

## REFERENCE PROJECT

### Gas Turbine collector development Project

Location:	Offshore, North Sea - Norway
Project:	Development of new Exhaust collector
Scope of supply:	Design / Engineering / Fabrication / Verification and Installation of Exhaust gas collector for GE LM2500 series Gas Turbine.

#### Background:

Offshore platforms and FPSO's are demanding large amount of energy. On most installations, that energy is provided by means of Generators, Compressors and Water injection pumps. This power equipment is generally driven by Gas Turbines. Due to the limited space on-board, all equipment offshore is very compact; hence during modification projects there is limited room for increasing weight and footprint.

Introduction of new technology and subsea the development projects brings along increased demand for energy. To meet this demand, Gas Turbines have to be uprated accordingly, and the turbine Exhaust gas flow will increase.

#### The project:

The increase in Exhaust Gas flow will normally call for larger exhaust gas systems. Due to the limited space on-board, high capacity equipment needed to be developed to meet the increased exhaust gas flow. All that without increasing weight, volume and footprint.

Mjørud, with experience from numerous of Exhaust gas Diffusors and Collectors took the challenge and decided to developed an entirely new radial Exhaust Gas Collector for the GE LM2500 series Gas Turbines.

#### Project execution:

The new design had to comply with:

- Interchangeability with existing collectors
- Increased robustness
- Increased Exhaust Gas Flow Capability
- 20 years designlife



The meet these requirements, a new design approach had to be adopted. Numerous of CFD, thermal and structural analysis had to be performed prior to activating the mechanical engineering work. The result of this work paid off in a First of its Kind Exhaust Gas collector that proved to be superior to its successor's in all fields.