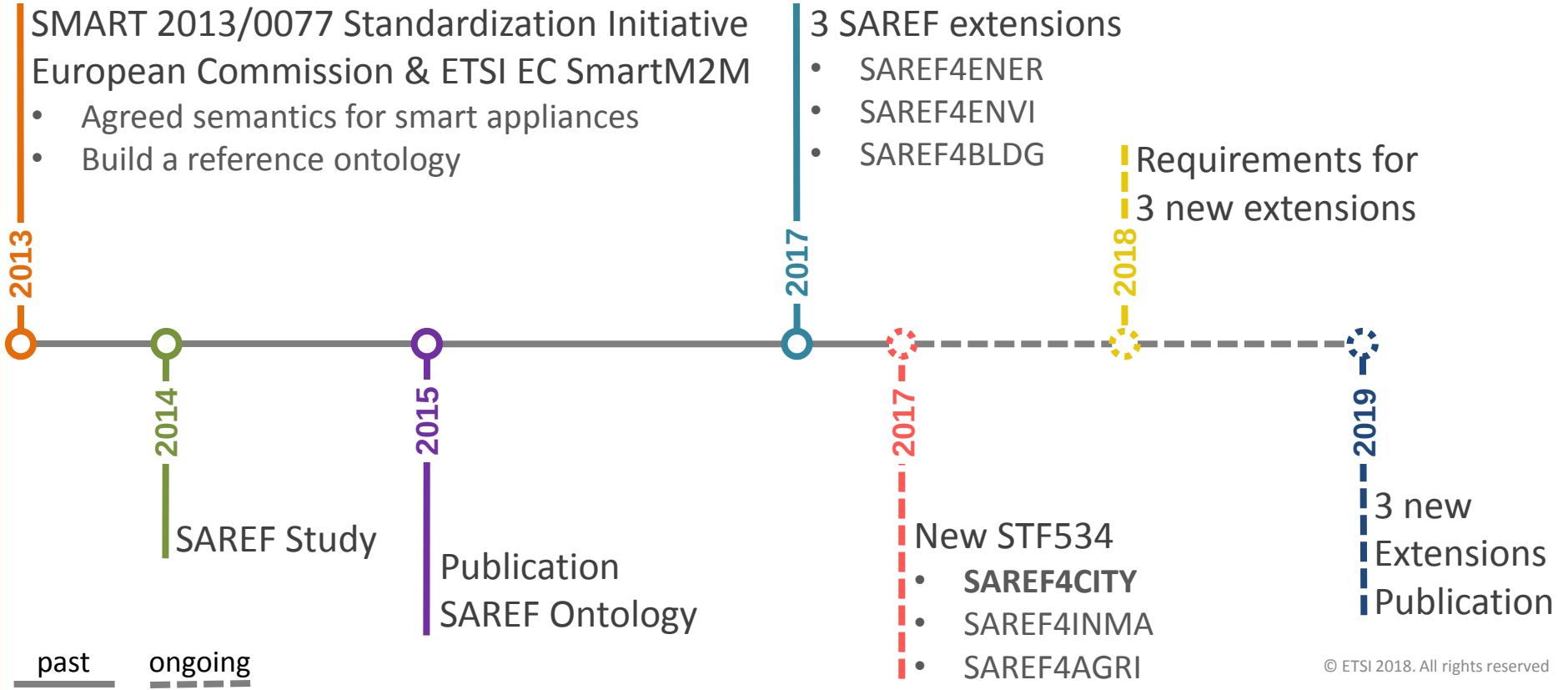
TOWARDS A COMMON SEMANTIC DATA MODEL FOR SMART CITIES

María Poveda-Villalón (UPM), Raúl García-Castro (UPM), Laura Daniele (TNO)

1st ITU Workshop on Data Processing and Management for IoT and Smart Cities & Communities

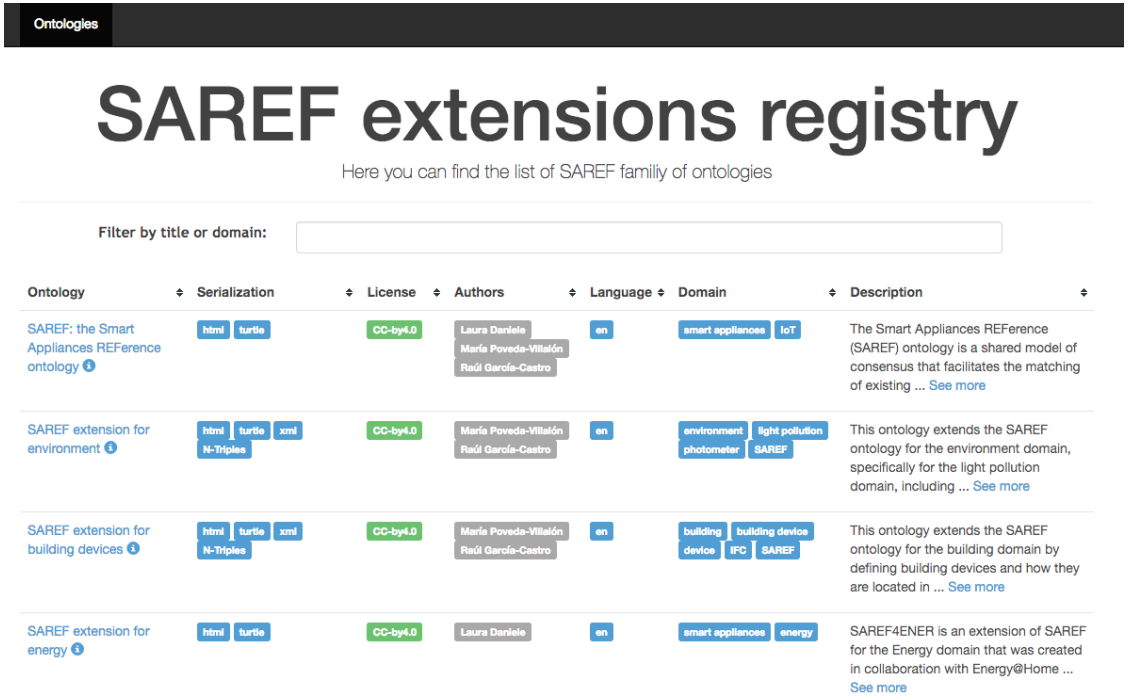
Brussels, 19 February 2018

SAREF OVERVIEW



SAREF FAMILY OF ONTOLOGIES

http://saref.linkeddata.es/ Catalogue (UPM's site, not official)



Includes:

- **SAREF ontology**
- SAREF4ENVI
- SAREF4BLDG
- SAREF4ENER

To be included (when available):

- **SAREF4CITY**
- SAREF4INMA
- SAREF4AGRI

SAREF4CITY PROCESS

Related initiatives & stakeholders search

Public Administrations

- Madrid
- …

Associations

- AIOTI
- **FEMP**
- …

Projects

- H2020:

AGILE, BIG IoT, bIoTope, CREATE-IoT, Autopilot, replicate, smartencity, smarter together, synchronicity, activAGE, iof2020, My smart life, Inter-IoT, Ruggedised, SHAR-LLM - Sharing cities, symbIoTe, TagItSmart!, U4IoT, MONICA, VICINITY, ESPRESSO

Platforms

- FIWARE
- …

Standardization

- AENOR CTN 178
- OGC CityGML
- ETSI ISG CIM
- CityInd
- oneM2M
- …

SAREF4CITY PROCESS

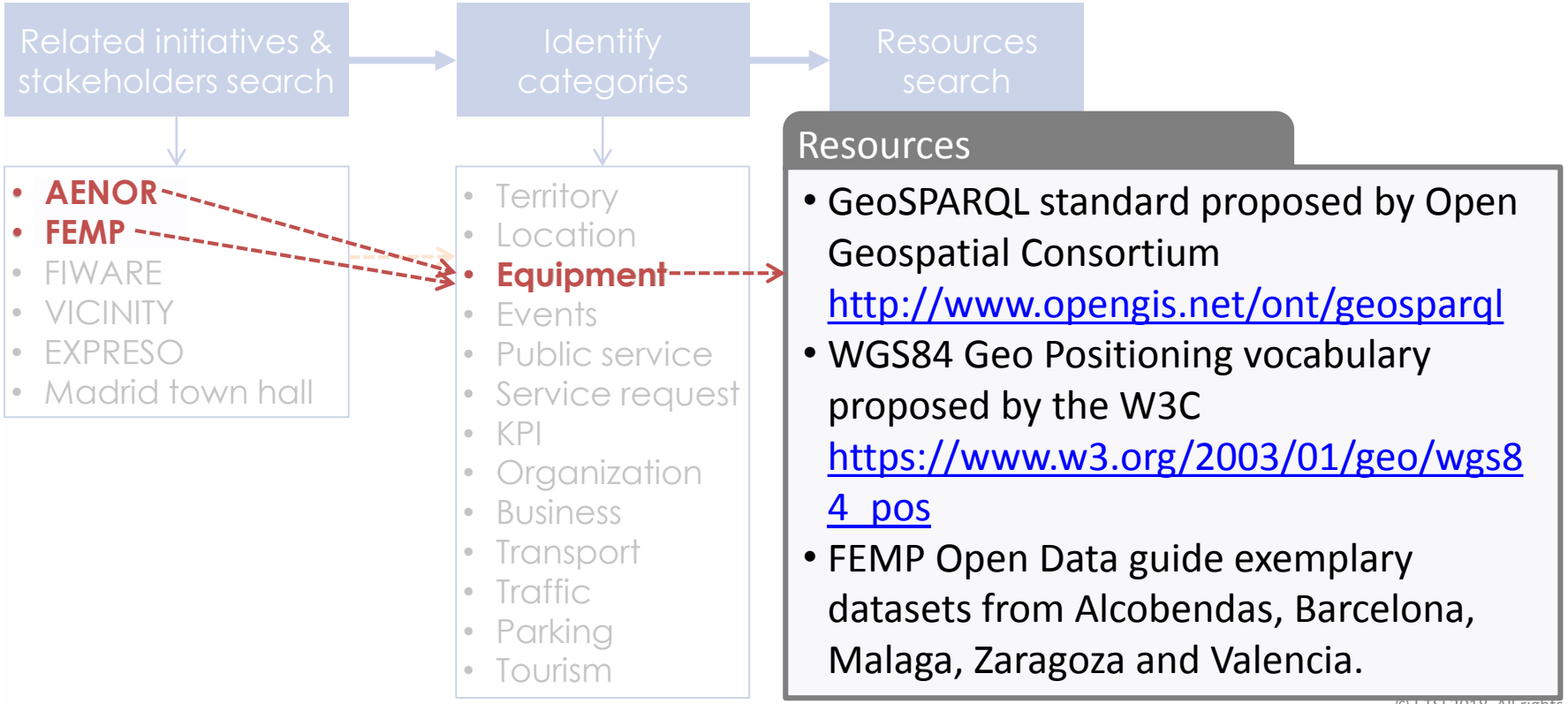
Related initiatives & stakeholders search

- **AENOR**
- FEMP
- FIWARE
- VICINITY
- EXPRESO
- Madrid town hall

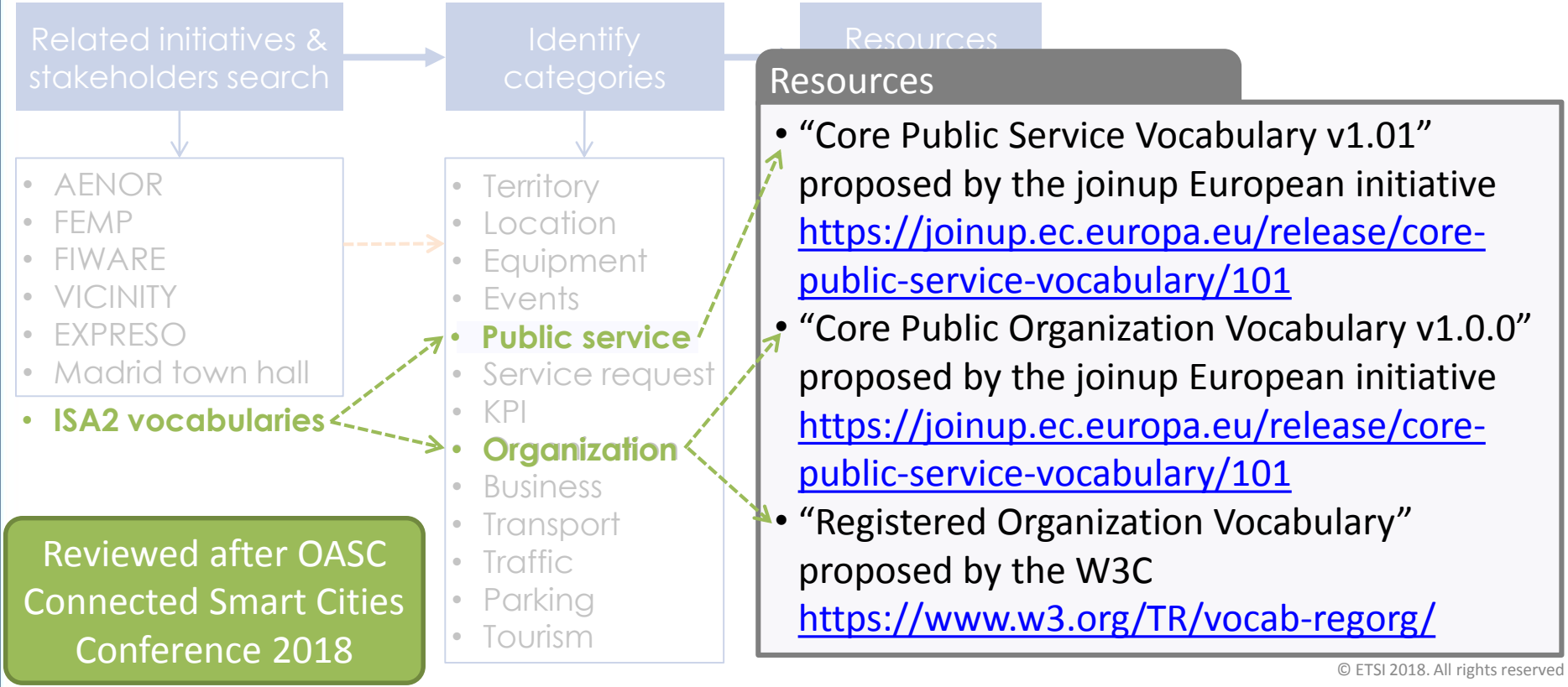
Categories

- Business catalog <---
- Cultural Agenda <---
- ~~Population~~
- ~~Air quality~~
- ~~Contracts, public procurement and service providers~~
- ~~Municipal budget and budget execution~~
- Public park loads <---
- Bus timetable, line, stops and fares <---
- Traffic <---
- Touristic places <---
- City street guide <---

SAREF4CITY PROCESS



SAREF4CITY PROCESS



SAREF4CITY PROCESS

Related initiatives & stakeholders search

- AENOR
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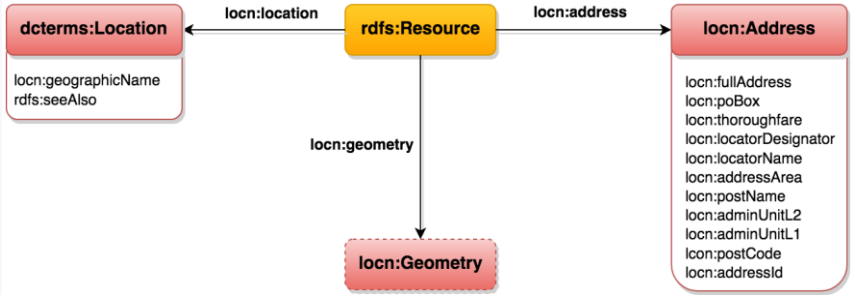
Requirements

- From https://www.w3.org/ns/locn

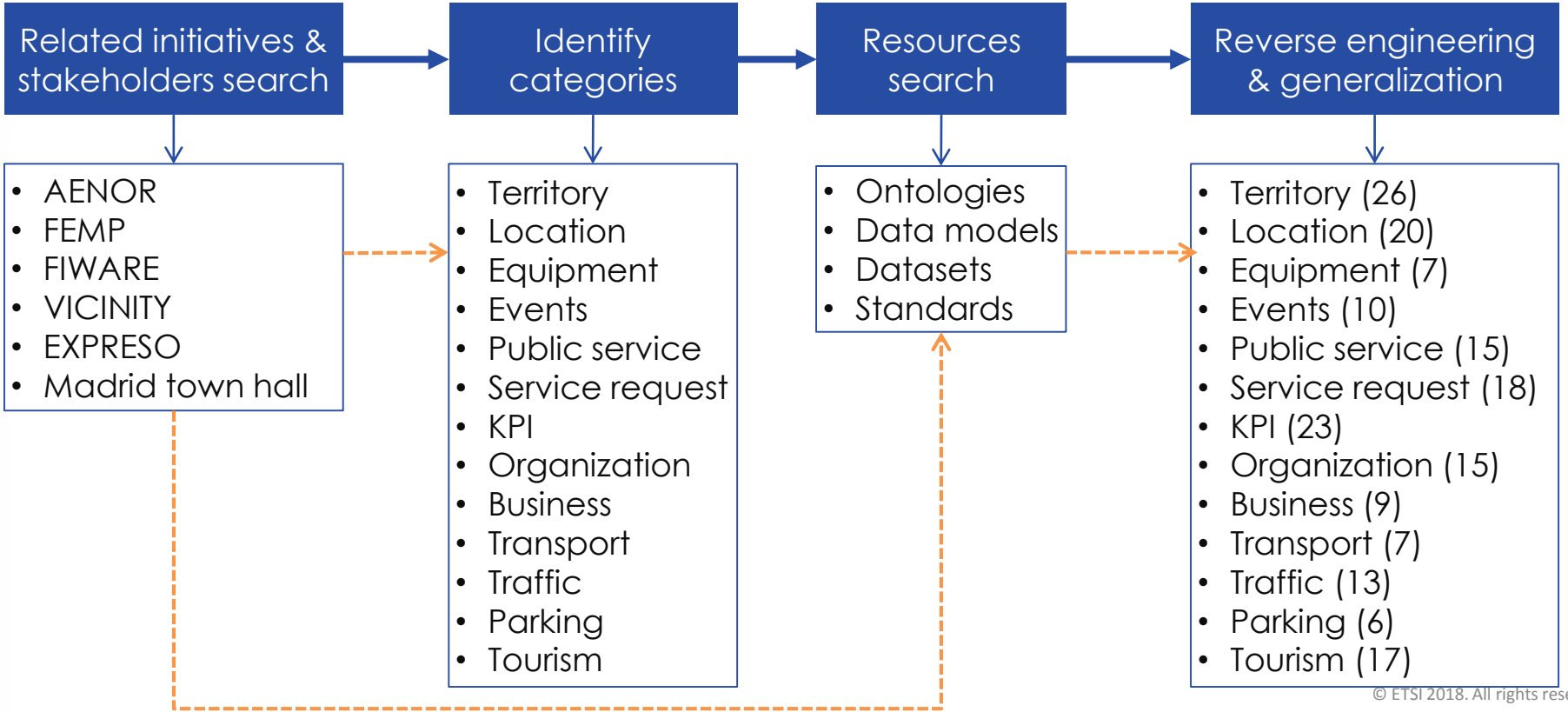


- A resource can have a location
- A resource can have an address
- An address has a full address
- An address can have a post office box number
- …

Resources

Reverse engineering & generalization

SAREF4CITY PROCESS



NEXT STEPS

- Requirement **validation** with
  - European **projects** for example VICINITY, SYNCHRONICITY...
    - Abstract and group requirements to ease the validation
  - IoT Week workshop, Bilbao June 2018
- **Implementation**
  - **Reuse** stable models, used for the requirements and others:
    - http://lov.okfn.org/
    - http://smartcity.linkeddata.es/
    - http://sensormeasurement.appspot.com/?p=ontologies#city
  - **Create** new conceptualizations when needed
- Explore **relations** with other approaches, like **Web of Things**? IoT

CONCLUSIONS

- We are aware we are not the only ones doing this
  - **Requirements** extracted in a methodical way from **existing resources**
  - **Plug** existing **solutions** rather than reinvent the wheel
    - Reuse what is already done (and **working**)
  - Incorporate stakeholders **feedback**
- We are still on time to include **your input**:
  - **Use cases**
  - **Models**

Thank you for your attention!