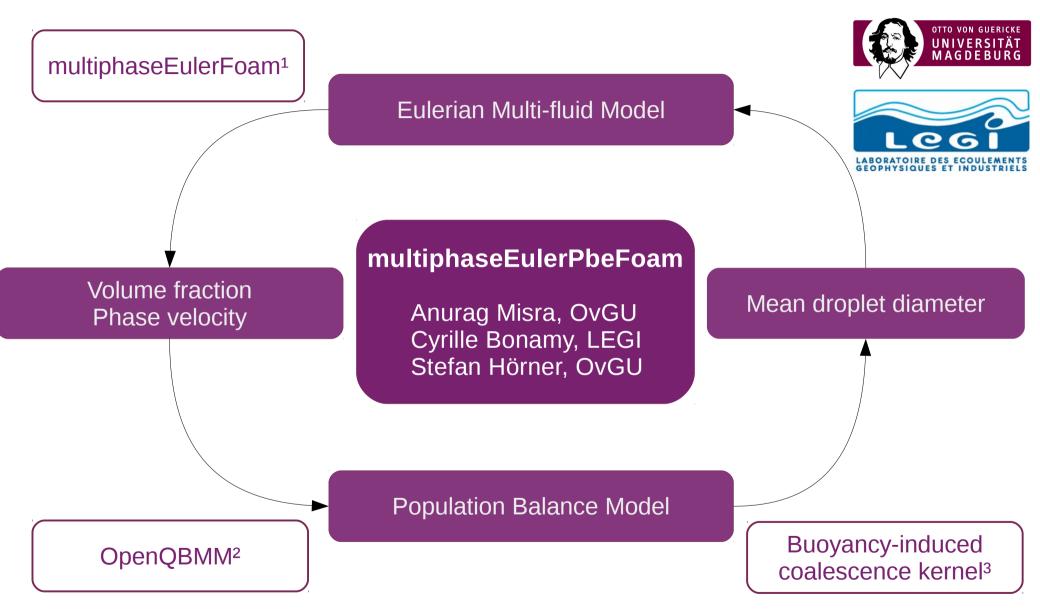
CFD-PBE coupled solver for multiphase flows

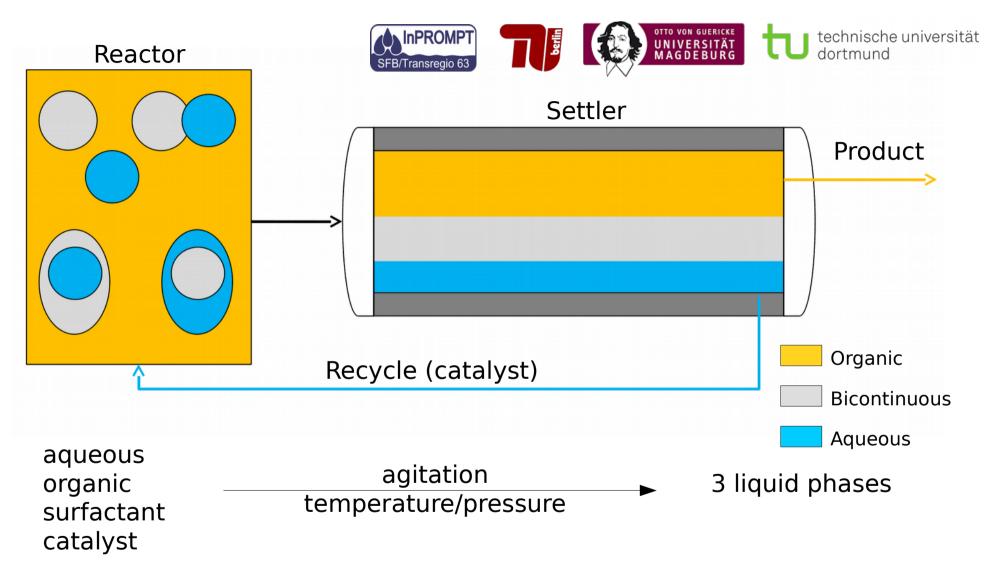


[1] K. Wardle, H. Weller, "Hybrid Multiphase CFD Solver for Coupled Dispersed/Segregated Flows in Liquid-Liquid Extraction," International Journal of Chemical Engineering, 2013

[2] A. Passalacqua, F. Laurent, E. Madadi-Kandjani, J. Heylmun, R. Fox, "An open-source quadrature-based population balance solver for OpenFOAM", *Computers & Chemical Engineering*, 2017

[3] A. Misra, L.G.M. de Souza, M. Illner, L. Hohl, M. Kraume, J.-U. Repke, D. Thévenin, "Simulating separation of a multiphase liquid-liquid system in a horizontal settler by CFD", *Chemical Engineering Science*, 2017

Reactor-Settler system



- Bicontinuous layer: surfactant-rich stable middle phase
- Aqueous phase: contains organometallic catalyst (Rh, Co)

Efficient phase separation is essential for catalyst recovery!