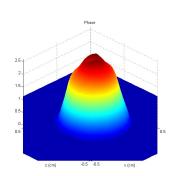


EASYWAX JIP - PHASE 2 (2023-2025)

A JIP DEDICATED TO WAX DEPOSITION











PHASE 1 OF JIP EASYWAX

• A lot of data obtained:

- At pilot scale (by IFPEN on the Lyre loop, and by Equinor on Porsgrunn's test rig)
 - Under single-phase and multiphase flow conditions
- At middle scale on MRI flow loop, provided velocity and concentration profiles
- At lab scale (wax deposit characterization)

Questions still remain to

- Molecular diffusion assessment:
 - Wich viscosity to consider for molecular diffusion?
- Heat transfer coefficient
 - Thermal conductivity of the deposit
- Mechanical behaviour of the wax deposit
 - Yield stress as a function of Wax crystals content



GUIDELINES FOR A JIP EASYWAX - PHASE 2

• WP1: Consolidate Phase 1 results - Year 1

 <u>Objective</u>: To go further in the analysis and understanding of results obtained during JIP EasyWax Phase 1

Gate at the end of WP1: define in more details additional tests to go further and the content of WP2 and WP3

• WP2: Wax deposition mechanisms under single-phase flow

 <u>Objective</u>: To provide a fine description of the wax deposit build-up for better predictions (aging and non-Newtonian effects)

WP3: Wax deposition mechanisms under High GOR

Objective: To study wax deposition mechanisms in risers



TIMELINE / BUDGET

Responsible oil and gas

- Proposal to be finalized for October 2022
- Phase 2 Duration : 3 years
- Ticket : 90k€/year/ sponsor
- Kick-off Meeting early 2023



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