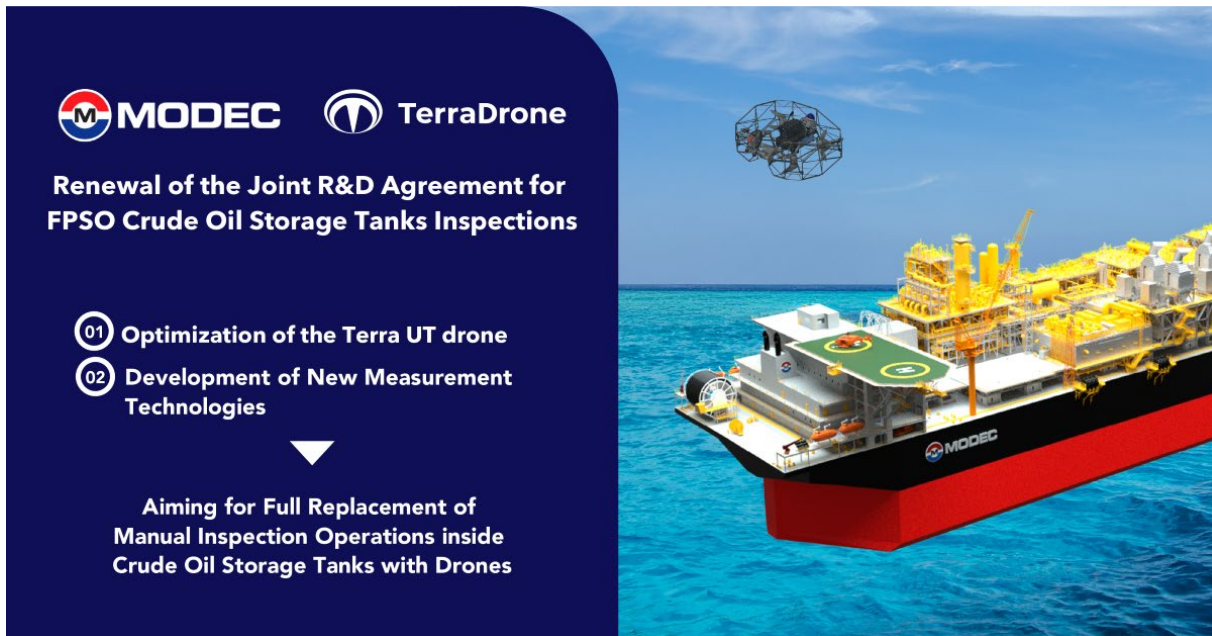


## **MODEC and Terra Drone Renew Joint R&D Agreement for FPSO Crude Oil Storage Tanks Inspections**

### **— Building on Past Achievement to Further Advanced Drone Technology and Operational Efficiency —**

**Tokyo, June 17, 2025** – MODEC, Inc. (“MODEC”) announced that it has renewed its joint research and development (“R&D”) agreement with Terra Drone Corporation (“Terra Drone”) for the non-destructive internal inspection of crude oil storage tanks on Floating Production, Storage, and Offloading systems (FPSOs) using Terra UT drones.

This renewed agreement builds upon the joint R&D contract signed by both companies in 2024, following significant achievements in improving measurement accuracy, enhancing safety, and reducing inspection time. The renewed partnership aims to further advance the practical application and operational deployment of this technology.



On FPSOs, periodic structural inspections are indispensable, but must be performed in parallel with production operations by a limited number of crew members. The ability to safely perform inspections without increasing the number of personnel onboard offers a significant advantage. By innovating drone inspection techniques, MODEC and Terra Drone will continue to contribute to improved occupational safety, manpower reduction, and greater efficiency in FPSOs and other offshore platforms operations.

#### **1. Background**

FPSOs require regular maintenance and inspections to ensure stable crude oil and gas production over operational lifespans exceeding 20 years. However, conventional manual inspections in elevated or confined spaces present significant occupational safety risks and remain a common challenge across the industry. To address this, MODEC and Terra Drone have been jointly developing drone-based solutions with the goal of fully replacing manual inspections inside FPSO crude oil storage tanks.

Through this collaboration, the two companies have successfully reduced inspection time and enhanced safety by developing the Terra UT drone for inspection operations on FPSOs operating offshore Brazil.



## 2. Key Achievements in FY2024

- Improved measurement accuracy through the enhancement of ultrasonic sensors.
- Enhanced safety during inspection operations by equipping the drone with a gas detector.
- Significantly increased cleaning efficiency: The upgraded wire brush enables more effective removal of impurities and oil residues (such as wax), allowing up to 10 times more inspection operations within the same time frame compared to previous method.
- Continuous power supply via tethered cable: The introduction of a tethered cable system eliminates the need for battery replacement, reducing the number of drone landings during inspections to one-tenth of the previous frequency.

## 3. Development Themes for FY2025

Building on these technological achievements, the renewed agreement will focus on the following new development items.

- (1) Optimization of Airframe Structure and Design: Enhancing robustness and operational stability for global deployment
  - Integration of high-resolution cameras to improve visual inspection capabilities
  - Redesigned airframe for improved maintainability
  - Increased robustness and adaptability for large tanks through reinforced and extended tether cables
  - Enhanced safety with advanced explosion-proof measures for the tethered cable system
  - Airframe designed for air transport to facilitate global deployment
- (2) Development of New Measurement Technologies: Introduction of a gel-free measurement method for inspections, further improving operational efficiency

### **About Terra Drone**

Terra Drone develops and provides drone solutions for surveying, inspection, and agriculture. In addition to offering Unmanned Traffic Management (UTM) systems that enable the safe and efficient operation of drones, the company is also engaged in the development of UTM solutions for advanced air mobility (AAM) overseas. In the field of industrial drone services, Terra Drone has been ranked among the global top two in the “Drone Service Provider Ranking” published by Drone Industry Insights every year since 2019, and was named the No.1 drone service provider worldwide in 2024. Looking ahead, Terra Drone aims to contribute to solving social challenges and shaping the future of air mobility as a global platform leader in the emerging low-altitude economy. For more information, please visit our website: <http://www.terra-drone.net>

### **About MODEC**

MODEC is the only company in Japan that provides a comprehensive range of services for floating offshore oil and gas production systems—such as FPSOs (Floating Production, Storage and Offloading systems)—including Engineering, Procurement, Construction and Installation (EPCI), leasing, and Operations & Maintenance.

As an industry leader, MODEC is actively pursuing next-generation inspection technologies to address the challenges faced by the offshore oil and gas sector as a whole. For more information, please visit our website: <https://www.modec.com/jp>

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