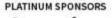




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"Geospatial Information for a Smarter Life and Environmental Resilience"



Joint ISO/TC211 and OGC Revision of the LADM: Valuation Information, Spatial Planning Information, SDG Land Indicators, Refined Survey Model, Links to BIM, Support of LA Processes, Technical Encodings, and Much More on Their Way!

Peter van Oosterom, Abdullah Kara, Eftychia Kalogianni, Anna Shnaidman, Agung Indrajit, Abdullah Alattas and Christiaan Lemmen











https://www.bbc.com/news/in-pictures-45257901?ocid=wsnews.chat-apps.in-app-msg.whatsapp.trial.link1\_.auin



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### Secure land rights for the world











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### **Purposes**

- Peace Building and Security
- Social Justice and Poverty Eradication
- Disaster Management
- Resource Management
- Tenure Security
- Access to Credit
- Taxation

- Smart and Resilient Societies
- Sustainable Land Use and Food Security
- Protected Environment
- Slum Upgrading
- Access to Housing
- City Management
- Access to Basic Infrastructure











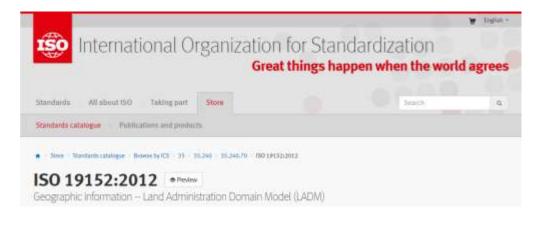
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#### **Land Administration Domain Model**

- ISO 19152
- Edition I published in 2012

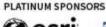














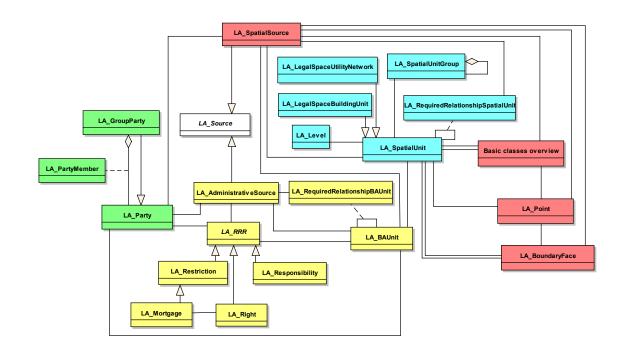




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### ISO/TC 211 Land Administration Domain Model (LADM)Standard

#### Revision

- Ongoing Work
  - Correct errors in Edition I
  - Backwards Compatibility
  - Sustainable Development Goals
  - Methodology of developing country profile
  - Input from developing countries
  - Input from UNGGIM EG on
    Land Administration & Management

- Potential Revision Topics
  - Land Management Processess
  - Taxation and Valuation
  - Maritime Limits & Boundaries
  - 3D & 4D
  - Indoor & Building Information Models (BIM)
  - Crowdsourcing
  - Sustainable Development Goals(SDG) Land Indicator
  - Social Tenure to Legal Tenure
  - Application of Blockchain















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### Organizations with Interest in ISO LADM (19152) V2

- UN FAO
- UN HABITAT
- Global Land Tool Network
- UN Ocean Affairs and the Law of the Sea
- UNGGIM
- World Bank
- ISO/TC 211 members
- Open Geospatial Consortium

- International Federation of Surveyors
- Valuation Community
- International Hyrdrographic Organisation
- Royal Institution of Chartered Surveyors
- European Land Registry Association - ELRA
- IPRA-CINDER Registrars



































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### **Mapping and Recording Options**



Location

• In the Field



• Community Gathering





Main Mapper



Surveyor





Material



Digital



Paper





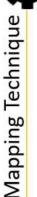
**Mapping Tool** 

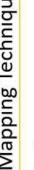
Imagery

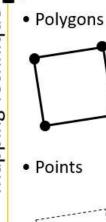


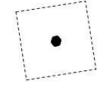
GNSS





















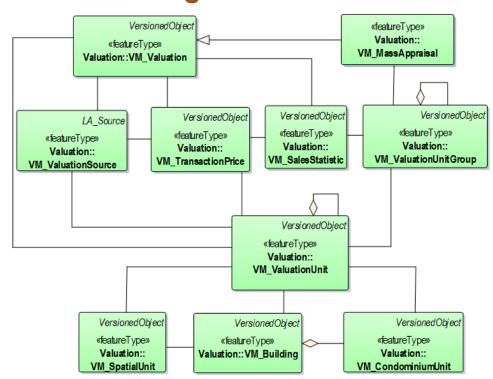


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### **Classes of Valuation Package**



Abdullah Kara







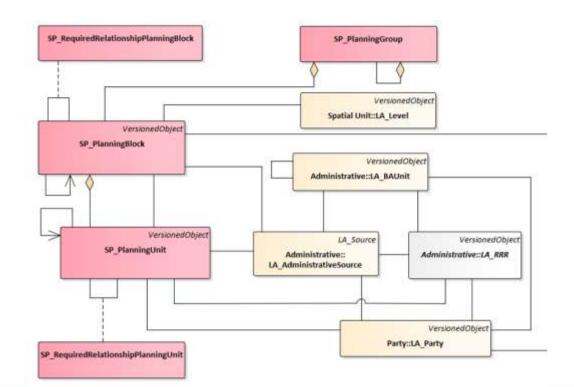


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### **Classes of Spatial Planning Package**



Agung Indrajit







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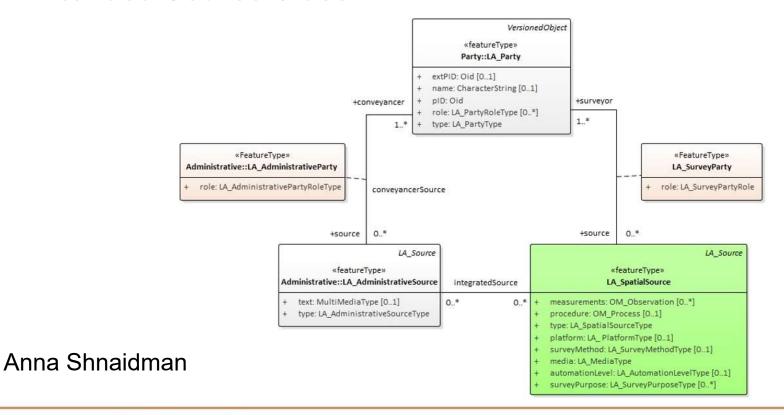


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#### **Extended Source Class**















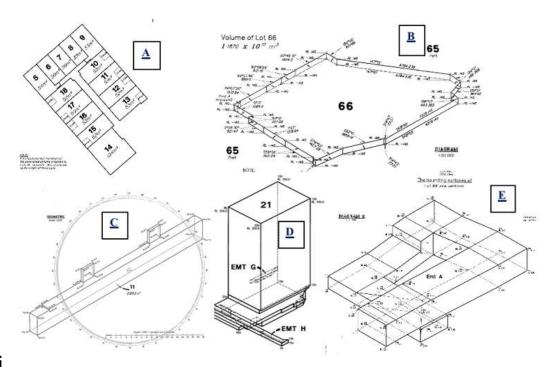


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### **Spatial Unit Geometries**



Eftychia Kalogianni









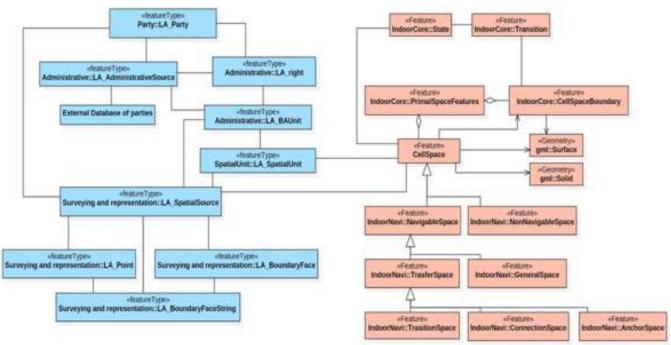


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### **UML** model of LADM-IndoorGML combined model



**Abdullah Alattas** 







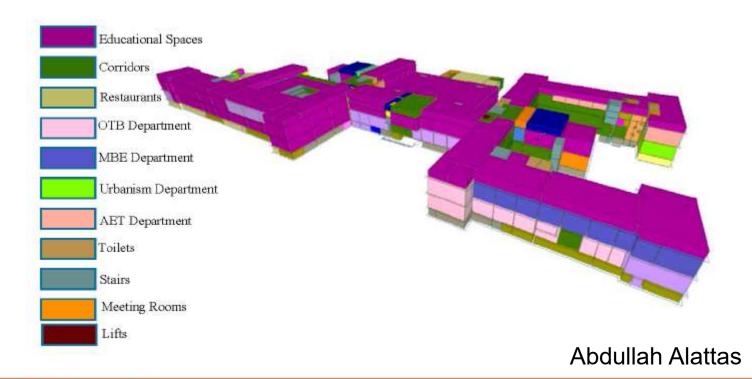


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The classification of different types of cells based on functional rights.











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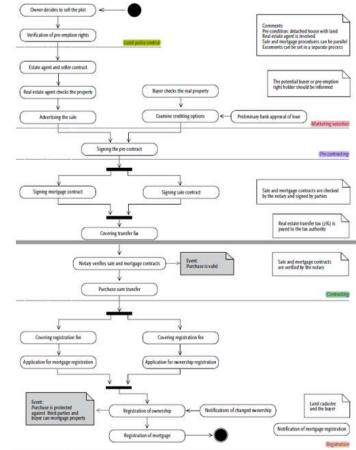
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### **Processes**

- **Transactions**
- Bloackchain
- Access to Imagery

Example (Zevenbergen)















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### **Thank You!**













