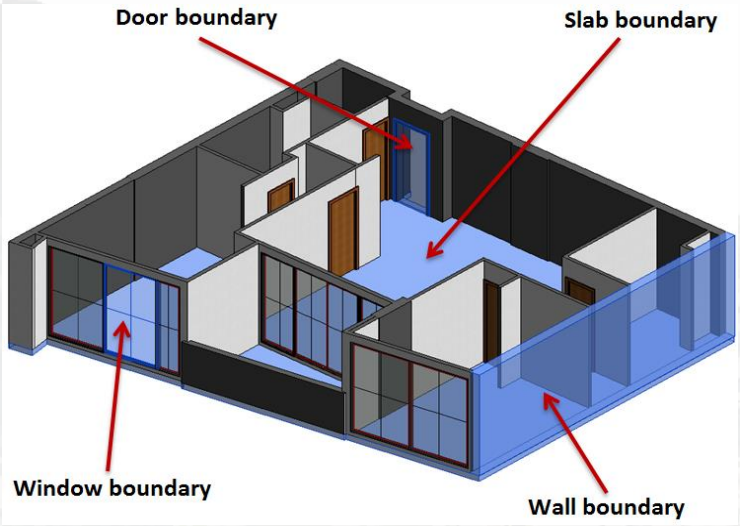
Report to the special meeting on ISO 19152



Thijs Ligteringen – International Hydrographic Organization S-121 Project Team

BIM for Land Administration

- Given that land administration information about high-rise buildings is mostly derived from the physical aspects of the building, BIM models could potentially offer a feasible solution for the 3D digital management of ownership rights.



Fit For Purpose LA & GIS – Brent Jones Esri

FFP processes with FFP technology

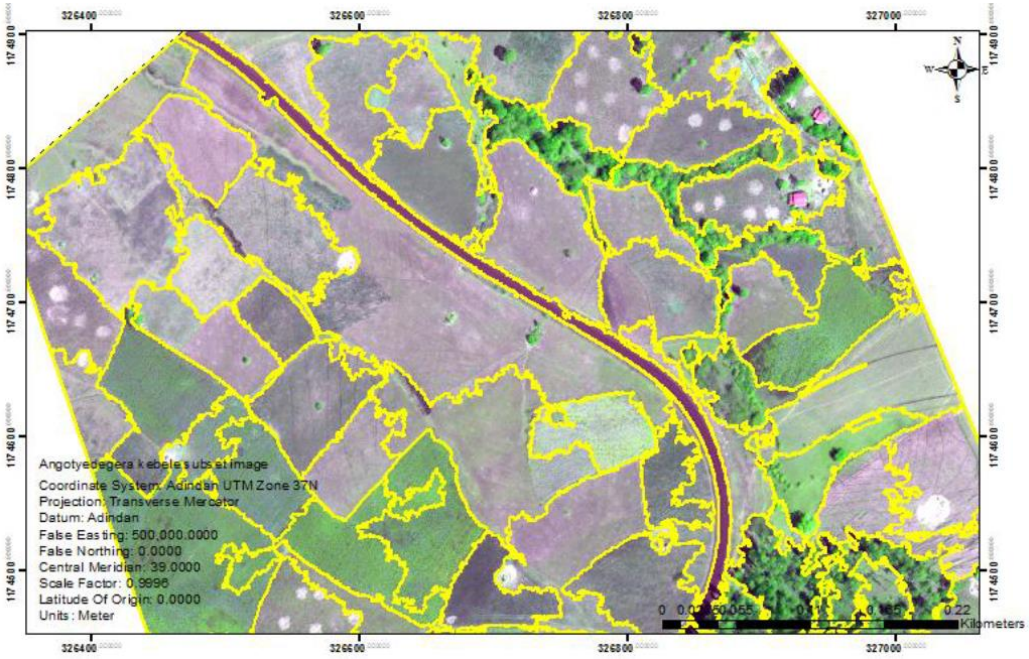
Remote Sensing for Parcel Boundaries

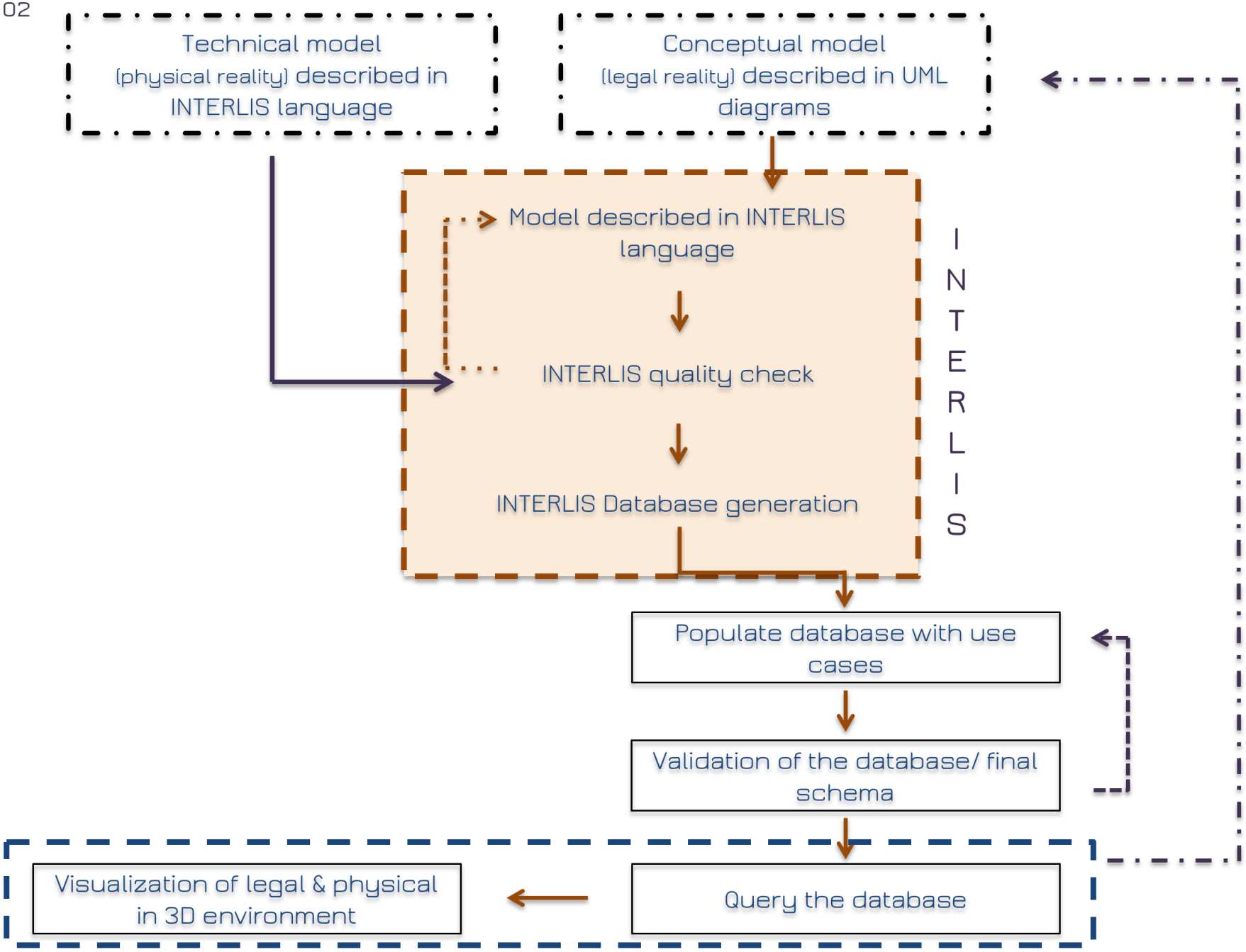
HRSI for interpreting parcel boundaries did not require professionals to undertake the fieldwork!

The use of HRSI is estimated to cost 1/3 for rural and 1/5 for urban areas.

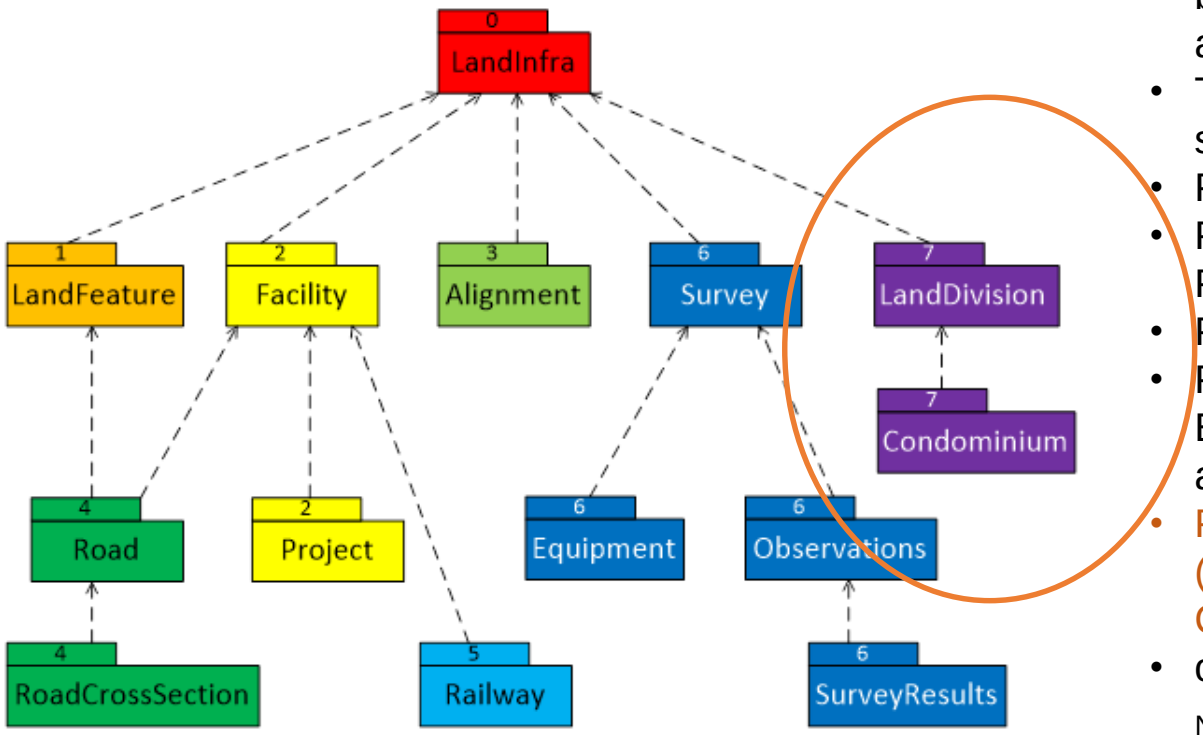
SOLUTION – for large unmapped areas with limited number of land professionals.

Automatically extracted from images visible cadastre boundaries can be printed in the office,
then taken into the field
and edited by communities.




Technical model
(physical reality) described in INTERLIS language
Conceptual model
(legal reality) described in UML diagrams
Model described in INTERLIS language
INTERLIS quality check
INTERLIS Database generation
INTERLIS
Populate database with use cases
Validation of the database/ final schema
Query the database
Visualization of legal & physical in 3D environment

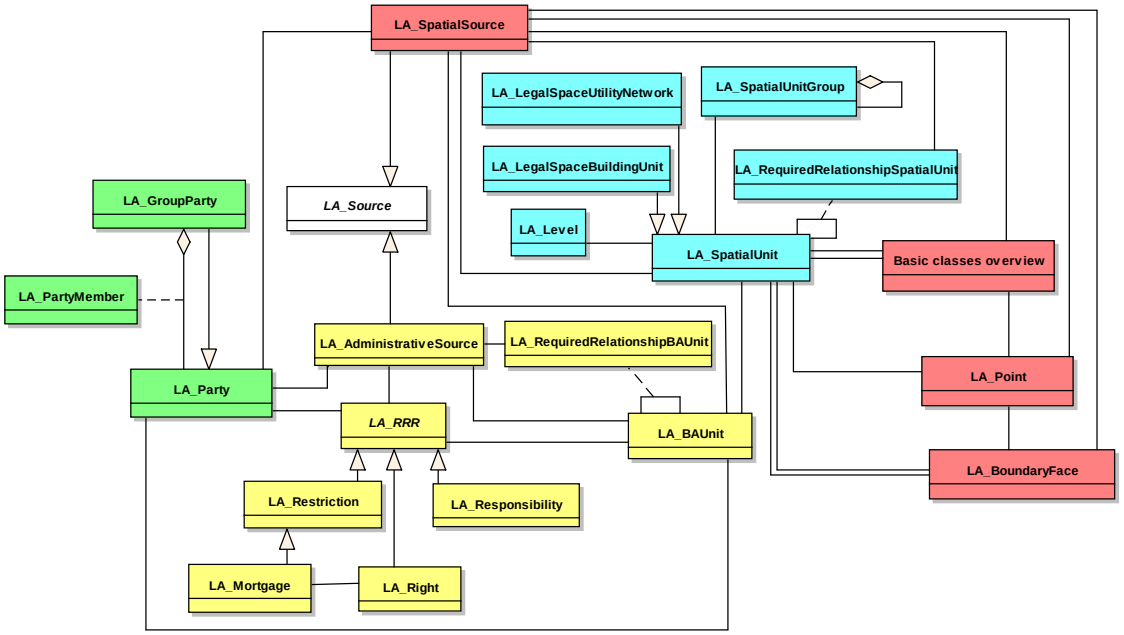
InfraGML Requirements Classes match LandInfra



- Part 0 is the (concrete) Core RC which shall be supported by all conforming applications
- Then an application can select from
- Part 1 Land Features
- Part 2 Facilities (with optional Projects)
- Part 3 Alignments
- Part 6 Survey (with optional Equipment, Observations, and SurveyResults)
- Part 7 (2017) Land Division (with optional Condominiums)
- or any combination of these

Note: InfraGML Parts 0-6 have completed RFC March 3, 2017, with a TC vote soon to follow

Land Administration Domain Model



UN GGIM Meeting

Need for:

- Indicators
- Standards
- Overview (Land tenure atlas)

Global framework

FFP LA

LADM Edition II

- Further modelling LADM’s rights, restrictions, responsibilities (RRRs)
- Fiscal/valuation extension module
- LADM in support to Marine Cadastre
- More explicit relations with Building Information Modelling (BIM)
- CityGML, IndoorGML, InfraLand (InfraGML), LandXML – RRR as link!
- Further modelling of LADM's survey and spatial representation
- 3D/4D Cadastre
- Processes
- Indicators

Thanks