

# The Nguya FLNG

## Reliable mooring system supports LNG production offshore Congo

### Background

The Nguya floating liquefied natural gas (FLNG) vessel is a key component of Eni's Congo LNG Project in the Marine XII block, offshore the Republic of Congo. Building on the earlier Tango FLNG (0.6 million tons per annum [MTPA]), Phase 2 adds a larger unit capable of producing 2.4 MTPA.

Located about 50 km (31 miles) offshore Pointe-Noire in 35 m (115 ft) of water, the facility enables the Republic of the Congo's first large-scale LNG exports. The project supports gas utilization and flaring reduction, contributing to safer and more efficient offshore production.

To meet stringent requirements for operational reliability, Eni and Wison New Energies selected NOV's APL to deliver a Submerged Swivel and Yoke (SSY) mooring system.

### Solution

APL's compact SSY system provides both mooring and gas transfer for floating LNG units in moderate water depths. It enables continuous transfer of gas from subsea pipelines to the FLNG and supports ship-to-ship offloading to LNG and liquefied petroleum gas (LPG) carriers.

By allowing the FLNG to weathervane 360°, the system maintains optimal alignment with environmental forces—wind, waves, and currents—greatly improving reliability and uptime during ship-to-ship transfers compared with spread mooring systems. This configuration reduces stress on risers and loading arms, ensuring smooth and safe operations.

The SSY's compact footprint minimizes seabed disturbance, while its modular design simplifies fabrication and installation. The base was built at NOV Profab in Batam, Indonesia, and the Anti-Flip Riser system, featuring NOV Subsea Production Systems' (SPS) F23 flexible pipe carcass, was engineered and tested in Kalundborg, Denmark. The Anti-Flip design prevents carcass collapse and ensures long-term riser integrity and fatigue resistance.

Preinstalled before the FLNG's arrival, the system was quickly connected using the vessel's winches. The operation was safe, fast, and efficient, enabling a shorter time to first gas.

### Case study facts

**Location:** 50 km offshore Pointe-Noire, Republic of Congo

**Customer:** Wison New Energies

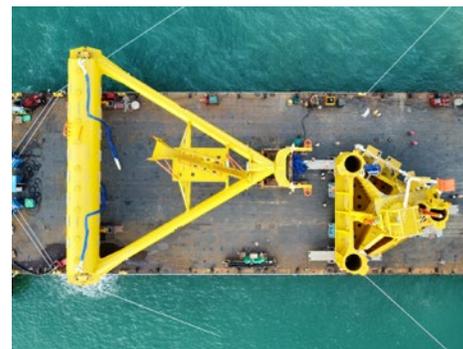
**End user:** Eni

**Time frame:** 2023–2025

**Water Depth:** ~35 m

#### Products:

- Submerged Swivel and Yoke system
- Proprietary subsea swivel and bearing technology
- 35- × 35-m yoke
- Three drilled piles
- 12-in. Anti-Flip Riser with F23 flexible pipe carcass



## Results

- The Nguya FLNG demonstrates NOV's ability to deliver dependable mooring and transfer technology that enhances LNG production efficiency.
- Reliable performance: Continuous, stable ship-to-ship transfer with reduced fatigue and maintenance.
- Improved safety and riser integrity: NOV SPS's Anti-Flip technology maintains carcass stability and extends service life.
- Efficient execution: Preinstalled components reduced offshore time and accelerated start-up.
- Through APL's SSY system and SPS's riser technology, NOV delivered a proven mooring solution that supports safe, reliable LNG production offshore the Republic of Congo.

