



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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Publishable summary

The modelling case of the MUSICODE modelling platform discussed here is the gas process line, whereby organic molecules are transported within a hot nitrogen flow through a gas channel and a shower head (plate with several holes) and get deposited on a substrate. The flow happens under low pressure and high temperature conditions. To be able to address accurately these low-pressure flow conditions, several extensions to the standard CFD technology are needed, e.g., modified the non-slip conditions on the walls, material properties depending on the Lennard-Jones length and energy, etc. These extensions have been implemented and tested on a realistic toy-model provided by project partner APEVA/AIXTRON.