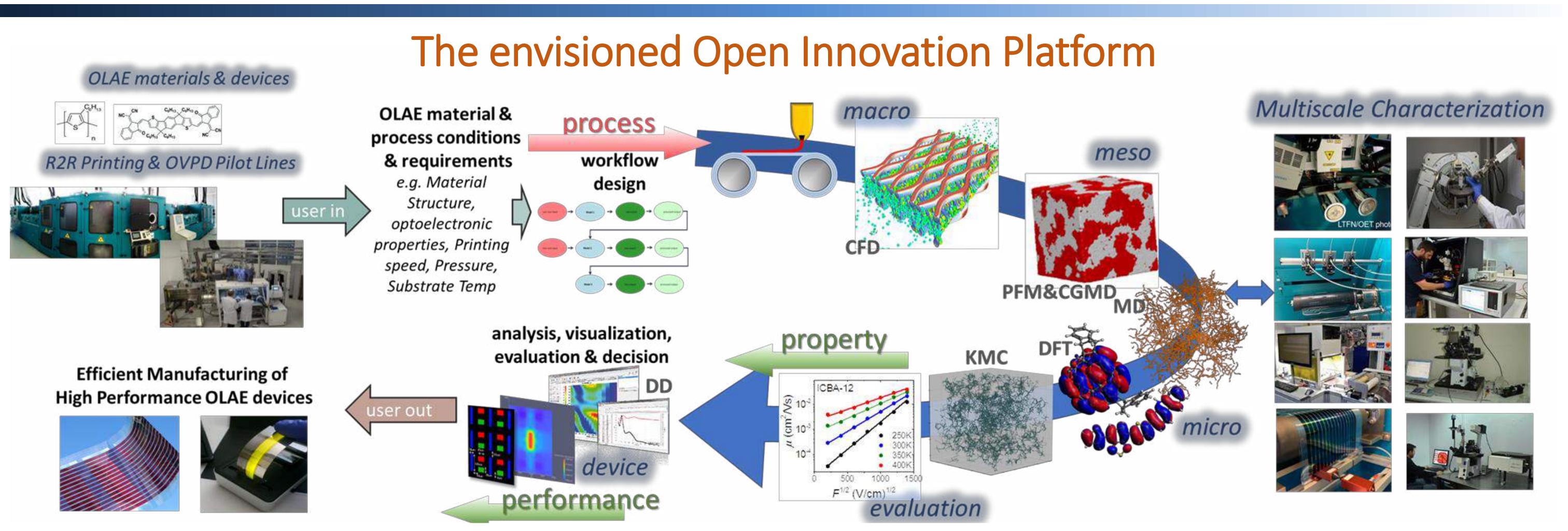
MUSICODE Open Innovation Platform For Materials Modelling



MUSICODE has the ambitious goal of developing an Open Innovation Materials Modelling Platform to expediate accurate and knowledgeable business decisions on materials design and manufacturing process optimization. The platform offers multiscale modelling capabilities, workflow editing and execution, data management and HPC support, being demonstrated in the Organics and Large Area Electronics application domain in four industrial use cases.





use cases



- new material formulations
- solution-based processing
- gas-phase transport



• integrated data management

• workflow design, optimization

linked to Marketplaces









ontology-based interoperability

electronic to continuum models

process-property relations





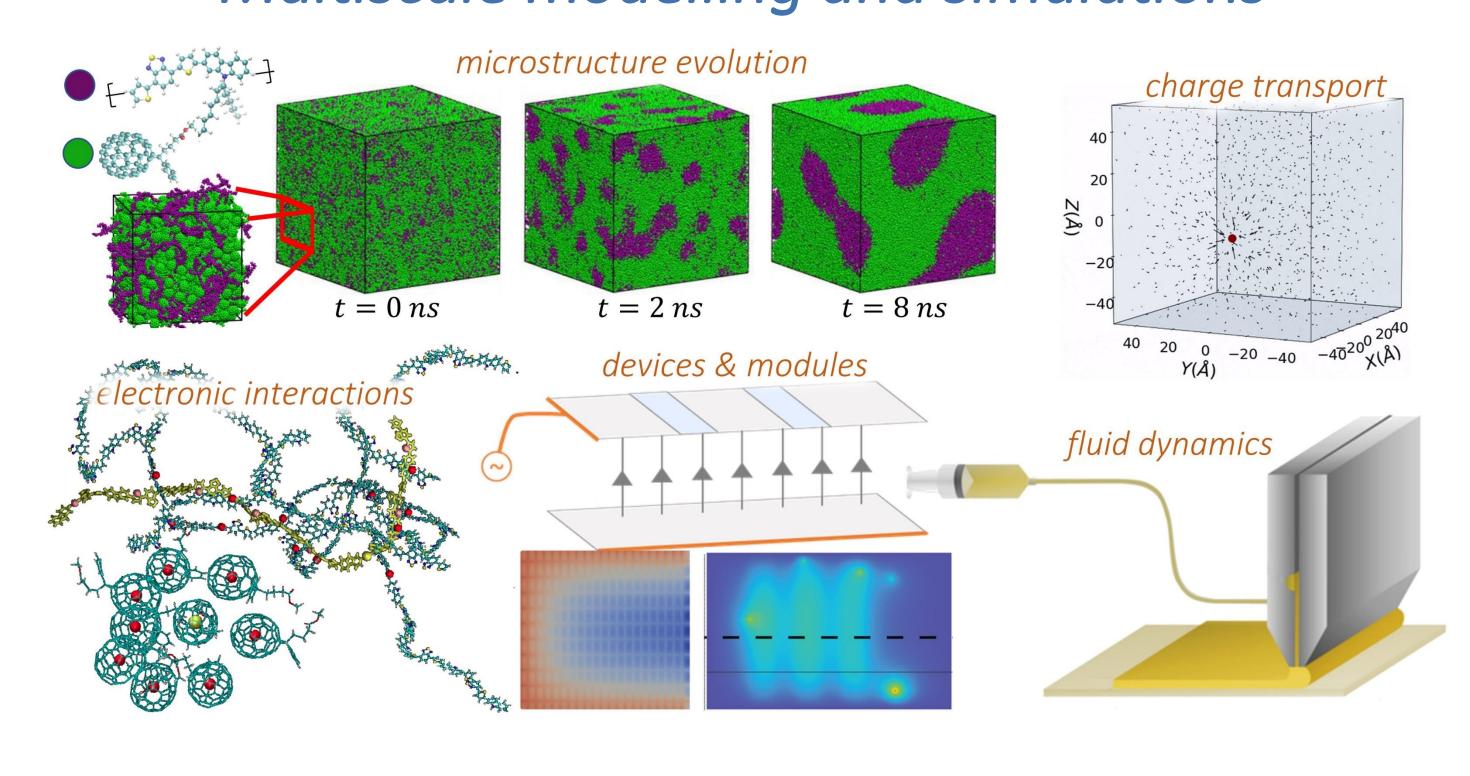


multiscale characterization

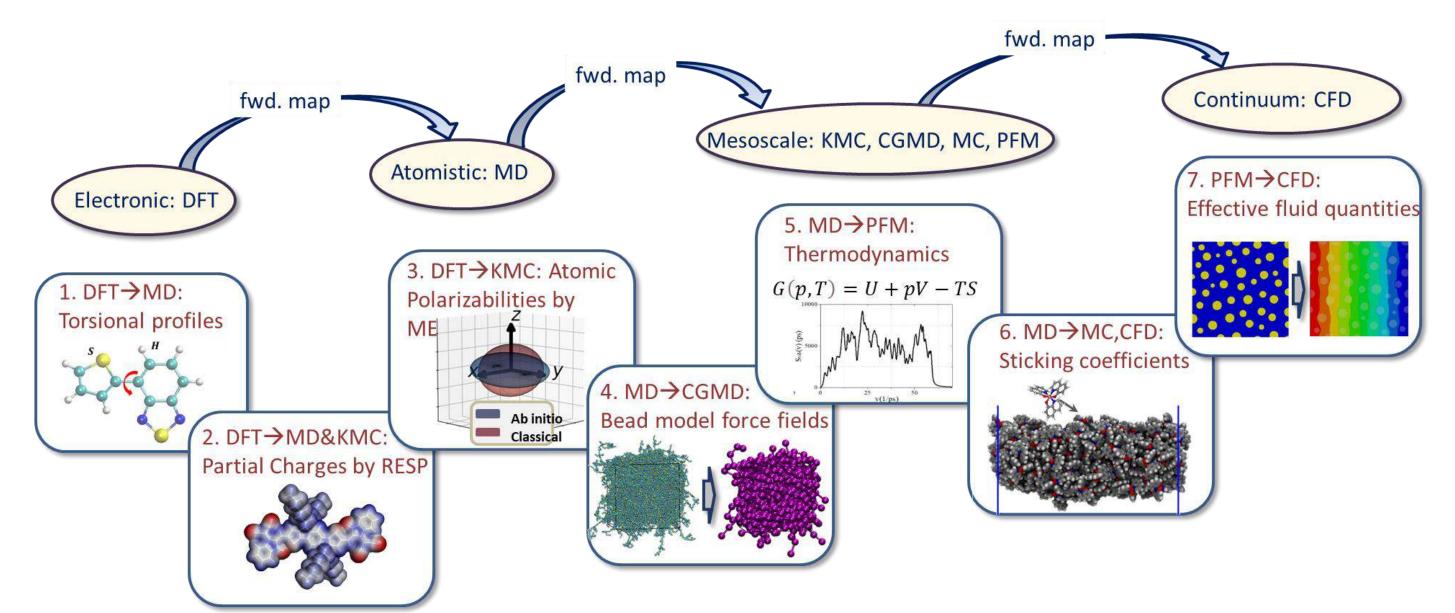
validation

- material model validation
- industry-accepted protocols
- The offered modelling capabilities

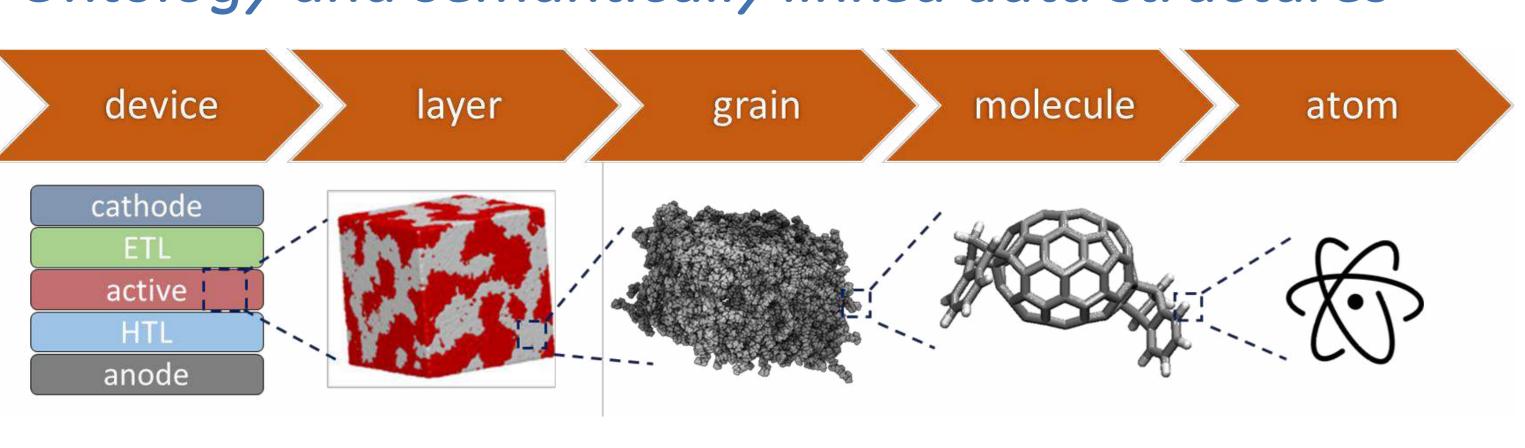
Multiscale modelling and simulations



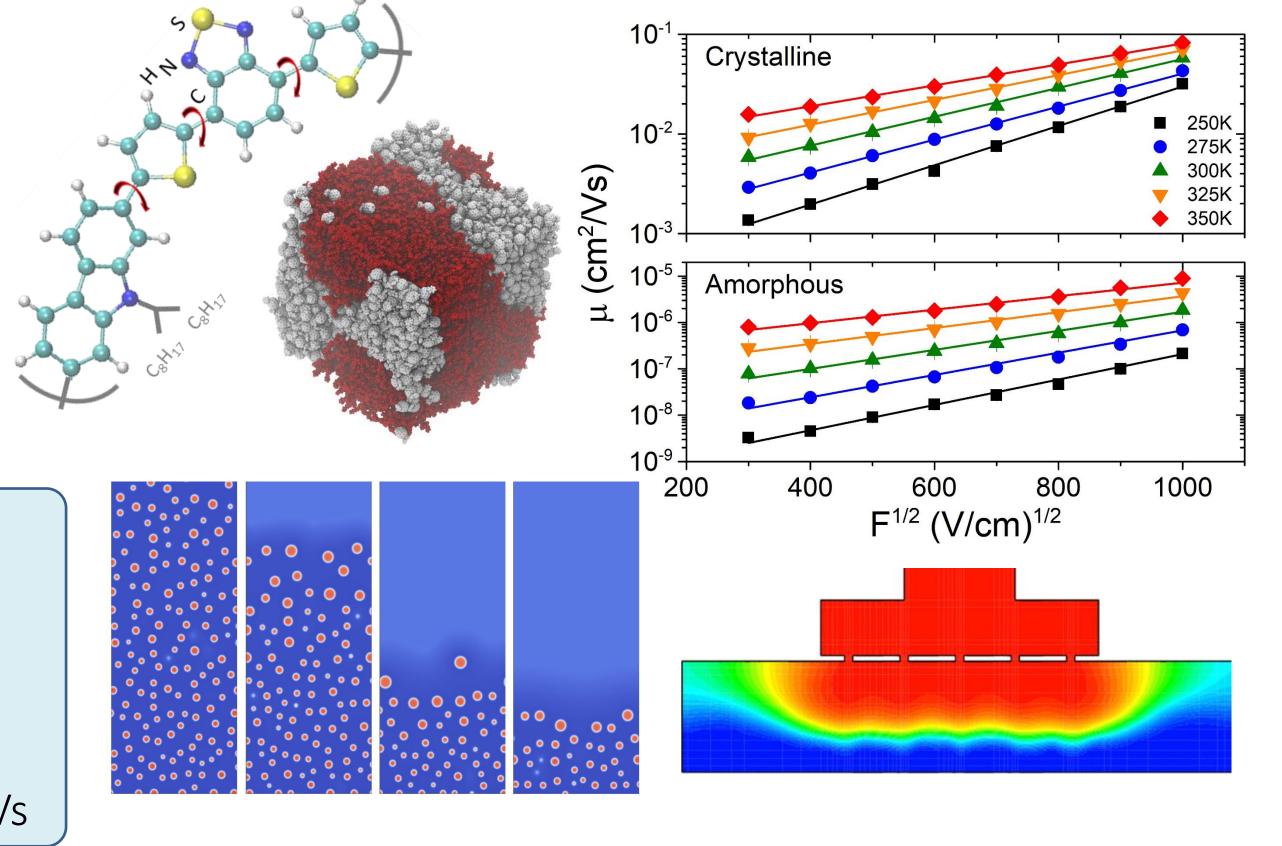
Forward and backward mappings between scales



Ontology and semantically linked data structures



Process-structure-property-performance relations



The industrial use cases to be demonstrated:

- Effect of n/p-type dopants into OPV and OLED active materials
- Optimization of ternary donor/acceptor molecular systems for OPVs
- Gas-phase processing and optimization of vapor deposition parameters for OLEDs
- Solution-based processing and optimization of slot die printing parameters for OPVs

Acknowledgement:



















This project is receiving funding from the European Union's Horizon 2020 Research and Innovation Programme under the Call DT-NMBP-11-2020 "Open Innovation Platform for Materials Modelling".