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HALCOR

Evolving Beyond Copper

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ELVALHALCOR

UC10 - Data Integration and Interoperability in manufacturing Developing Domain- and Application-level Ontologies for the procurement process in copper manufacturing sector

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OntoCommons "Ontology-driven data documentation for Industry Commons" has received funding from the European Union's Horizon Programme call H2020 -NMBP-TO-IND-2020-singlestage, **Grant Agreement number 958371.**

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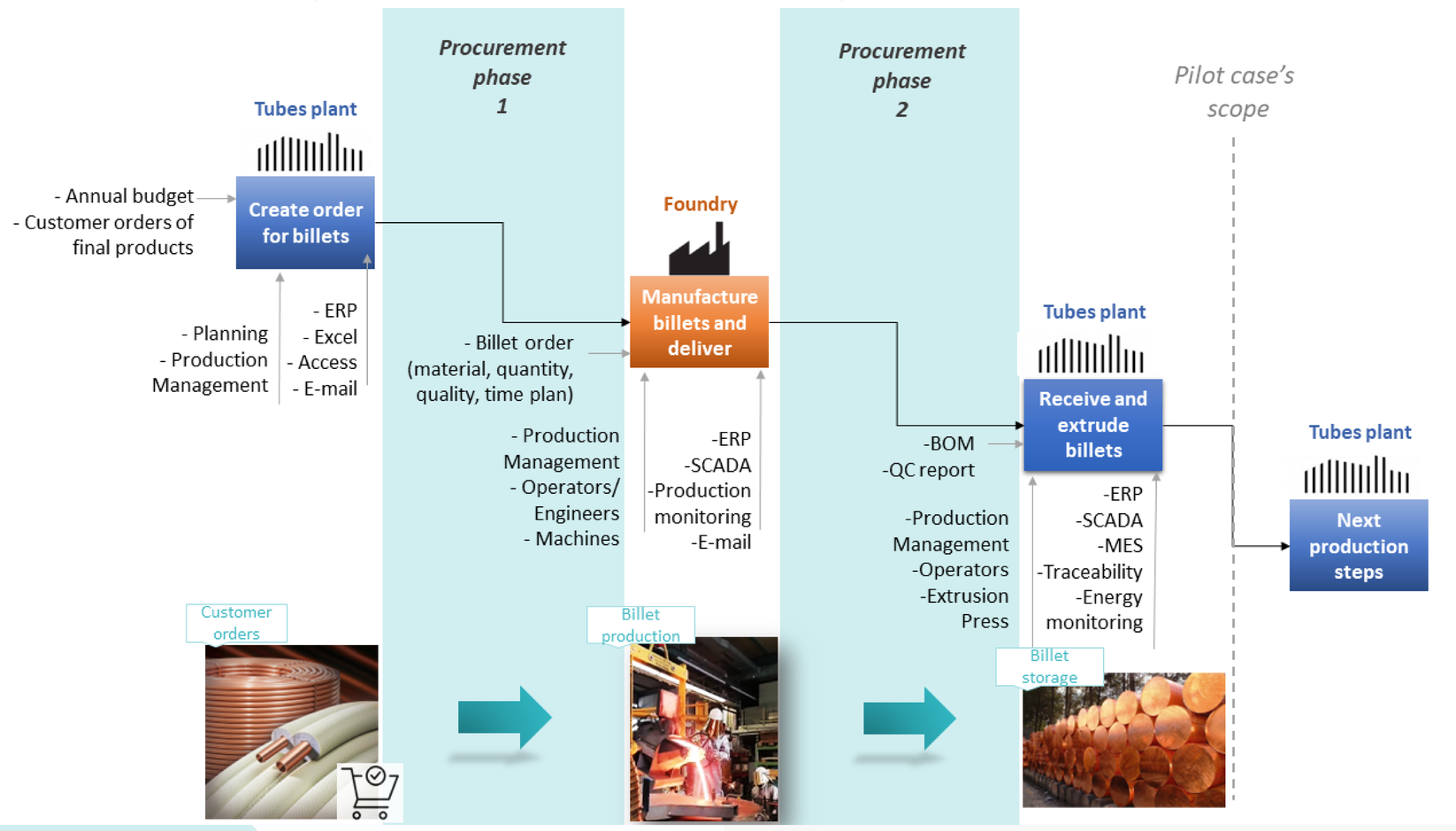
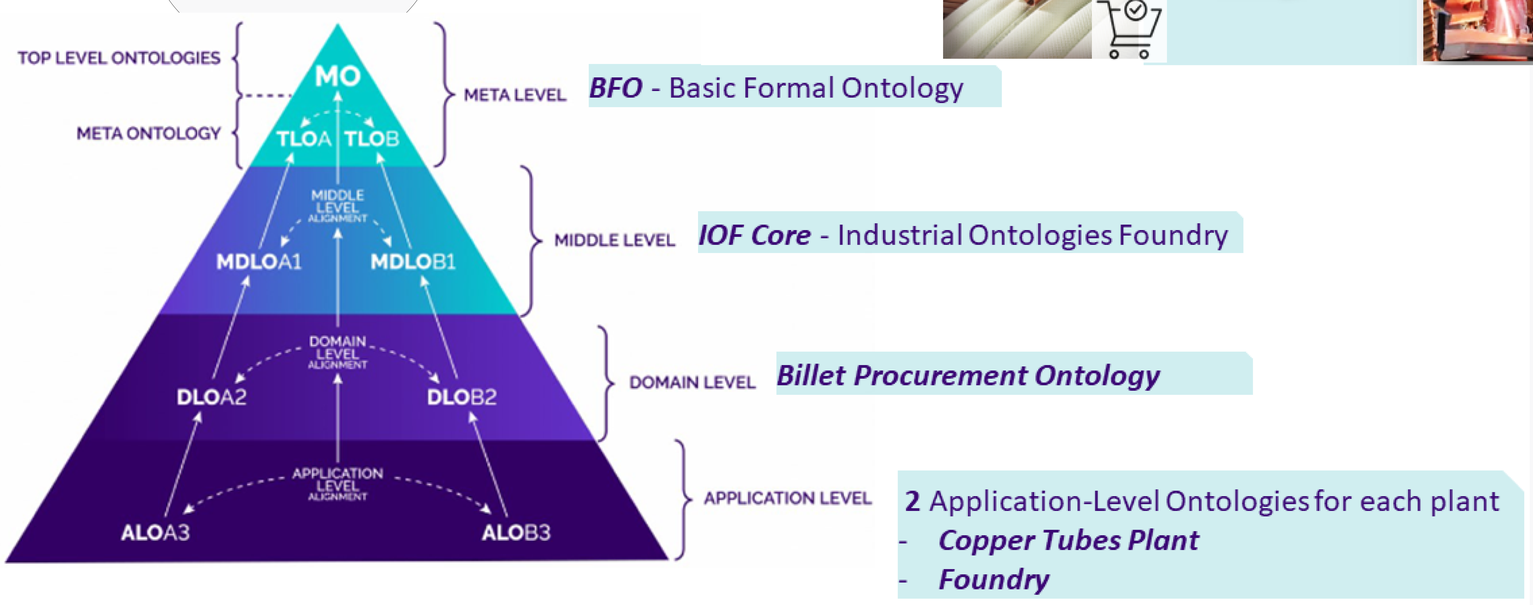
UC10 - Data Integration and Interoperability in manufacturing
Developing Domain- and Application-level Ontologies for the procurement process in copper manufacturing sector

Halcor is the copper and alloys extrusion division of **ELVALHALCOR S.A.** and is the largest producer of copper tubes in Europe with annual production capacity of 80,000tn.

Halcor's use case focuses on the development of data ontologies that will serve as the foundation for a data-driven decision system for the procurement of raw materials (billets) for the Copper Tubes production plant. The goal is to unify data from different departments and entities involved in the procurement process, enabling knowledge preservation, standardization and ultimately, data integration and interoperability. The project's main objective is to demonstrate the application of semantic technology in representing complex processes and capturing the expertise and knowledge of individual experts.

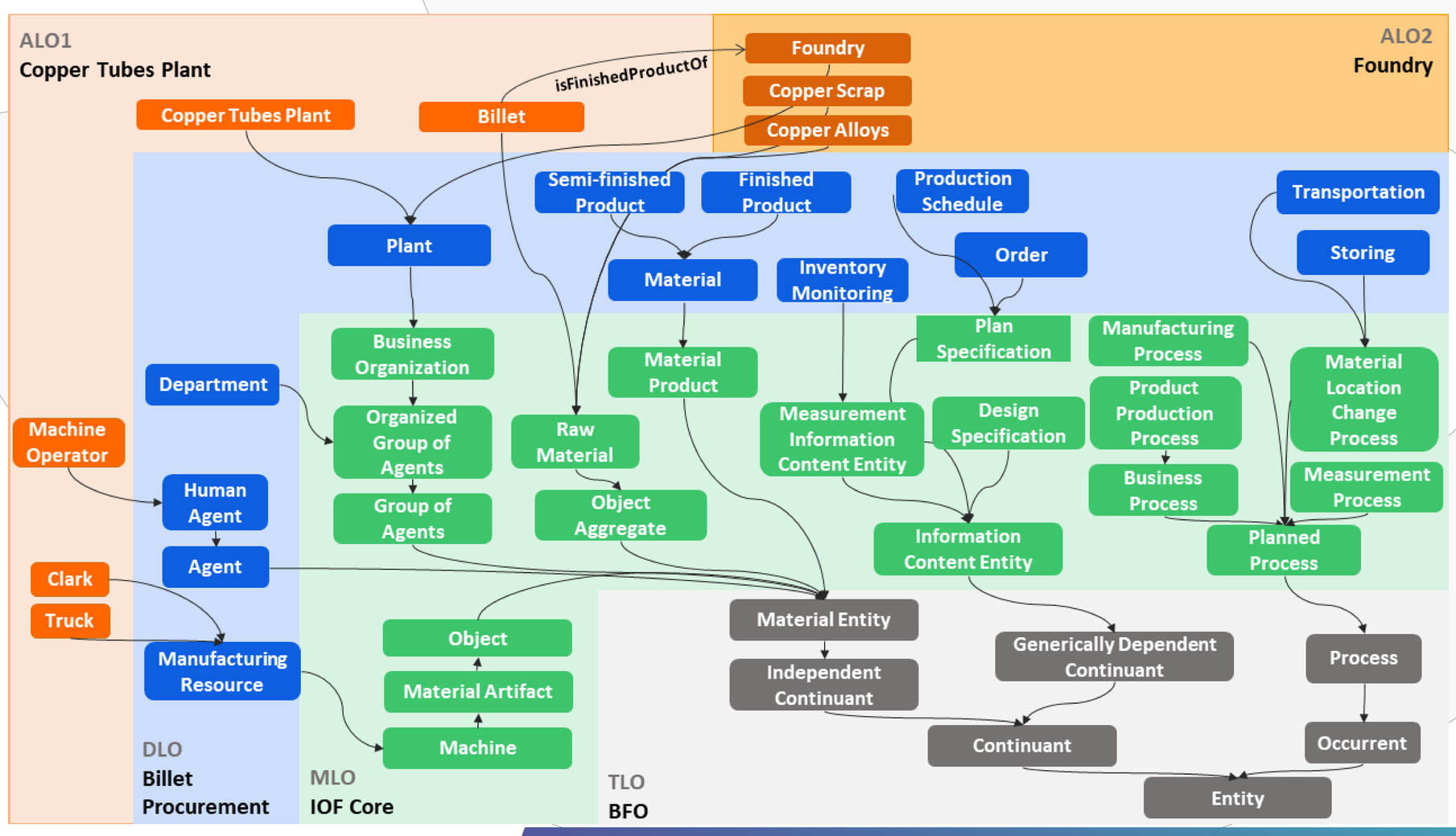




Halcor consists of three state-of-the-art plants with two utilized for the use case: the Foundry produces copper billets while the Copper Tubes Plant receives the billets and manufactures copper tubes.

Under Halcor's use case a domain ontology has been developed to represent the procurement process, which is built upon the TLO called BFO and MLO called IOF Core. Additionally, two distinct application-level ontologies were created for each plant.

Below is presented a part of the developed ontologies:



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