During geological times, sand has been eroded, transported and deposited, creating what in the present days are our hosting sediments for hydrocarbon reservoirs in the deep marine systems.

Deterministic process models in combination with palaeogeomorphic seafloor maps provided by modern 3D seismic data may offer important insights in the spatial and temporal development of hydrocarbon-hosting turbidite successions.

Complex Flow Design develops deterministic process models for sediment gravity flows and their transport, erosion and deposition.

**MassFlow-3D™ simulations for cost effective solutions.**

**Deterministic Process Modeling**
- A model based on the new methods of computational fluid dynamics may serve as a robust predictive tool to:
  - Test play concepts and reduce uncertainty of geological models
  - Improve the understanding of massflow processes
  - Simulate transport and spatial distribution of sediments
  - Visualize the evolution of the whole depositional system

**Reservoir Characterization**
- This approach may aid in the description of deep-water reservoir rocks, namely to:
  - Build the stratigraphic anatomy of gravity-flow deposits
  - Identify permeability barriers
  - Model complex reservoir heterogeneities
  - Perform sensitivity and risk analysis

**Turbidity current flow in deep-sea setting**

**Realistic deposition of sand in Ormen Lange gas field**

*Evolution of the sediments thickness after 1, 5, 15, 20 and 25 surges*