

By Mandar Thombre, Marlene Lund and Hanne Betten  
Supervisor: Johannes Jäschke  
Department of Chemical Engineering



The world's remaining oil fields present challenges like deeper water, smaller discoveries, longer distances and higher water cuts. In order to meet the new demands, subsea production and processing has proved to be a feasible solution.

Gas, oil, water and sand are first separated in a 4-phase gravity separator. The oil and gas are then mixed and pressure boosted with a multiphase pump, before they are transported through the 150 km heated pipeline to the FPSO. The sand is regularly flushed out of the separator, and stored in a desander vessel. To remove oil contamination from the water stream, the water is driven through a hydrocyclone before it is pressurized again and injected into a disposal reservoir. The overflow stream from the hydrocyclone is ejected and mixed with the oil phase.

