



An experimentally-validated multi-scale materials, process and device modelling & design platform enabling non-expert access to open innovation in the Organic and Large Area Electronics Industry (MUSICODE)

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### Validation of modelling wet phase processing in OE materials

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## Publishable summary

The developed modelling platform and the modelling techniques integrated into the platform enable location-independent simulation studies for the design and optimization of systems for the production of OPVs and other electronic systems. An implemented simulation method is used to predict evaporation processes in dryers that are used to evaporate solvents from thin printed liquid layers and thus enable phase separation with the corresponding formation of photoactive layers. The CFD solver TinFlow used for this purpose was expanded to include a film model. To validate the implemented method, extensive experiments were carried out on a pilot plant and the results of these investigations were specifically compared with the simulation results. The validation results show a very good agreement between simulation and experiment.