OVERVIEW


WHY UPGRADE?
COOLDOWN CONTROL
SEAL INTEGRITY
PROCESS EFFICIENCY
ASSET AVAILABILITY

Back to Overview

UNLEASH THE FULL POTENTIAL OF YOUR LOADING EQUIPMENT

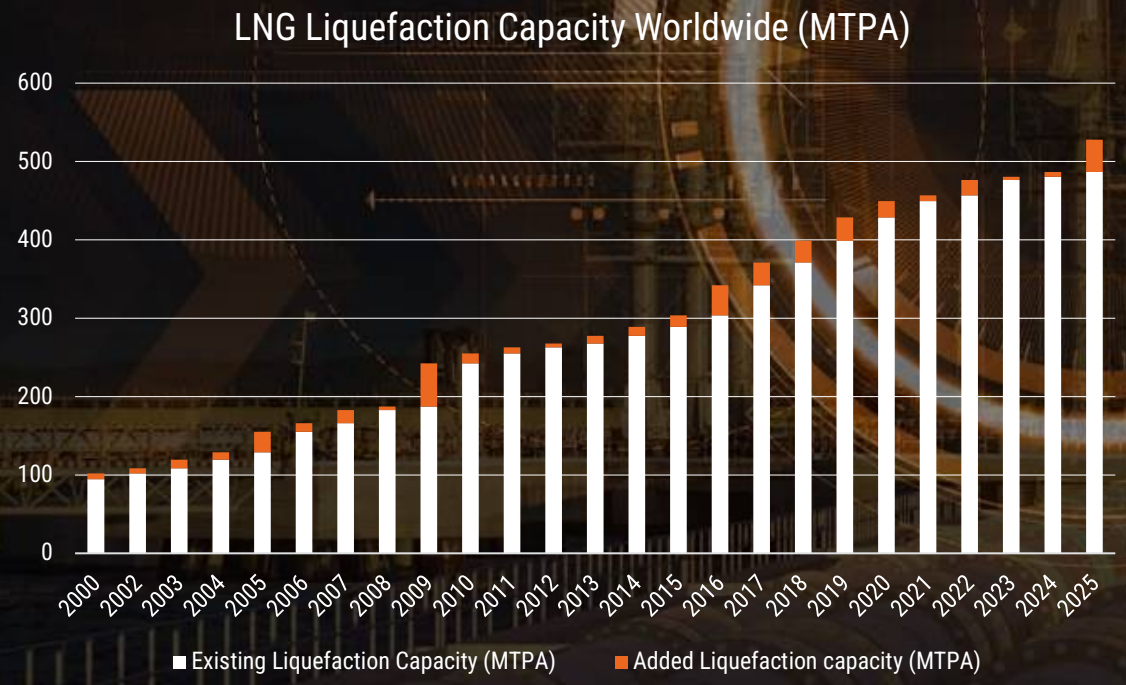
"We support LNG terminal operating companies in maximizing safety and operational efficiency by upgrading their marine loading arms with state-of-the-art equipment, enhancing protection for personnel and equipment, reducing downtime, improving performance, and extending asset lifetime."

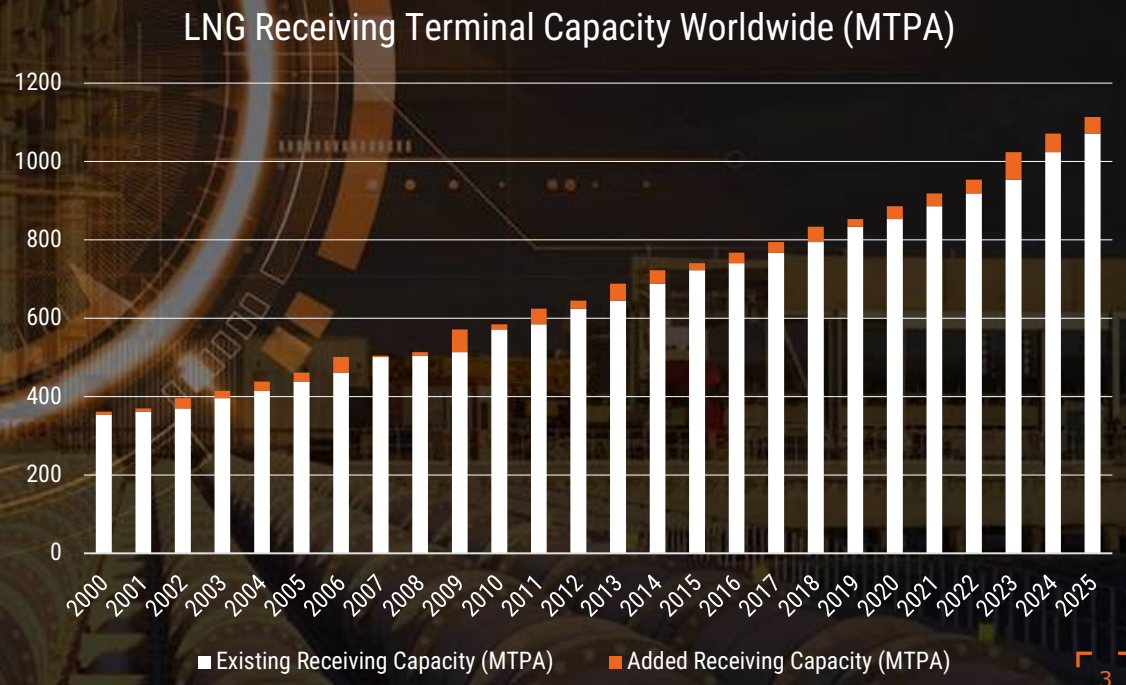
- Safety Improvement
- Lifetime Extension
- Downtime Reduction
- Performance Improvements
- State of the Art

Back to Overview

LIQUEFACTION & RECEIVING CAPACITY

"According to the International Gas Union World LNG Report 2026, approximately 60% of active global LNG receiving terminal and liquefaction plant capacity was commissioned by the end of 2015. This means that marine loading arms installed in this period, which are essential for loading and unloading LNG tankers, may not feature the latest advancements in technology."

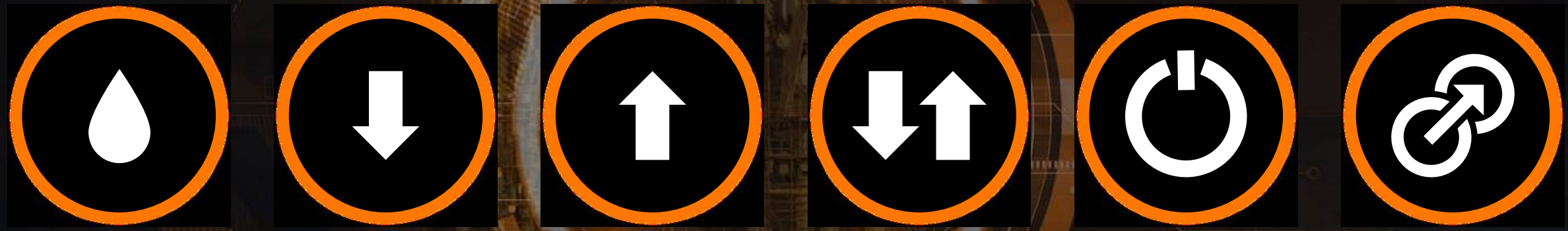




E. Loginov, T. Schwetlik (2026): „The low down on LNG Loading", LNG Industry, Issue September 2026, Farnham: Palladian Publications Ltd; '2026 World LNG Report', International Gas Union, (07 July 2026)

Back to Overview

UPGRADES FOR ALL LNG TERMINALS



Liquefaction Terminals

Import Terminals

Export Terminals

Hybrid Terminals

Stand-by Terminals

Terminals in Transition

Back to Overview

Loading Your Values

UNLEASH THE FULL POTENTIAL OF YOUR LOADING EQUIPMENT

Upgrade Types

Safety Upgrades

Performance Upgrades

Life Cycle Upgrades

Why SVT?

Adoption of cutting-edge technology and industry best practices

Proven expertise in LNG terminal upgrades and project execution

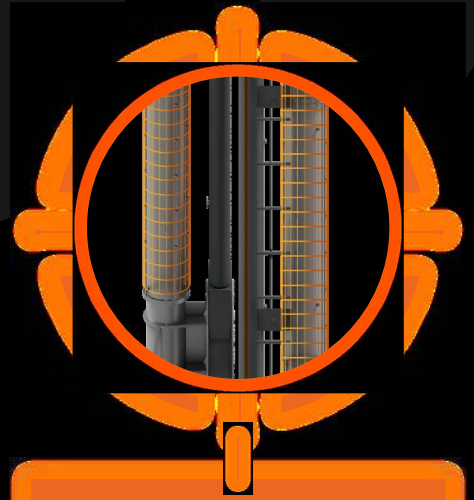
Comprehensive support, training, and partnership for long-term success

COOL-DOWN CONTROL

Cool-down is one of the most sensitive steps in LNG transfer operations because it directly affects safety, timing, and component lifetime. If this process is not controlled properly, thermal stress, uneven cooling, and operational delays can occur. Improving cool-down control helps make the process more predictable, repeatable, and less dependent on external conditions or operator experience.

Piping Temperature Control

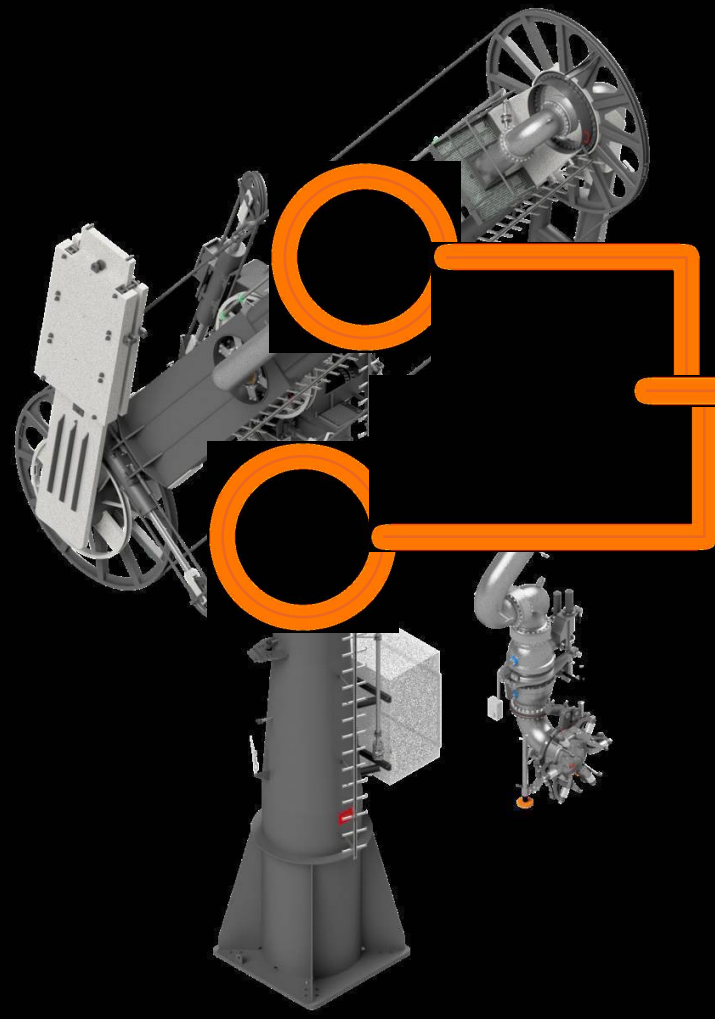
Piping Insulation



Ice Cage

Back to Overview

PIPING TEMPERATURE CONTROL



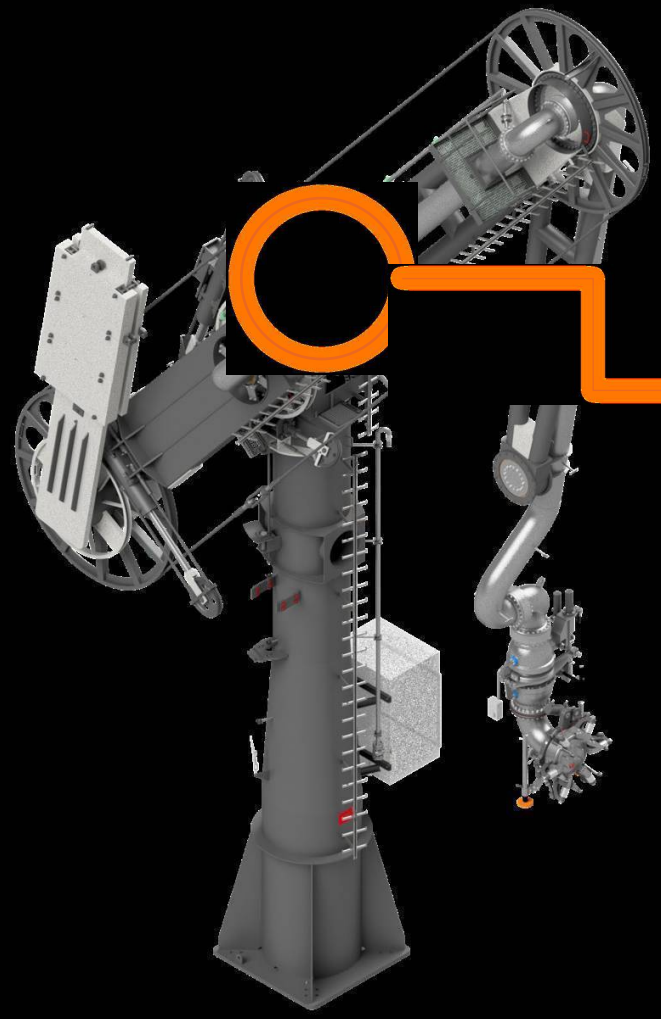
Temperature sensors positioned at multiple points (IBA/OBA/Riser) along the product pipeline enable precise monitoring, analysis, and optimization of the cool-down process.

BENEFITS

- Safety Improvement
- State of the Art
- Downtime Reduction
- Performance Boost
- Lifetime Extension

Back to Overview

PIPING INSULATION

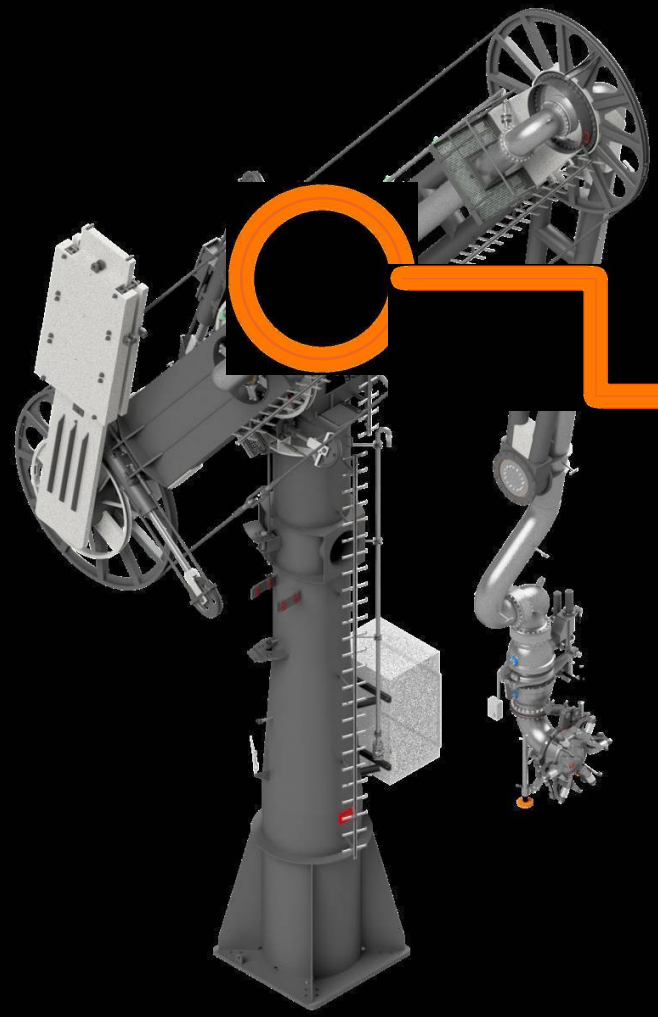


Insulation of product lines with insulating material preventing ice formation, controlling energy losses, enabling controlled processes, and improving cool-down management.

BENEFITS

- Safety Improvement
- State of the Art
- Downtime Reduction
- Performance Boost
- Lifetime Extension

ICE CAGE



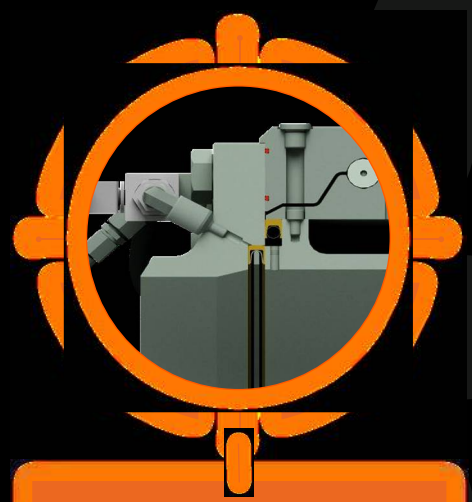
A stainless steel mesh is wrapped around the product pipeline, significantly reducing the size of falling ice chunks as the system warms up after loading.

BENEFITS

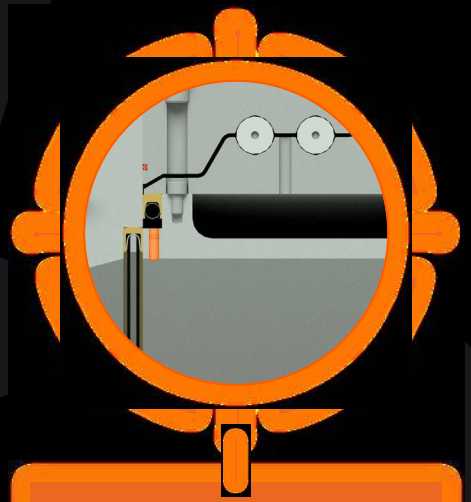
- Safety Improvement
- State of the Art
- Downtime Reduction
- Performance Boost
- Lifetime Extension

SEALING INTEGRITY

Sealing systems are critical barriers between cryogenic product and the environment. Since seals are wear parts and are exposed to demanding operating conditions, their integrity has a direct impact on safety, emissions, and terminal availability. Strengthening sealing integrity helps reduce leakage risk, protect equipment, and support reliable operation over the asset lifecycle.



Barrier Pressure System



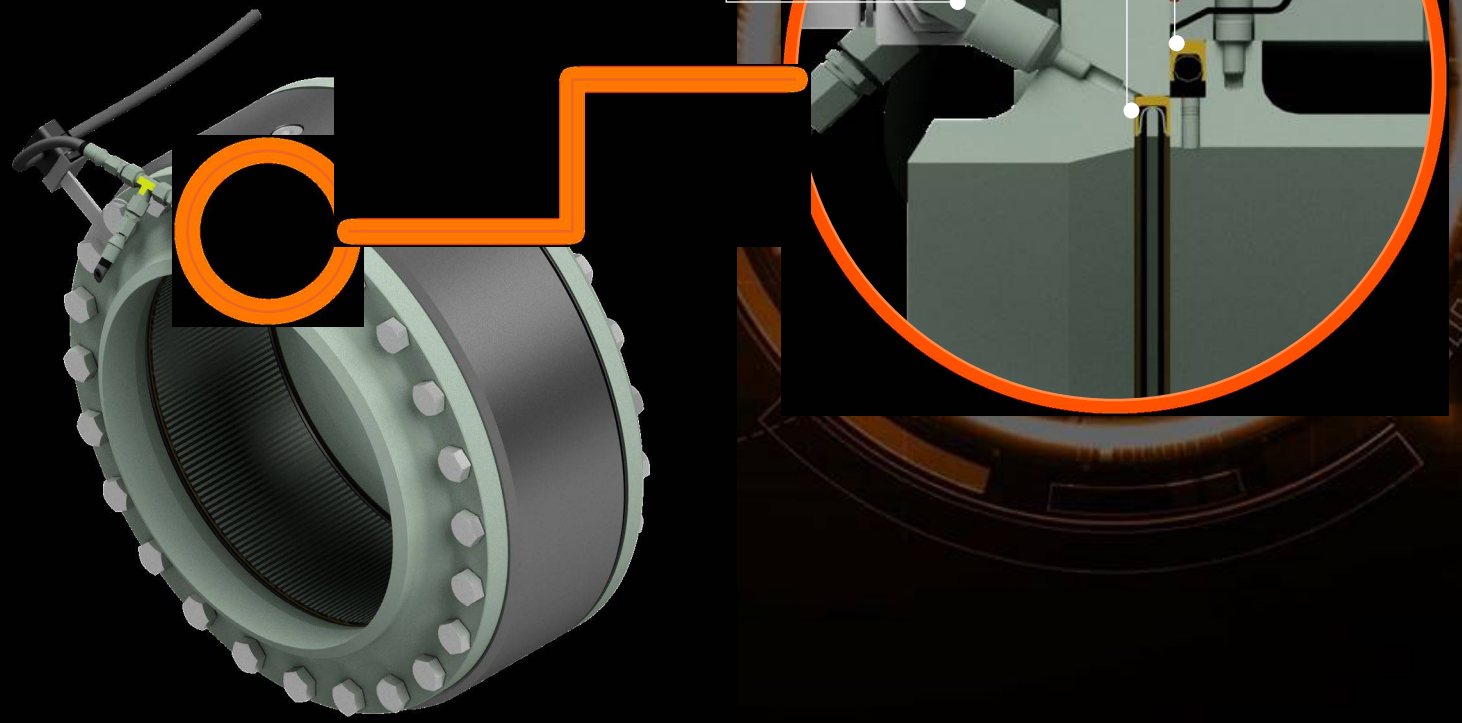
Pressure Equalizer System

BARRIER PRESSURE SYSTEM (BPS)

Secondary Seal

Primary Seal

Pressure Barrier Nitrogen operating pressure + 0,5 .. 1 bar



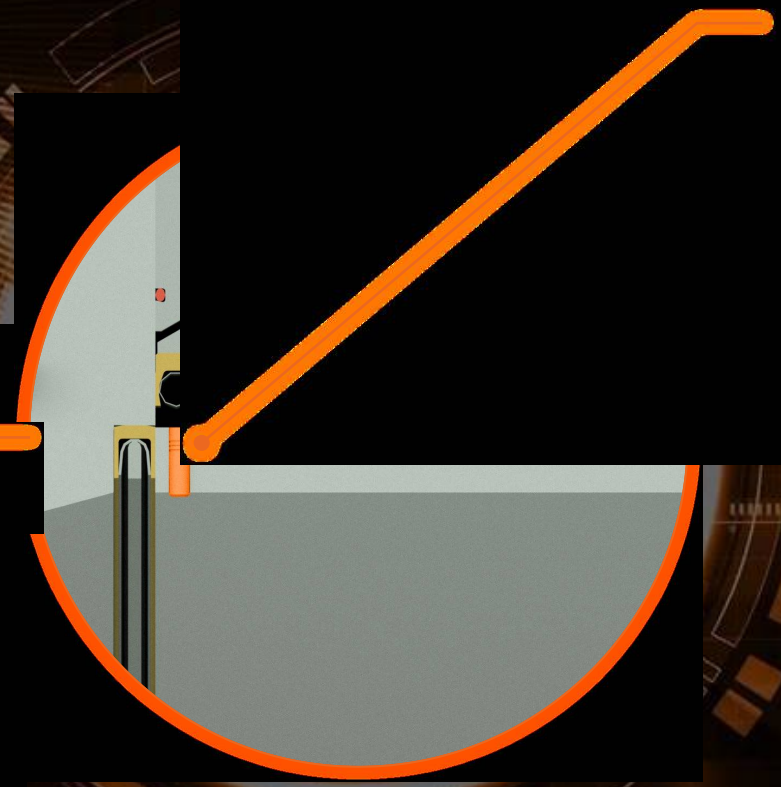
Environmental leakage-free swivel joints due to barrier gas pressure behind primary seal.

BENEFITS

- Safety Improvement
- State of the Art
- Downtime Reduction
- Performance Boost
- Lifetime Extension

PRESSURE EQUALIZER SYSTEM (PES)

Pressure Relief Valve installed in the liner balances pressure from expanding LNG trapped between the primary and secondary seals after loading.

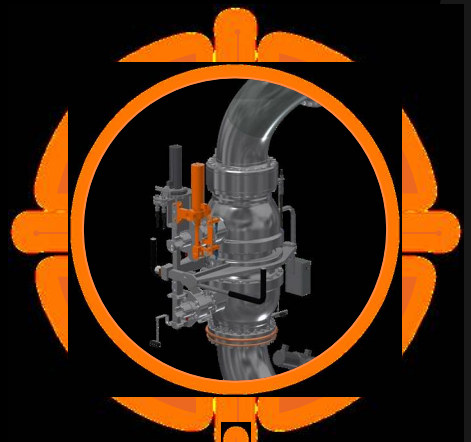


- Safety Improvement
- State of the Art
- Downtime Reduction
- Performance Boost
- Lifetime Extension

PROCESS EFFICIENCY

Efficient LNG transfer requires that recurring operational steps are performed safely, quickly, and with minimal unnecessary resource consumption. Small delays, manual interventions, or unclear process information can affect berth time, throughput, and operating costs. Improving process efficiency helps standardize workflows, reduce complexity, and support faster and more transparent operations.

Hydraulic QCDC

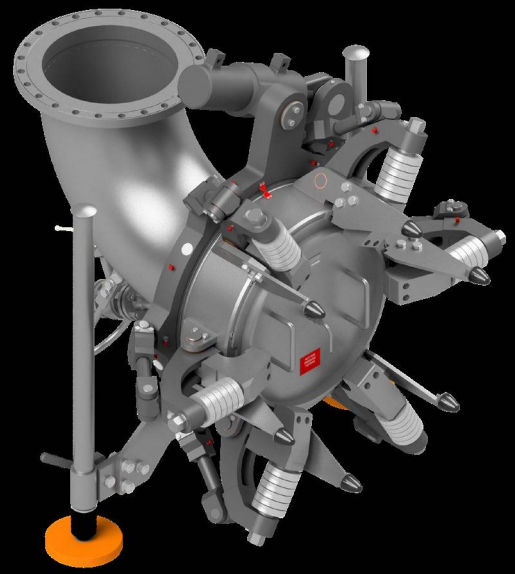


Piping Process Valve

Hydraulic Arm Lock

Performance Monitor

HYDRAULIC QCDC



Hydraulic Quick Connect Disconnect Coupler is a hydraulically operated connection system between SVT Loading Arm and the LNG Carrier.

BENEFITS

- Safety Improvement
- State of the Art
- Downtime Reduction
- Performance Boost
- Lifetime Extension

Back to Overview

PIPING PROCESS VALVE

Separately driven upper ball valve (part of PERC)
Shut-off the pipeline for different purposes:

Purging | Interlocks | Pre-closure while ESD 1

BENEFITS

- Time savings
- Savings on operating supplies (N2)
- Simplified handling

Safety Improvement

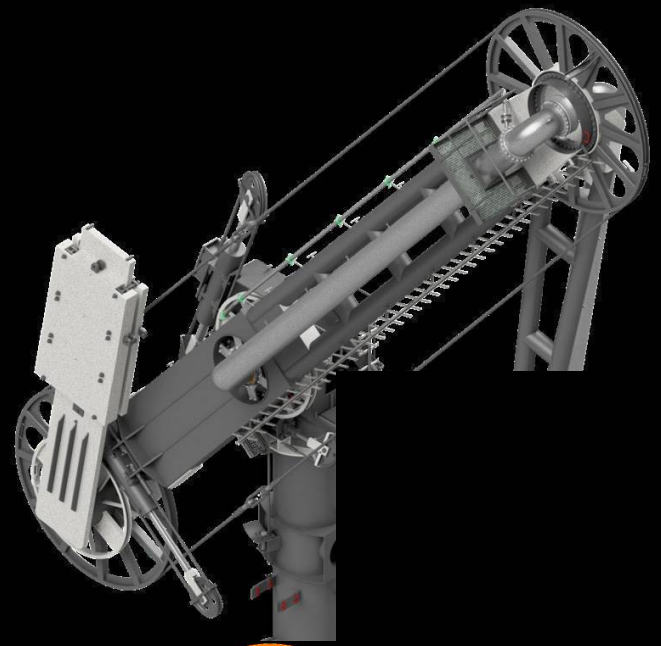
State of the Art

Downtime Reduction

Performance Boost

Lifetime Extension

HYDRAULIC ARM LOCK

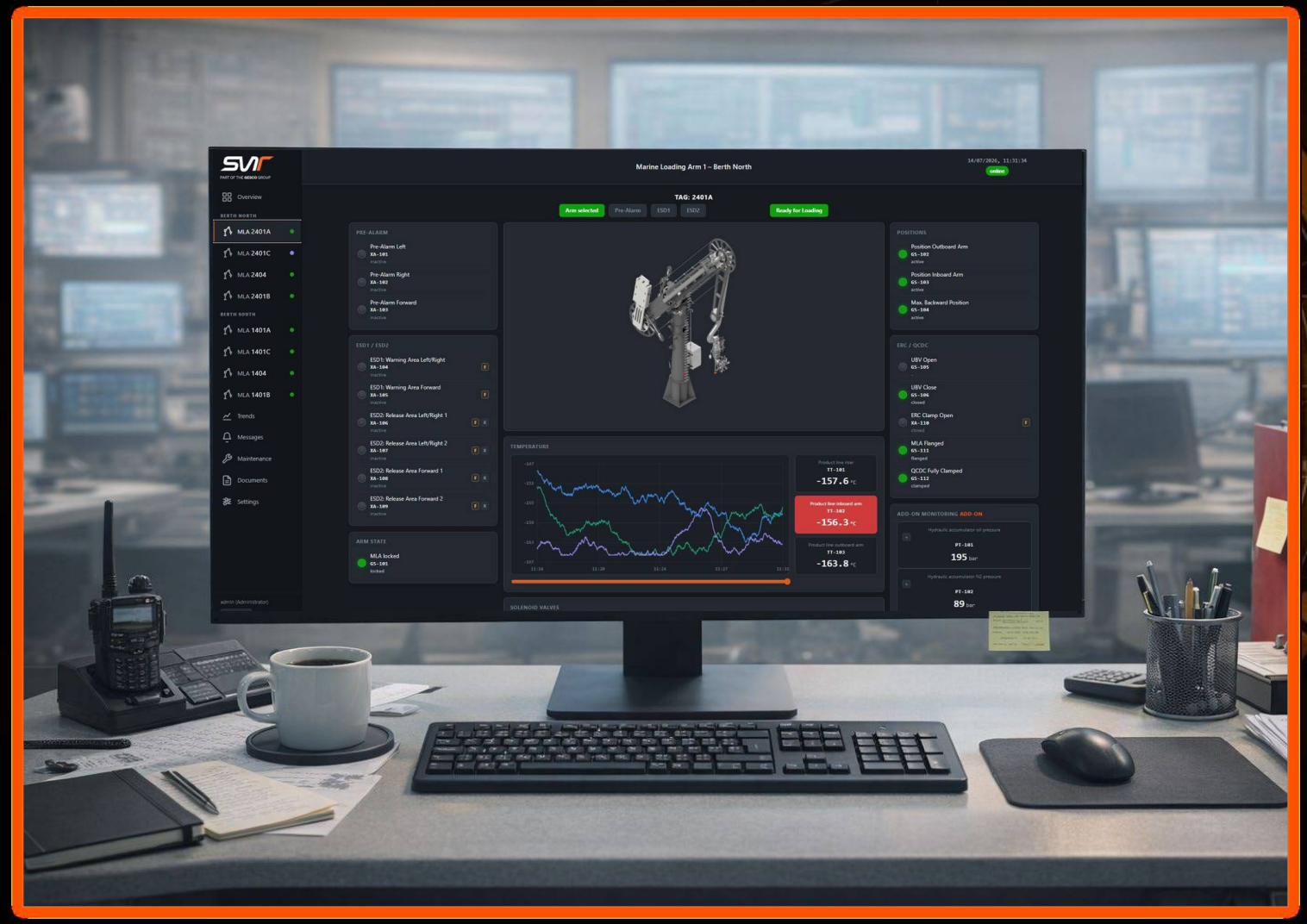


Hydraulic operation of the ARM locking and unlocking mechanism ensures reliable and efficient performance.

BENEFITS

- Safety Improvement
- State of the Art
- Downtime Reduction
- Performance Boost
- Lifetime Extension

PERFORMANCE MONITOR



Software for monitoring and analyzing equipment and system conditions.

BENEFITS

- Safety Improvement
- State of the Art
- Downtime Reduction
- Performance Boost
- Lifetime Extension

ASSET AVAILABILITY

For LNG terminals, asset availability is directly linked to business continuity and operational reliability. Unplanned downtime, delayed maintenance, or avoidable component wear can reduce transfer capacity and increase lifecycle costs. Improving asset availability means strengthening the reliability of equipment, people, and maintenance processes to keep operations predictable and resilient.

Safety Integrity Upgrade

Training

Catridge Lubrication System

Wedge Lock Washers

Act Clamps

SAFETY INTEGRITY UPGRADE

Hardware and Software extension of the existing control system to enable the maximum safety and reliability.

BENEFITS

- Safety Improvement
- State of the Art
- Downtime Reduction
- Performance Boost
- Lifetime Extension

TRAINING

Theoretical and practical seminar on the operation and maintenance of loading arms at the SVT plant in Schwelm.

BENEFITS

- Practical part takes place on a full-equipped Marine loading arm located on a training area at the SVT site in Schwelm, Germany.
- Refers to the SIGTTO/OCIMF guidelines for maintenance and inspection.
- Participant receives the “Trained Person” certificate and can be authorised as a “Qualified Person” to perform work according to the IOM with SVT Marine loading arms.

Safety Improvement

State of the Art

Downtime Reduction

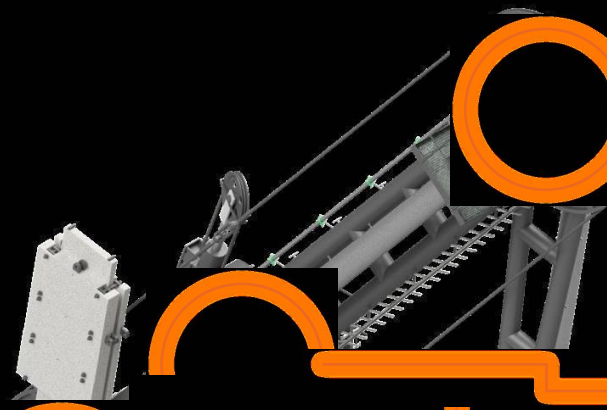
Performance Boost

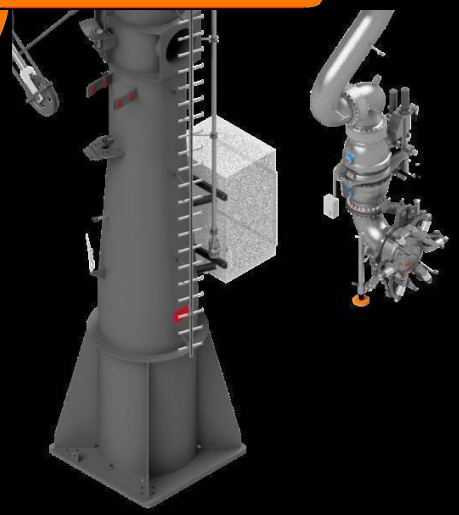
Lifetime Extension

Back to Overview

CARTRIDGE LUBRICATION SYSTEM

ATEX conform automatic/adjustable grease lubricator cartridge for installation on all four structure balls bearings

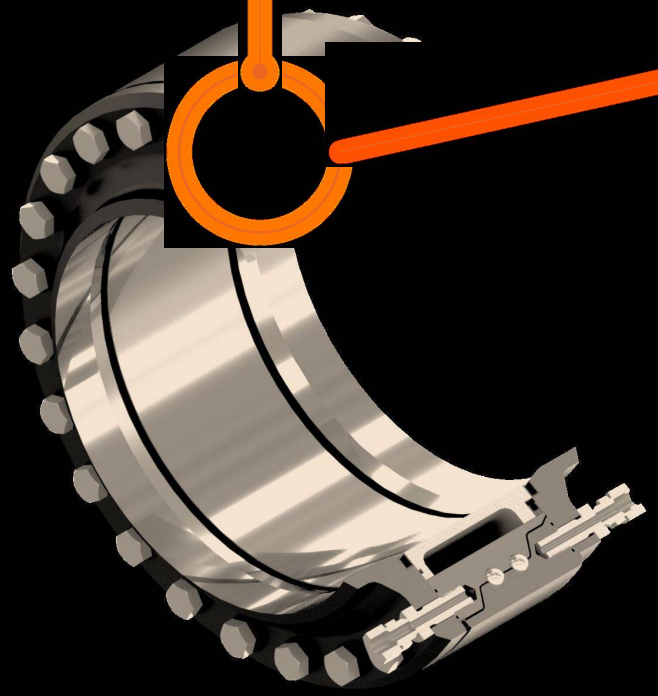


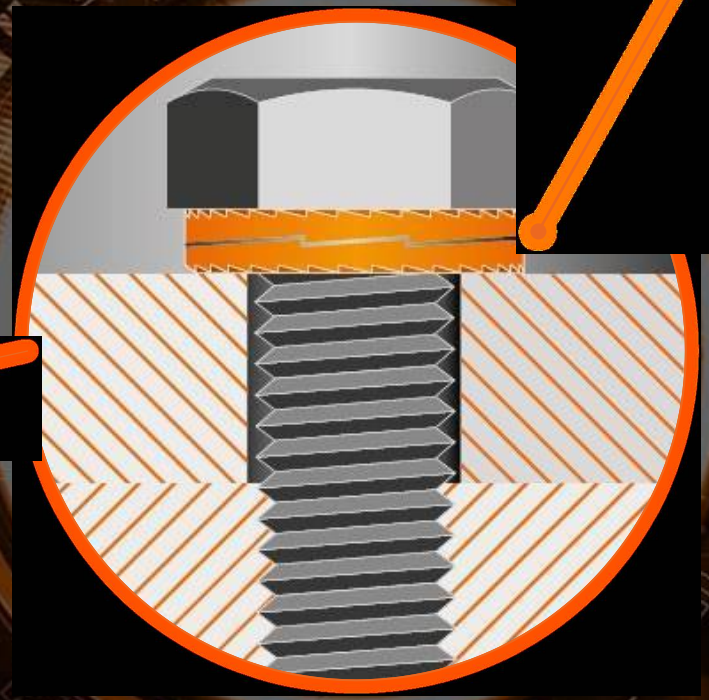


- Safety Improvement
- State of the Art
- Downtime Reduction
- Performance Boost
- Lifetime Extension

WEDGE LOCK WASHERS

Position Wedge Lock Washers at all flanged connections along the product line





Wedge Lock Washers provide reliable, long-lasting bolt security by preventing self-loosening—even under extreme vibration and temperature changes — reducing maintenance needs and ensuring safe, stable connections.

BENEFITS

- Safety Improvement
- State of the Art
- Downtime Reduction
- Performance Boost
- Lifetime Extension

ACT CLAMPS

ACT clamps are specially designed to protect stainless steel hydraulic lines against pitting corrosion.

BENEFITS

- Extends the service life of the equipment lines on the Loading Arm
- Integrated elastomer strips prevent moisture from penetrating the gap between the clamp and the pipe.
- Seawater-resistant and UV-stable

Safety Improvement

State of the Art

Downtime Reduction

Performance Boost

Lifetime Extension