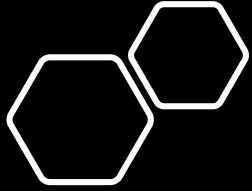


**Toward Croatian
utility registration
implementation
model based on
LADM**



**Grgo
DŽELALIJA and
Miodrag ROIĆ,
Croatia**

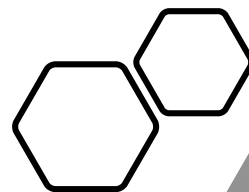




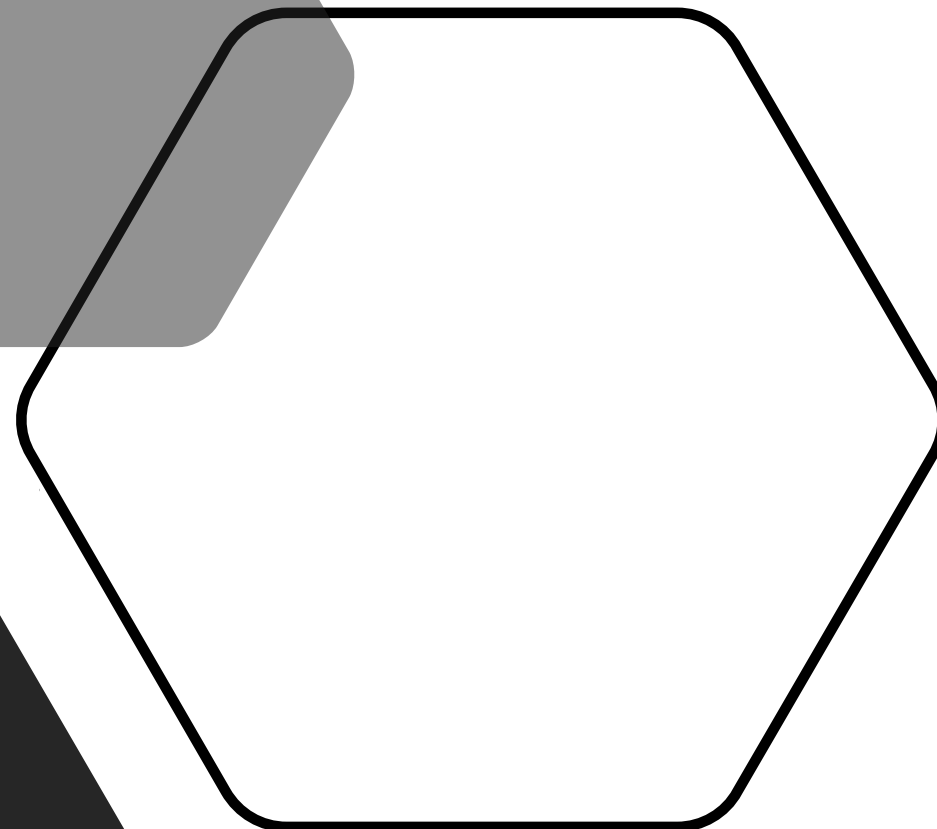
Introduction

- Utility networks are valuable resource
- In the past utility networks were rarely registered
- Different approaches to utility registration
- Utility networks have legal and physical characteristics
- Try to unify and standardize utility registration through LADM

Utility registration in Croatia



- 1969. Rulebook on Methods and Mode of Operation in Surveying of Underground Installations and Objects
- 1973. Law on utility cadastre
- 1977. Rulebook on creation and maintenance of utility cadastre
- 1988. Law on utility cadastre
- 2008. Rulebook on utility cadastre
- 2009. Rulebook on changes to Rulebook on utility cadastre
- 2017. Rulebook on cadastre of infrastructure
- 2021. Rulebook on cadastre of infrastructure

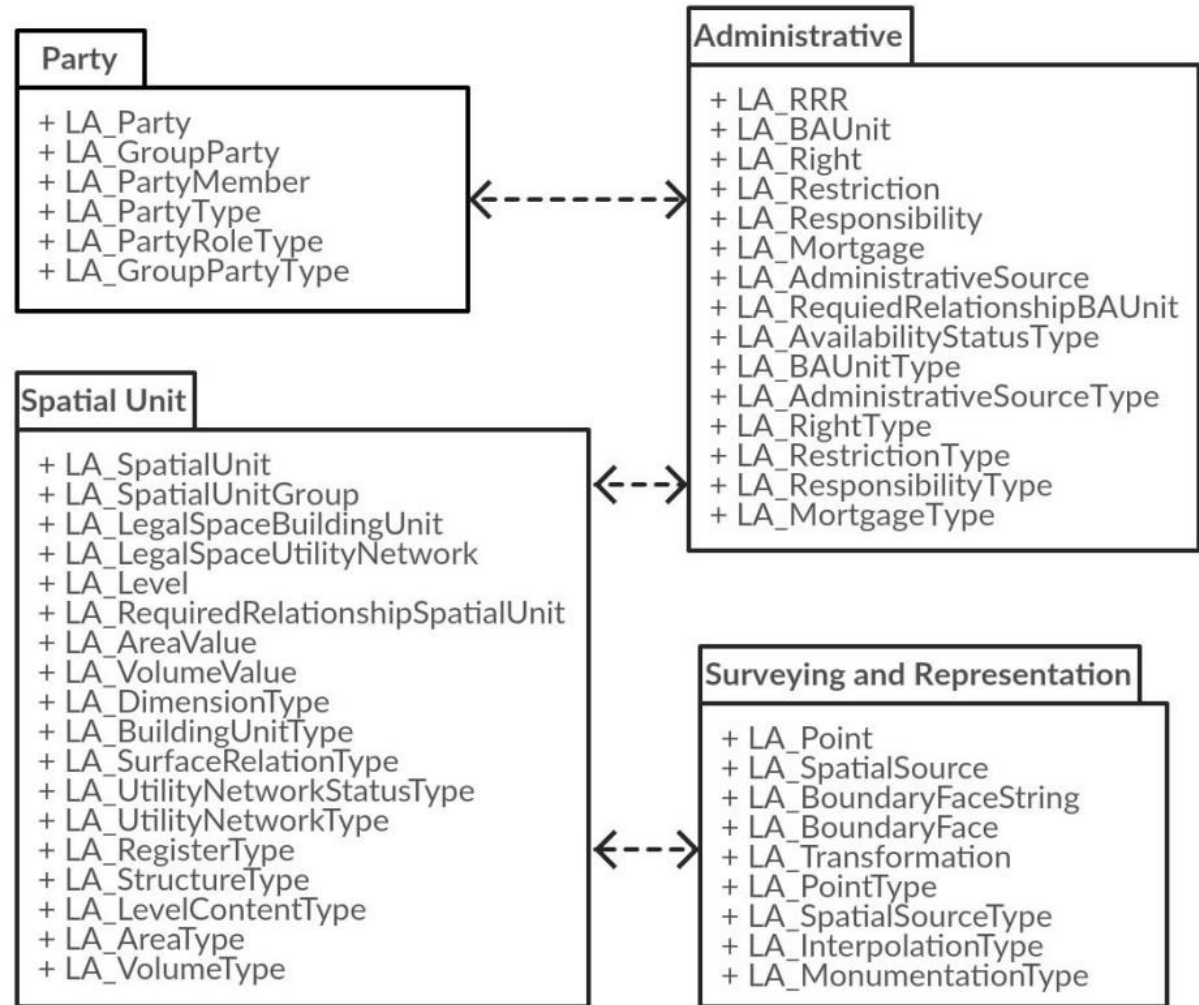


Data in Croatian Utility cadastre

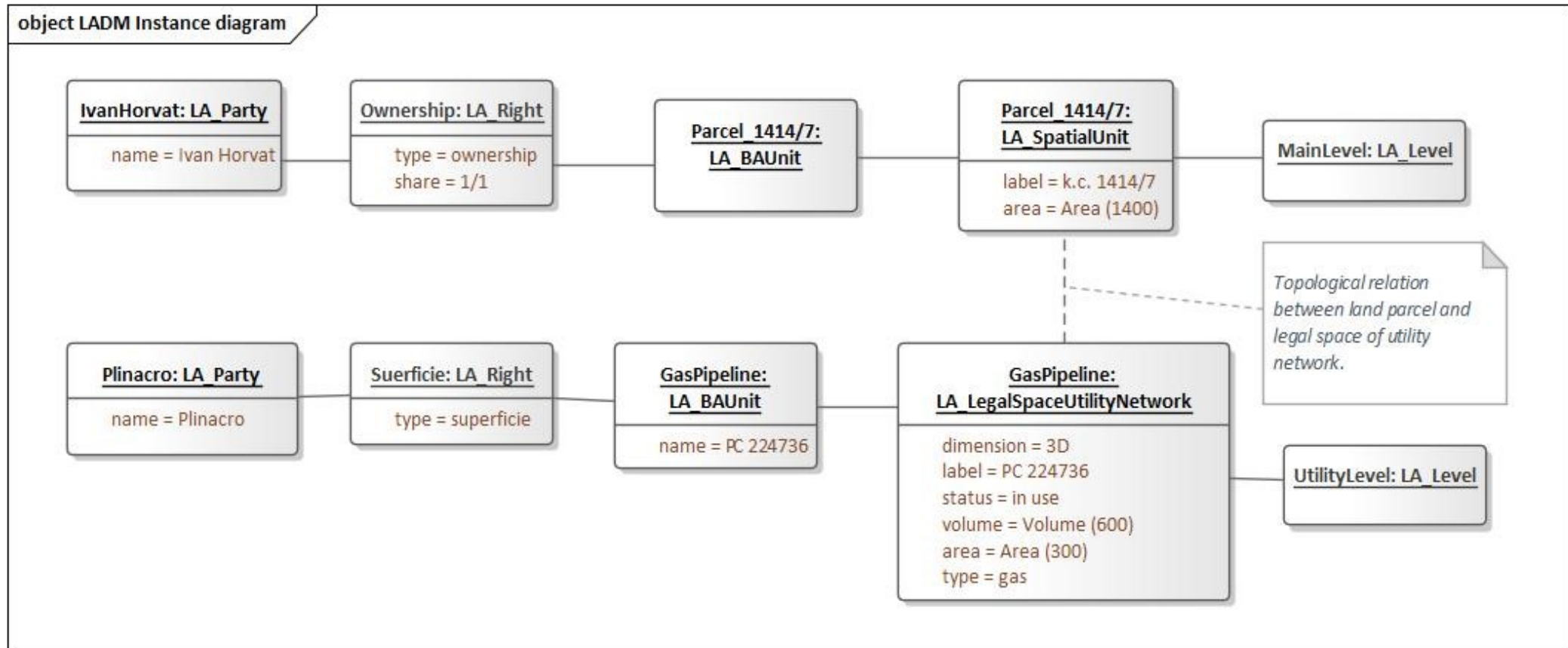
- Data about ground level, purpose, usage, location, managers, technical information
- Electric (voltage, type and number of cable)
- Electronic communication (cable number)
- heat network (canal dimensions, type of material, pipe number and profile)
- Gas (type of pressure, type of material, and pipe profile)
- Water, oil, sewage (material and pipe profile)

LADM

- ISO standard
- Organized in 3 packages and 1 subpackage
- Can be implemented flexibly and extended for local needs
- Physical features of utility networks

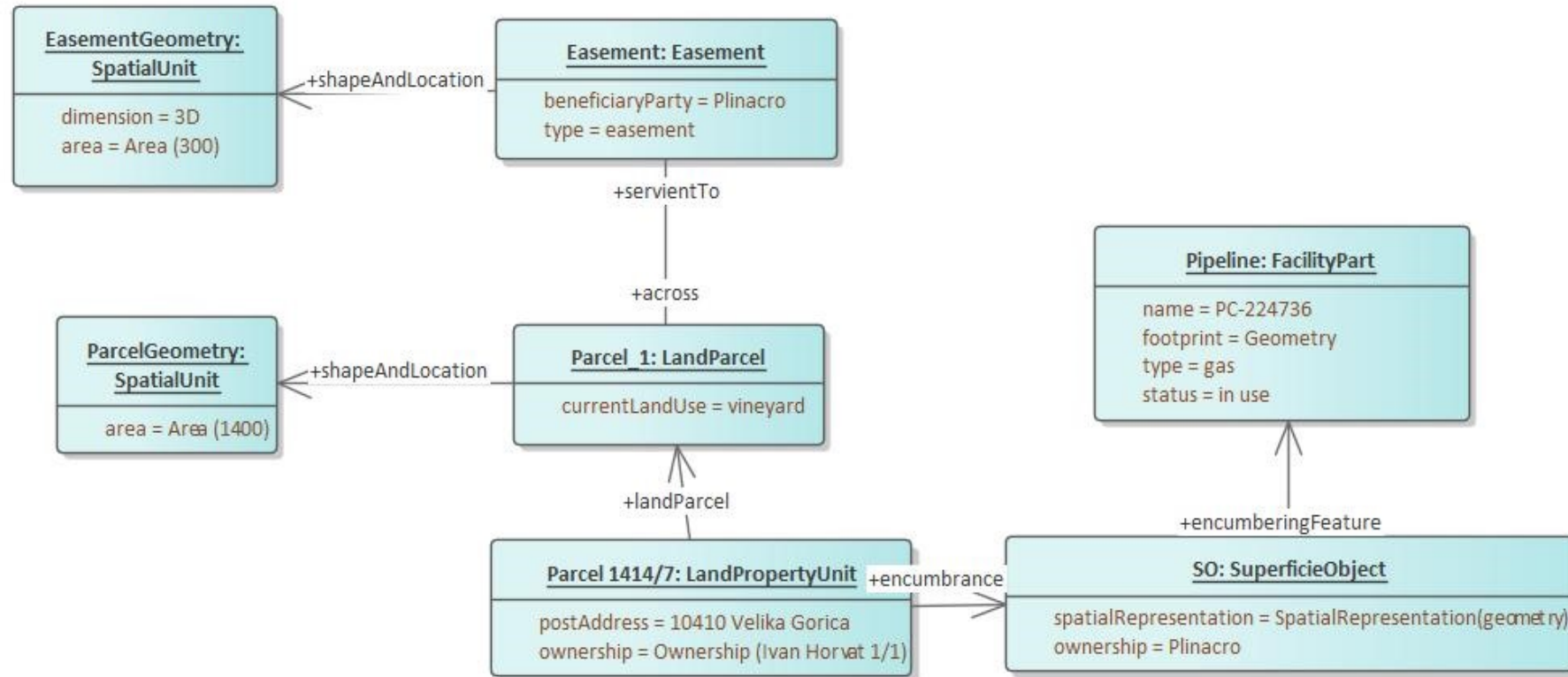


LADM

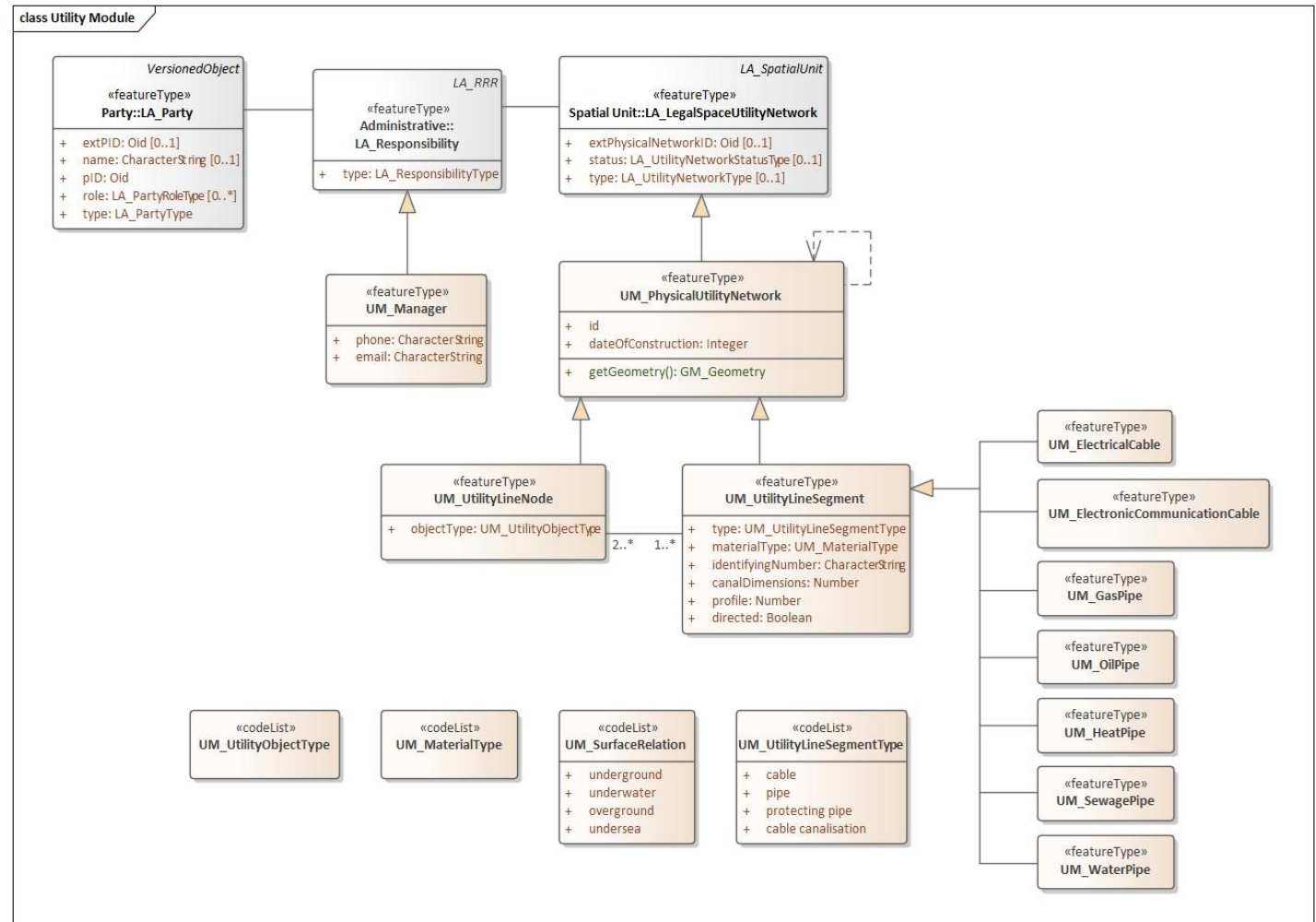


LADM and LandInfra

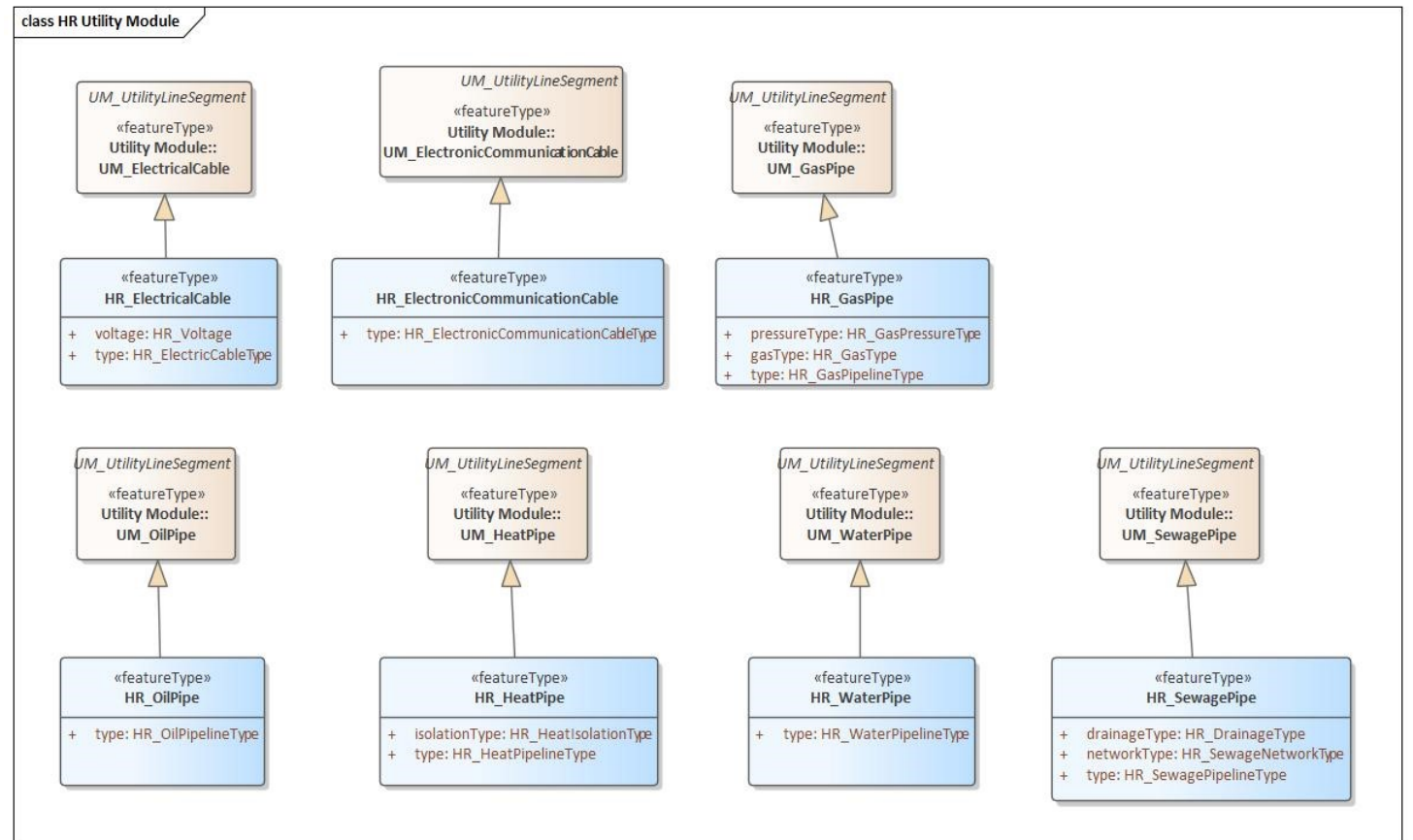
object LandInfra instance diagram



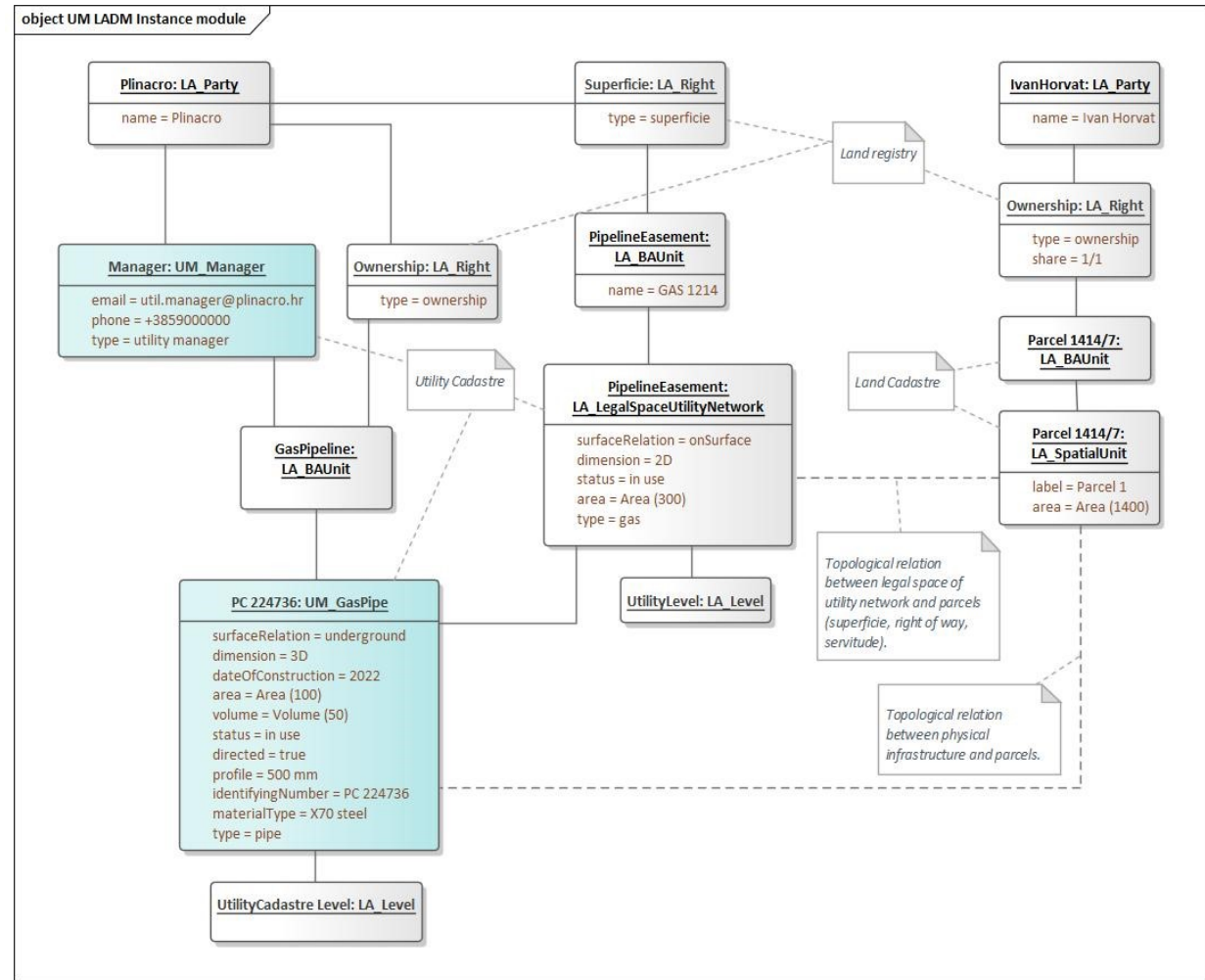
Utility registration model based on LADM



Utility registration model based on LADM



Utility registration model based on LADM





Conclusion and future work

- Closer integration between different registers
- Utility infrastructure data collection
- Creating and populating database
- Testing