

# TB-NIIGATA

70 YEARS OF EXPERIENCE IN ENERGY TRANSFER

## CHOKUSEN

(means "straight" in Japanese)

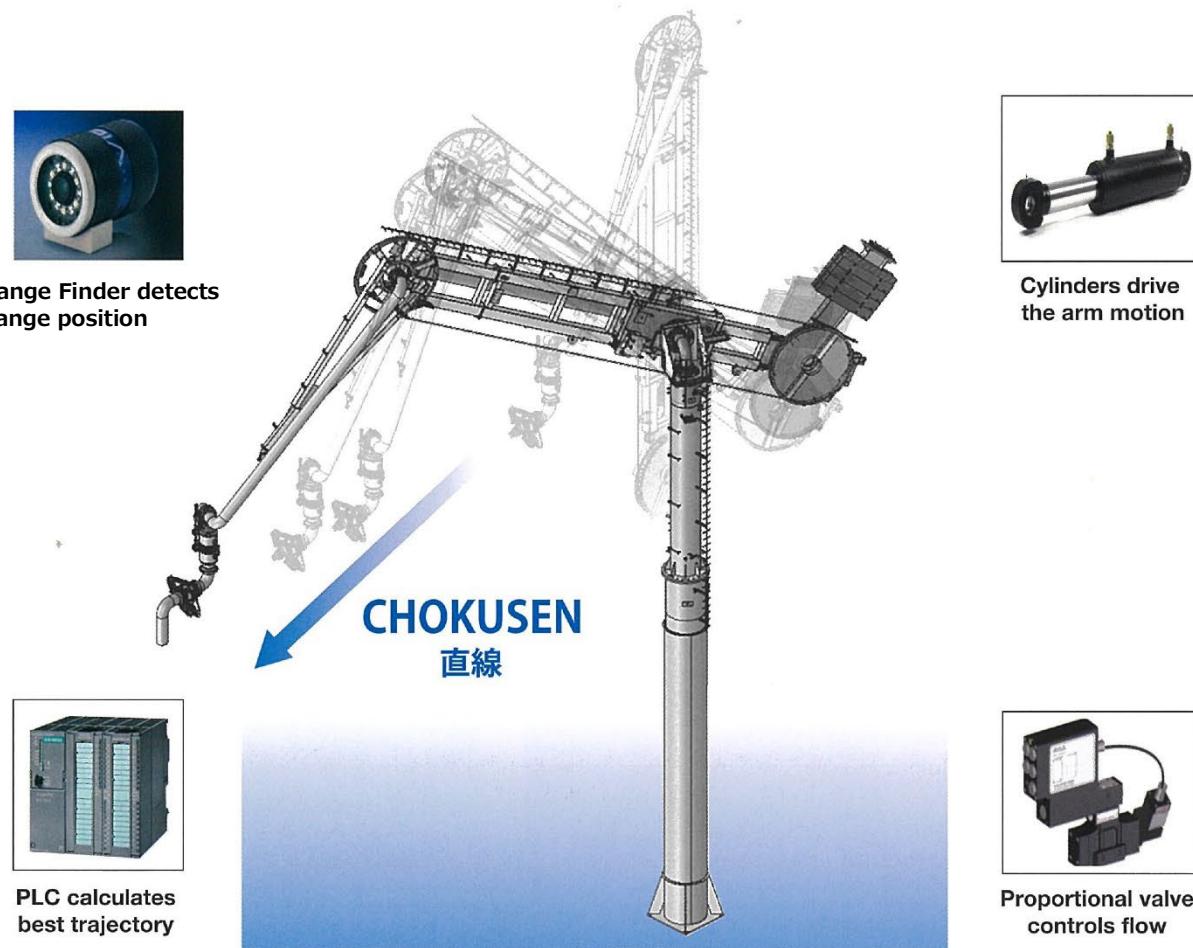
Contactless Automatic Connection System



# Technologies for Ship to Ship Transfer, Safety enhancement and Labor savings

## Contactless Automatic Connection

Originally, CHOKUSEN was developed to simplify and safely perform complex connection operations—which are difficult for humans to manage when both the FLNG and LNG tanker are in motion—without mechanical link between the FLNG and the LNG tanker

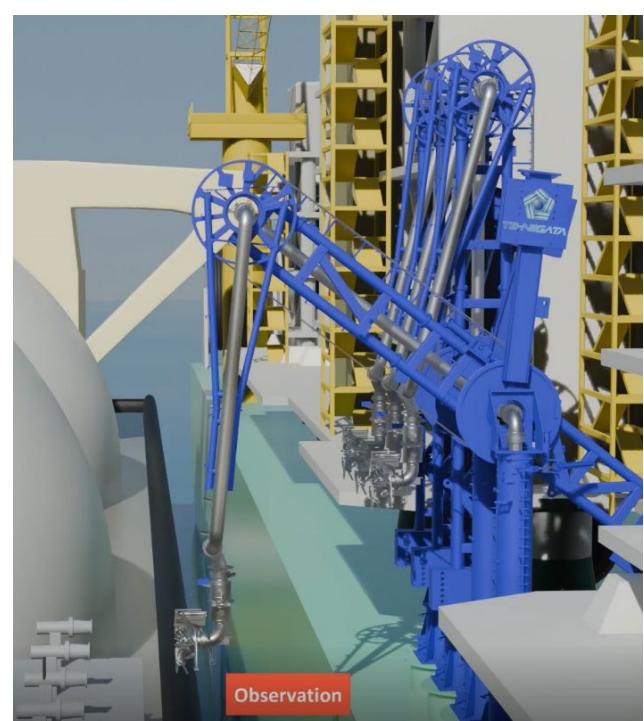


Furthermore, this system is a distinctive, enhanced system that contributes to improved safety and labor savings both onshore and offshore through its automatic connection function, which directly moves the loading arm to the mating flange of the vessel manifold.

# CHOKUSEN AUTOMATIC CONNECTION



**1. Start**



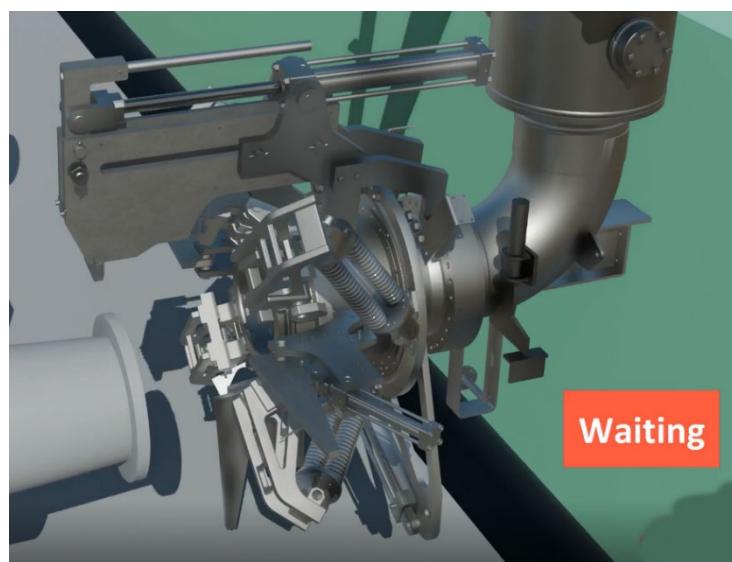
**2. Observation**

Analyzing movement of manifold



**Range Finder View**

**3. Final Approach & Waiting**  
for the best timing to hook



**4. Hooking and Clamping**



Demonstration facility  
**Dynamic Test Bench**  
in Nagaoka (Niigata Prefecture) Factory

**Demonstration for contactless automatic connection by full scale 16" MLA and Dynamic Test Bench with 3-dimensional movement**



**Dynamic Test Bench**

Based on sea status, vessel characteristics and loading conditions, the Dynamic Test Bench, can simulate the tanker manifold motion anywhere in the world whether in the Pacific Ocean or in the Gulf of Mexico.



**TB Global Technologies Ltd.**

28f Kyobashi Edogrand, 2-2-1 Kyobashi,

Chuo-ku, Tokyo, 104-0031 Japan

E-mail: [international\\_sales\\_general\\_hq@tbgtech.co.jp](mailto:international_sales_general_hq@tbgtech.co.jp)

**TB** TOKYO  
BOEKI

