

**vicomtech**

your R&D partner  
for smart digital solutions



## Semantic labeling for AD development & validation

---

*Dr. Oihana Otaegui* – Head of Department ITS & Engineering

*Dr. Marcos Nieto* – Principal Researcher

**vicomtech**

## ABOUT US

Non-for-Profit Private Research Institution in **Artificial Intelligence, Visual Computing & Interaction**

Applied Research & Technology Transfer to the Industry



[www.vicomtech.org](http://www.vicomtech.org)

**+160**   
RESEARCHERS

**+60**   
Ph.D

**24%**   
H2020 &  
INTERNATIONAL

**46%**   
INDUSTRIAL R&D

# Semantic Labeling

- **Labels** are **geometries** and “**concepts**”

- Objects
- Actions and contexts
- Properties



- Different projects have different labeling needs: **common** and **specific** concepts
- **Different label-sources** produce labels **incompatible** in **format** and **meaning**

incompatible = {  
can't fuse  
can't (inter) search  
can't compare  
can't use for AI}

# Semantic Labeling

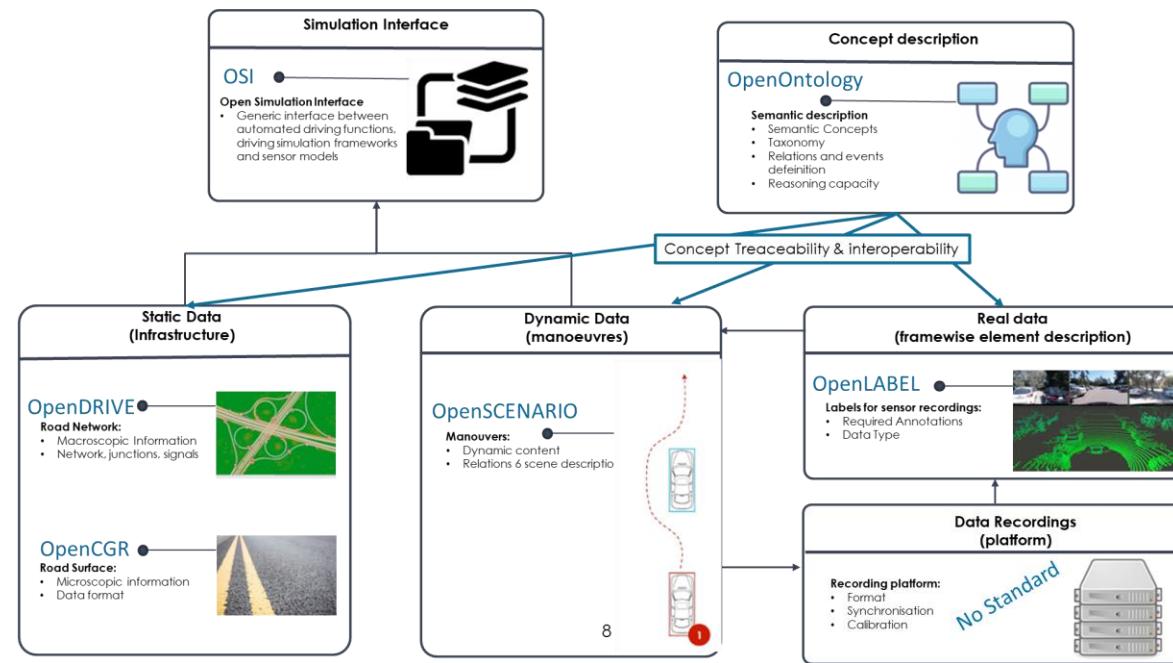
- **Compatibility** requires

**common format**  
**centralized knowledge**



(Video Content Description)  
 (Ontology-based Semantic Labeling)

- **ASAM OpenXOntology** and **OpenLABEL**



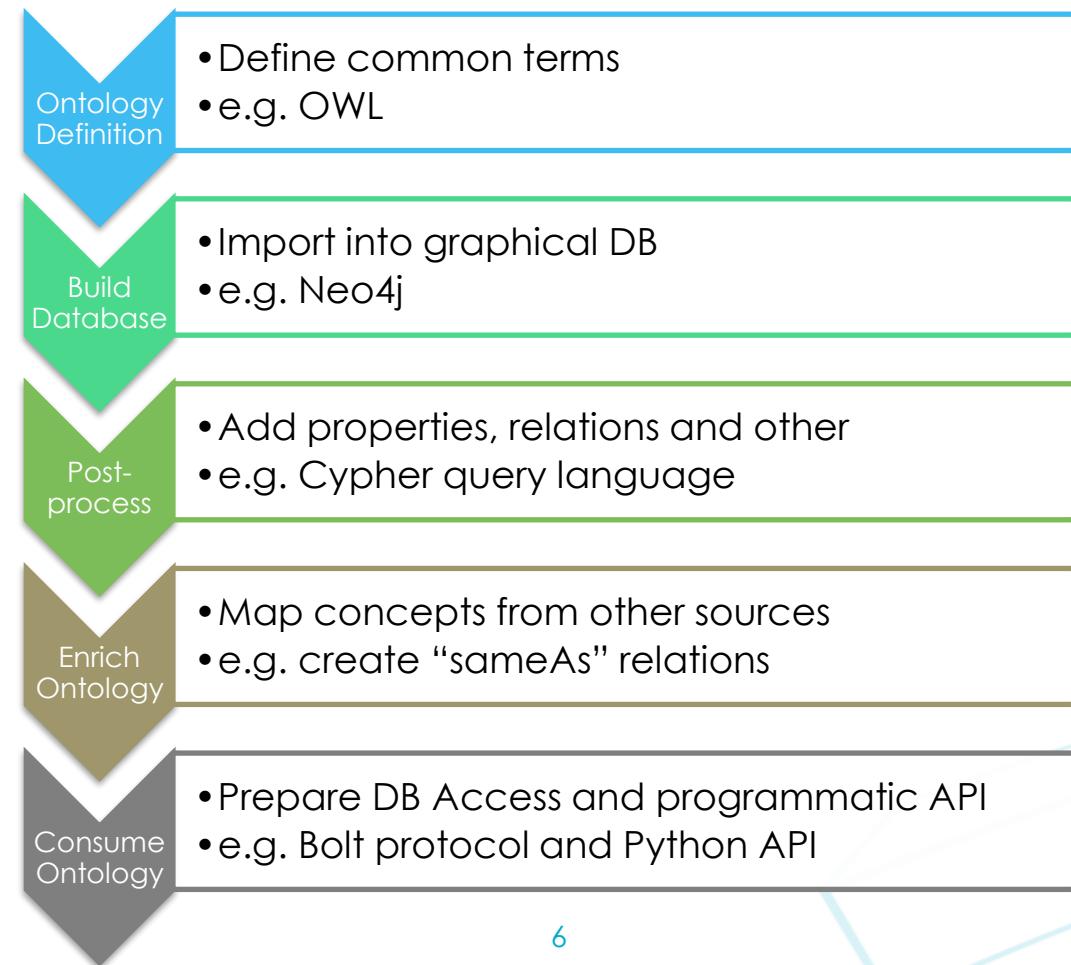
# Semantic Labeling

- **Demo 1 – Ontology building with Neo4j**
- **Demo 2 – Ontology utilisation for Labeling**



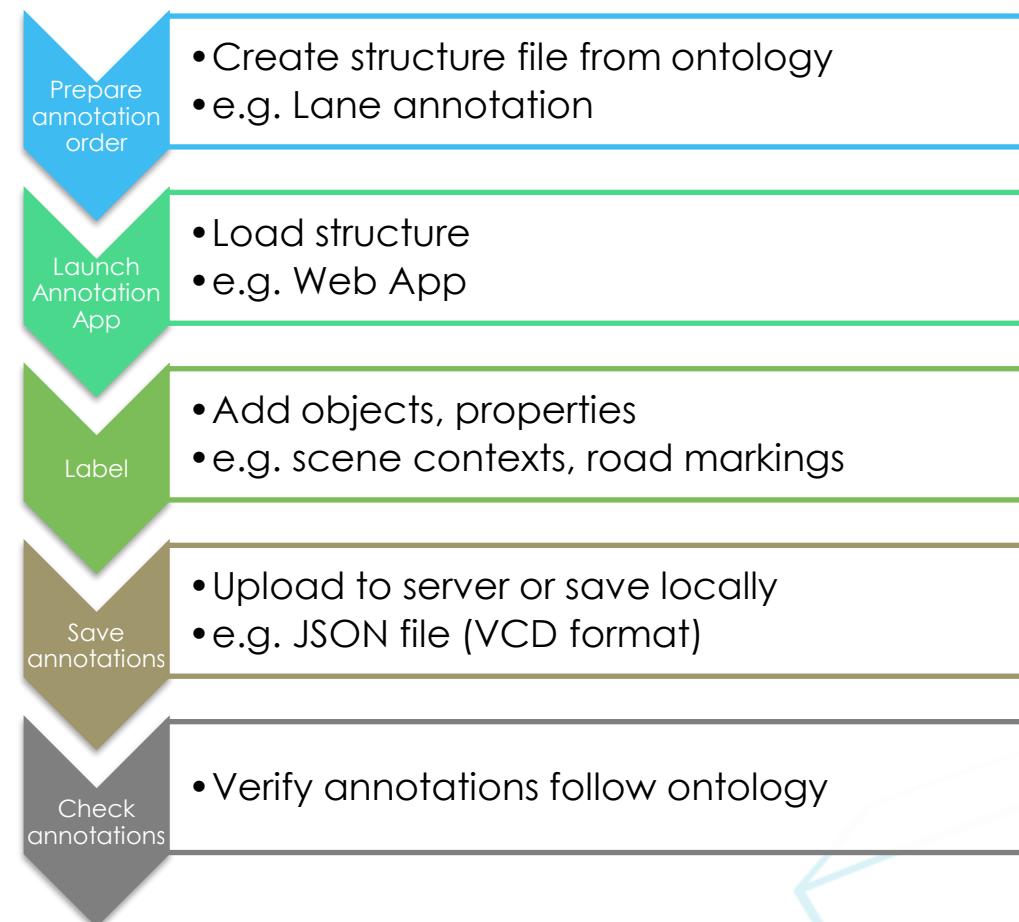
# Semantic Labeling

- **Demo 1 – Ontology building with Neo4j**



# Semantic Labeling

- **Demo 2 – Ontology utilisation for Labeling**





*Eskerrik asko  
Gracias  
Thank You*

Address:  
**Paseo Mikeletegui 57**  
**San Sebastián, Spain**

📞 +34 943 30 92 30

✉️ ootaegui@vicomtech.org