

OVERVIEW





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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



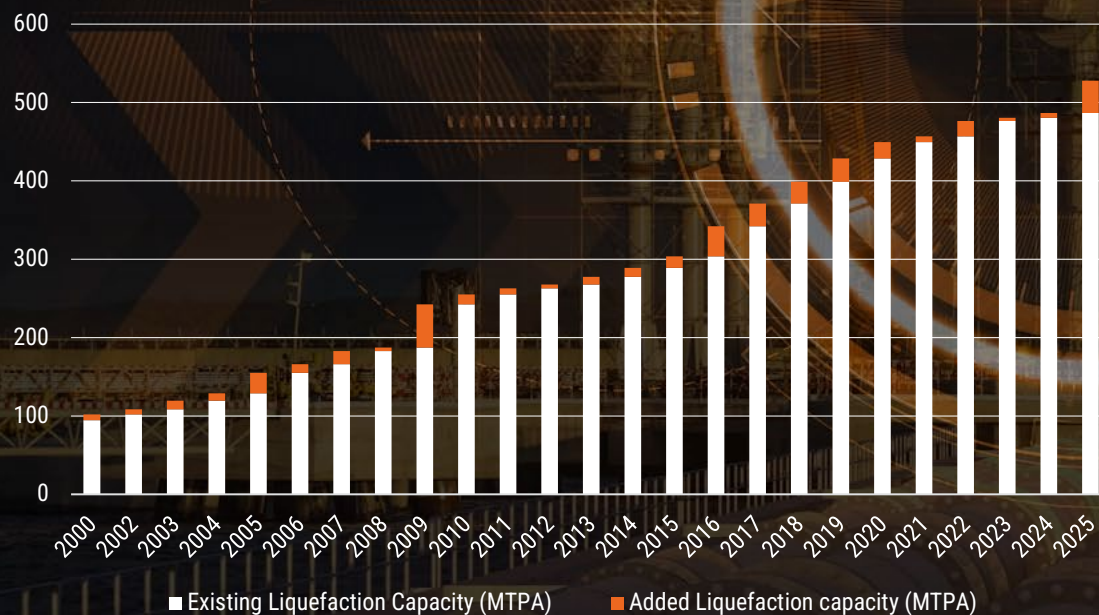
State of the Art



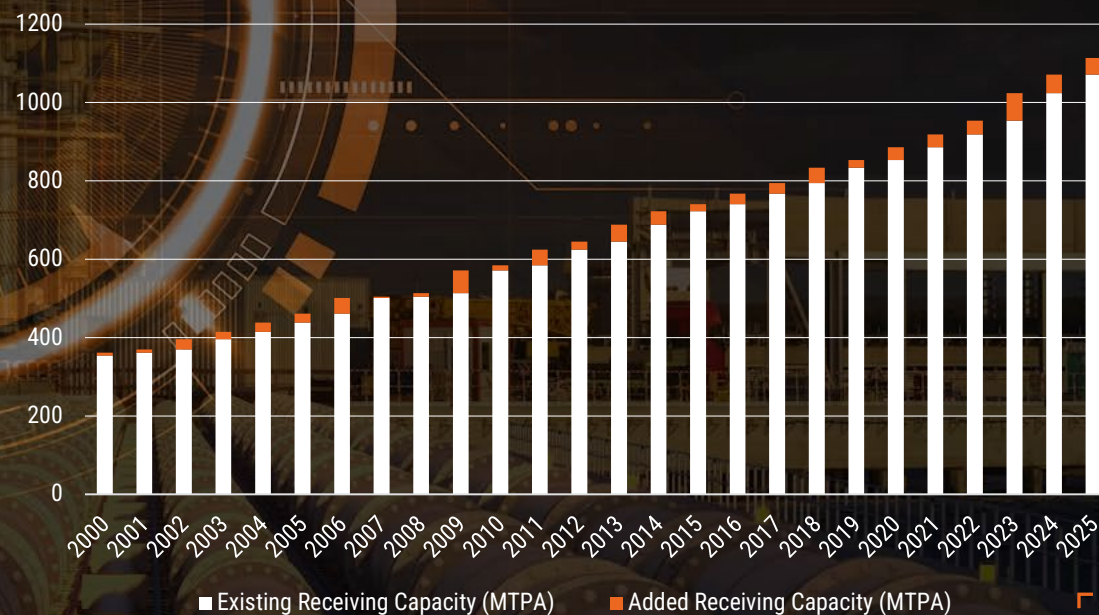
LIQUEFACTION & RECEIVING CAPACITY

“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.”

LNG Liquefaction Capacity Worldwide (MTPA)



LNG Receiving Terminal Capacity Worldwide (MTPA)





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UPGRADES FOR ALL LNG TERMINALS



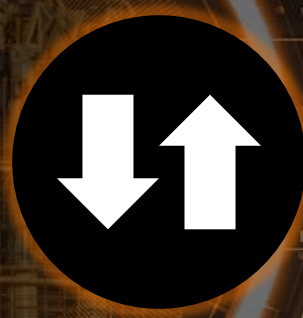
Liquefaction
Terminals



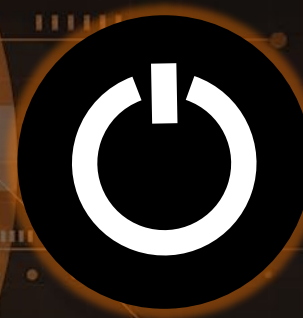
Import
Terminals



Export
Terminals



Hybrid
Terminals



Stand-by
Terminals



Terminals in
Transition



UNLEASH THE FULL POTENTIAL OF YOUR LOADING EQUIPMENT

Upgrade Types

Safety Upgrades



Performance Upgrades

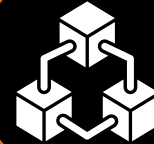


Life Cycle Upgrades



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





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COOL-DOWN CONTROL

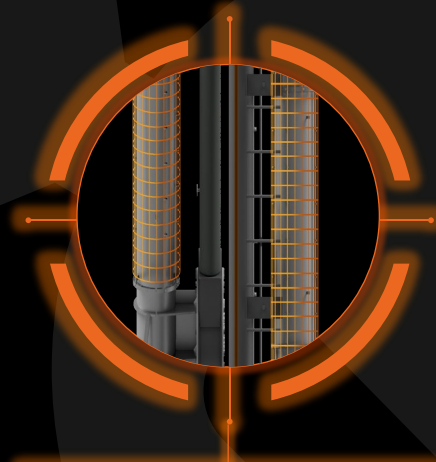
Cool-down is one of the most sensitive steps in LNG transfer operations because it directly affects safety, timing, and component lifetime. If this process is not controlled properly, thermal stress, uneven cooling, and operational delays can occur. Improving cool-down control helps make the process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



Piping Temperature Control



Piping Insulation



Ice Cage

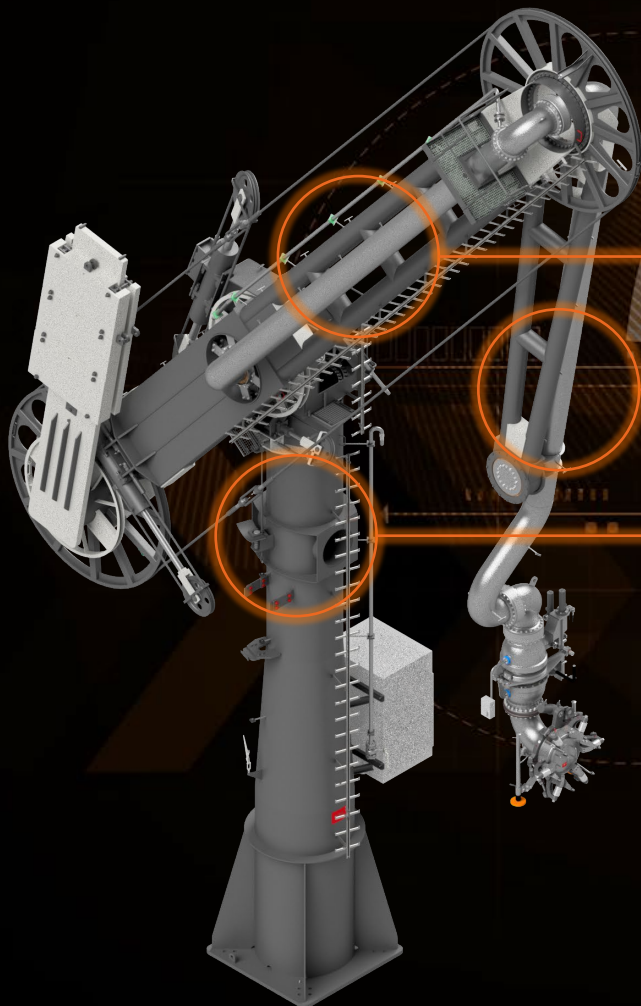




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PIPING TEMPERATURE CONTROL



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

- Cool-down-control improvement
- Equipment safety

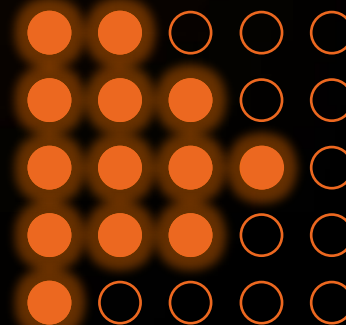
Safety Improvement

State of the Art

Downtime Reduction

Performance Boost

Lifetime Extension

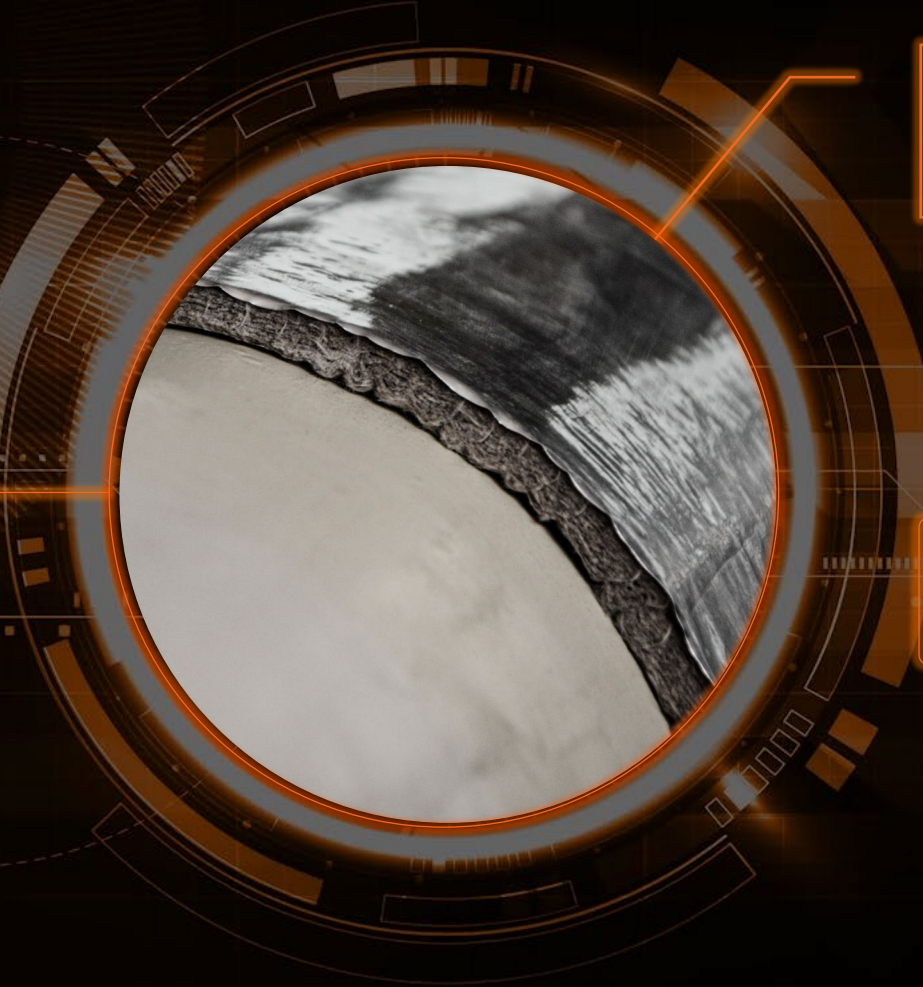
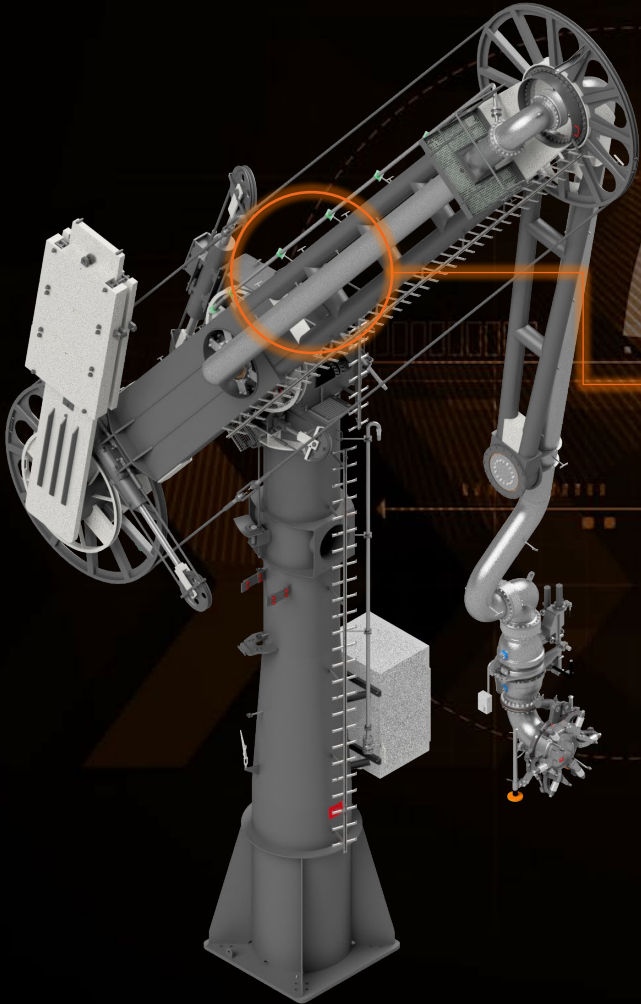




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PIPING INSULATION



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

BENEFITS

- Equipment safety
- Personnel Environmental Safety
- Cool-down-control improvement
- Reduced heat loss

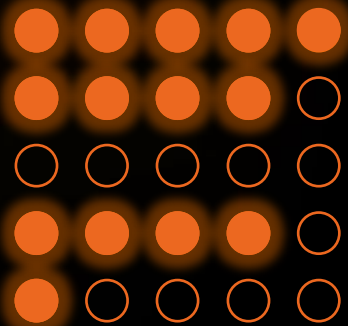
Safety Improvement

State of the Art

Downtime Reduction

Performance Boost

Lifetime Extension

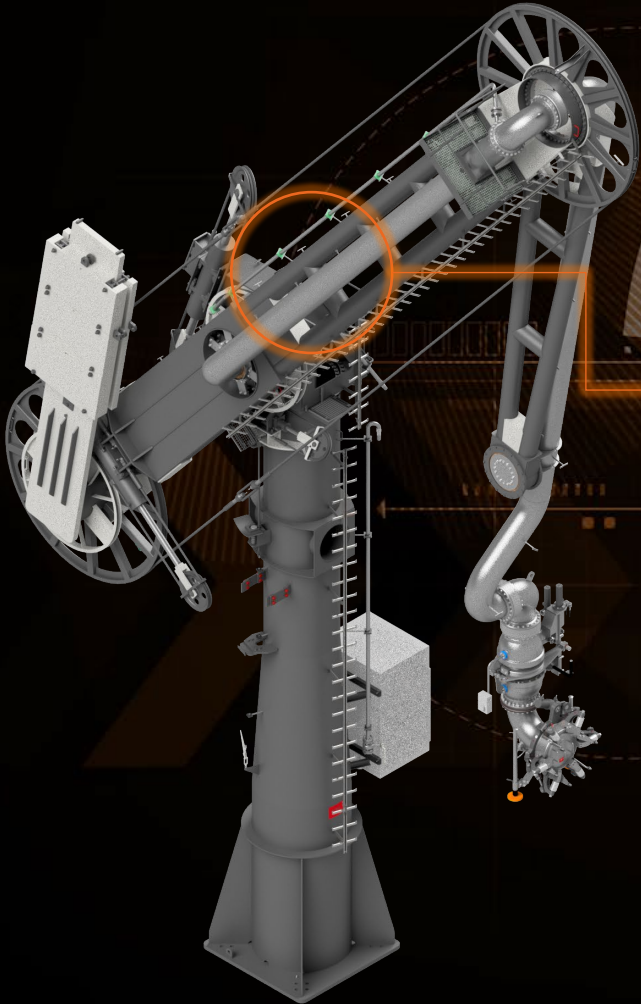




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ICE CAGE



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

- Equipment safety
- Personnel & Environmental Safety

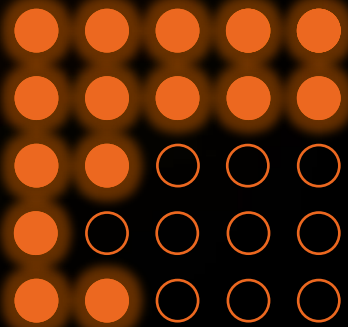
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Performance Boost

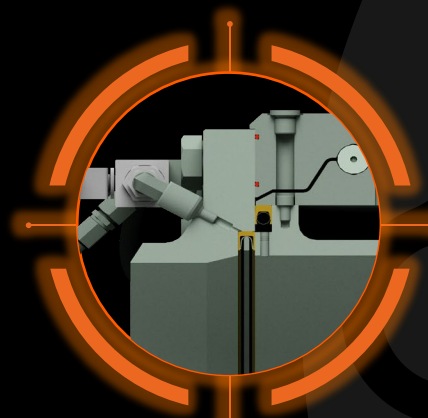
Lifetime Extension



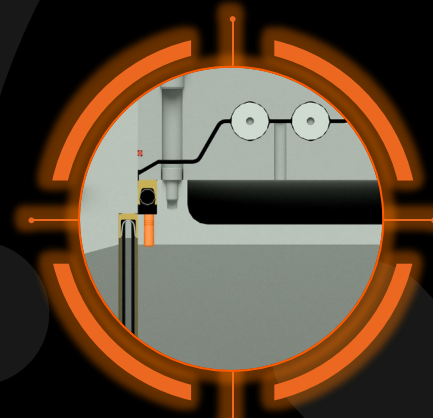


SEALING INTEGRITY

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



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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

- No environmental leakage!
- Easy installation / retrofitting
- Loading arm internal Seal integrity test
- Also applicable for presentation flange
- Ensuring full loading capacity
- Significant reduction of unplanned seal replacements

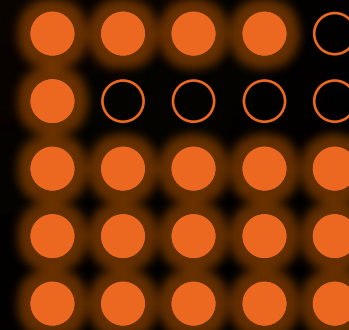
Safety Improvement

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Downtime Reduction

Performance Boost

Lifetime Extension

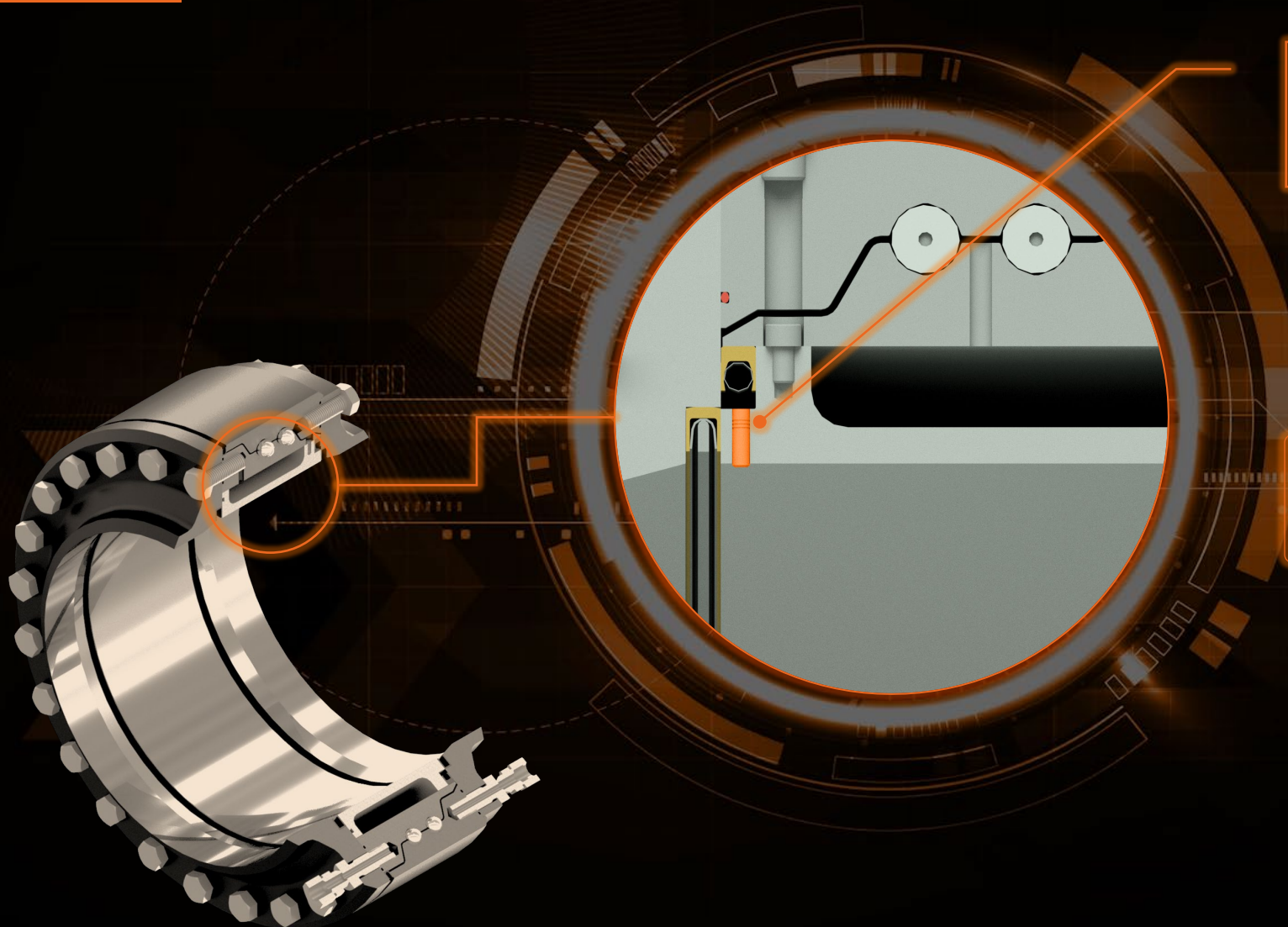




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PRESSURE EQUALIZER SYSTEM (PES)



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

BENEFITS

- Preventing Sealing failure
- Easy installation
- Up to 80% fewer leaks caused by damaged seals

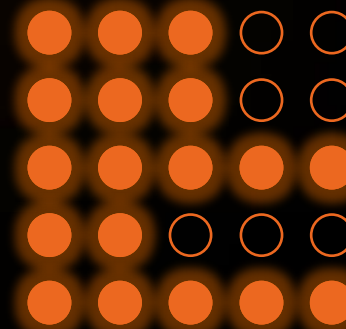
Safety Improvement

State of the Art

Downtime Reduction

Performance Boost

Lifetime Extension





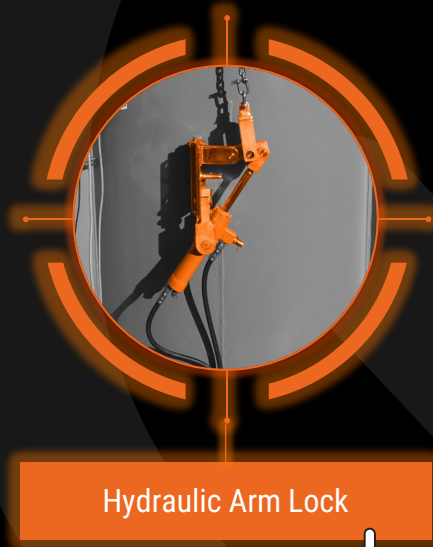
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PROCESS EFFICIENCY



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.

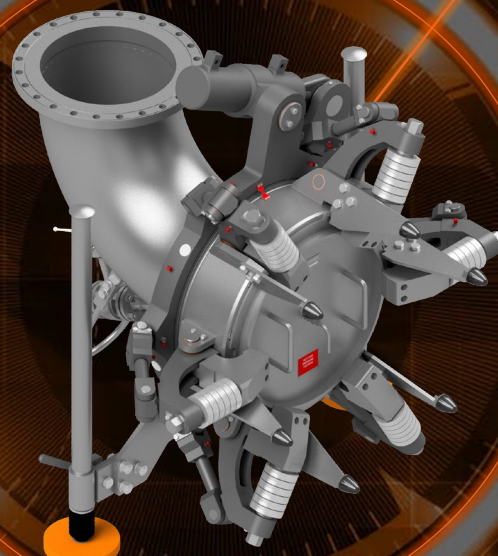
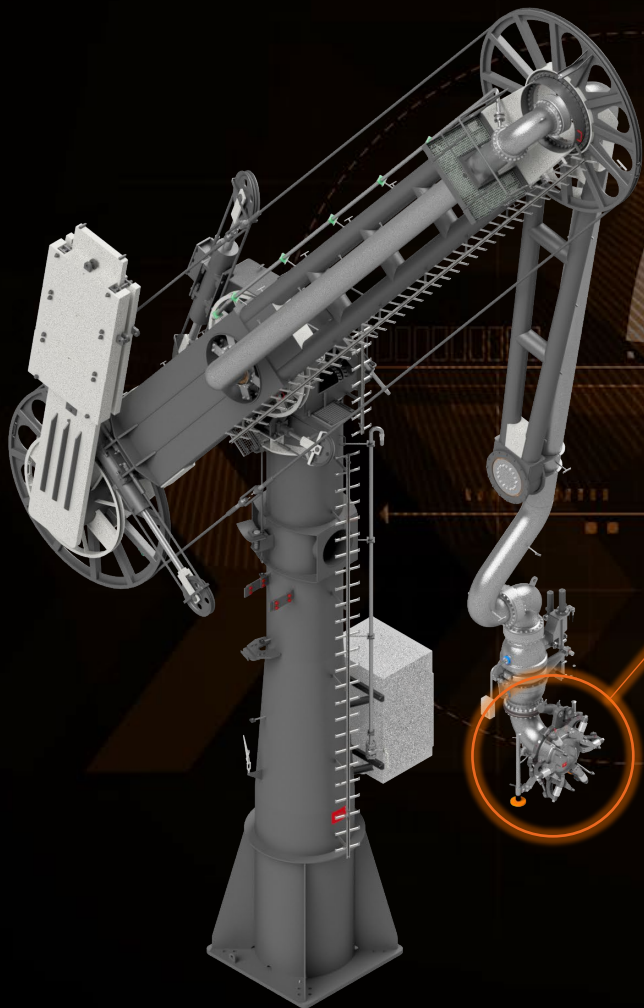




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HYDRAULIC QCDC



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

BENEFITS

- Safe and fast Coupling & Uncoupling
- Mechanical Interlock System
- Controlled and continuously monitored by hydraulic / electric Control System
- Certified to relevant international standards

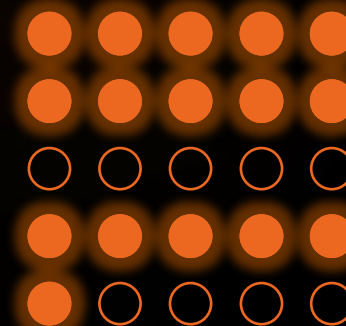
Safety Improvement

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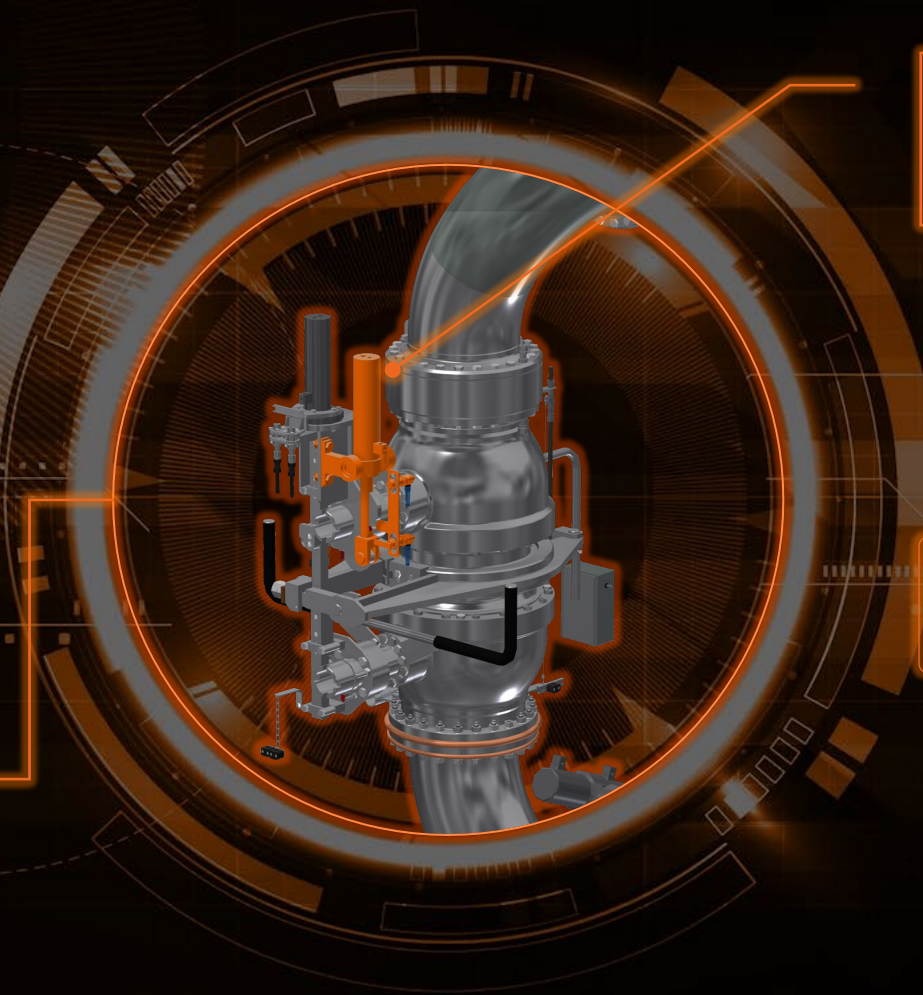
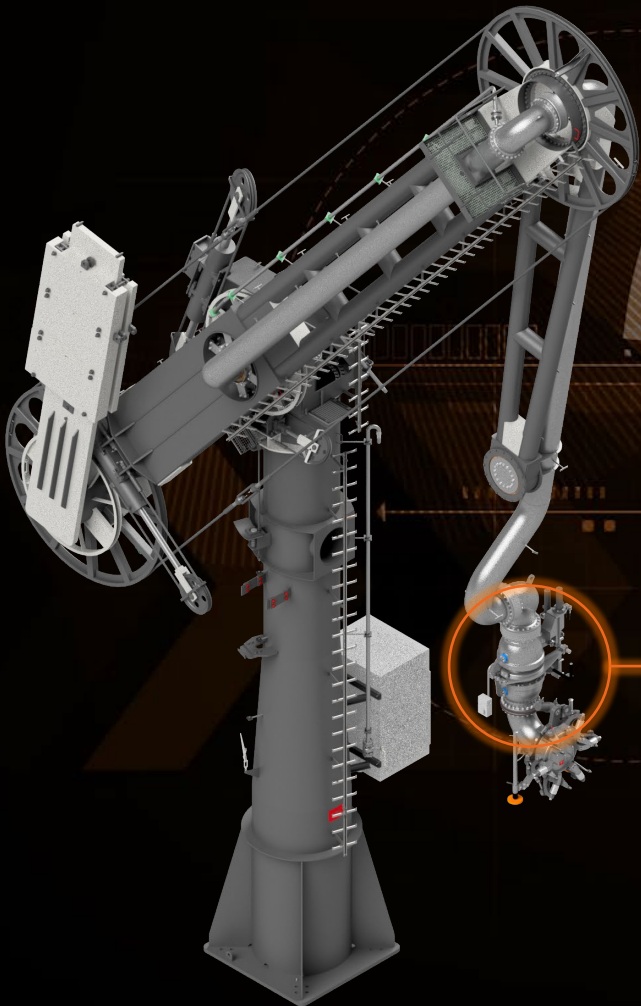




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PIPING PROCESS VALVE



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

Purging | Interlocks | Pre-closure while ESD 1

BENEFITS

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

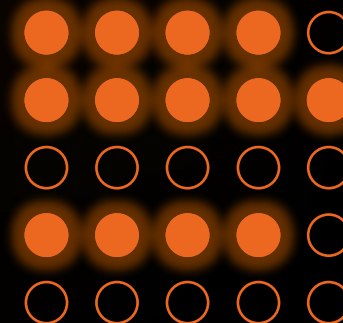
Safety Improvement

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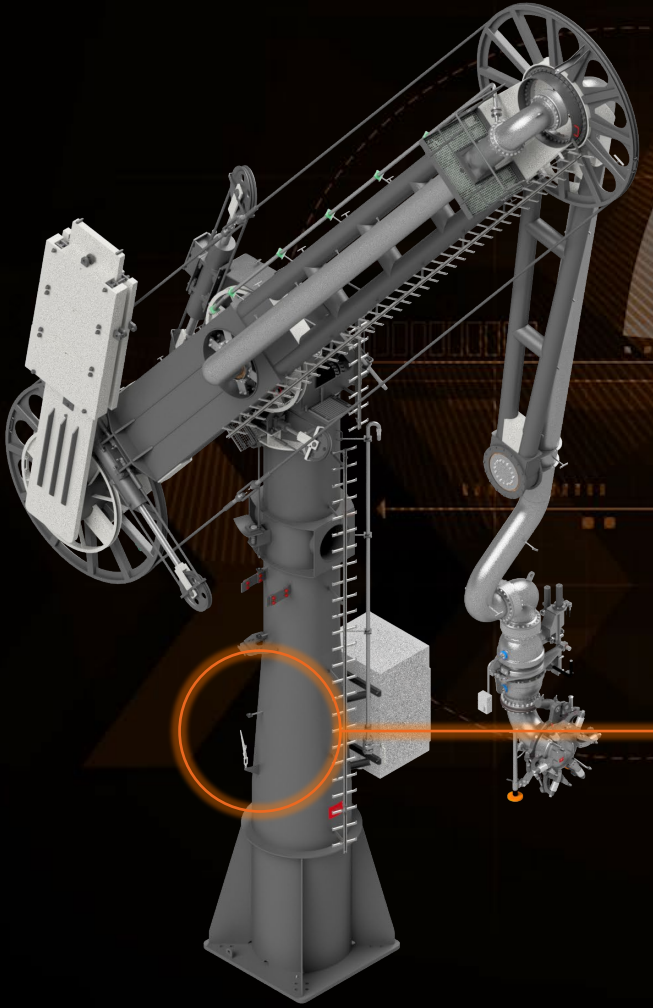




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HYDRAULIC ARM LOCK



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

BENEFITS

- Personell Safety
- Fast and easy unlocking of the Loading Arm
- Time Savings

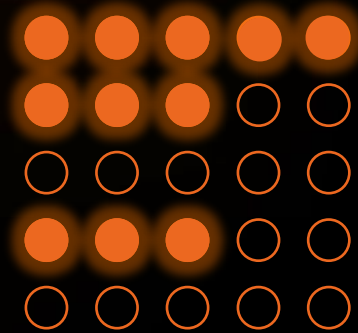
Safety Improvement

State of the Art

Downtime Reduction

Performance Boost

Lifetime Extension





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PERFORMANCE MONITOR



Software for monitoring and analyzing equipment and system conditions.

BENEFITS

- LIVE Monitoring of Loading Arm and control system status
- Recording of all major events and process data
- Notification of regular maintenance intervals including archiving of service history.
- Optional connection with CCTV system or gas sensors mounted directly on the Loading Arm

Safety Improvement

State of the Art

Downtime Reduction

Performance Boost

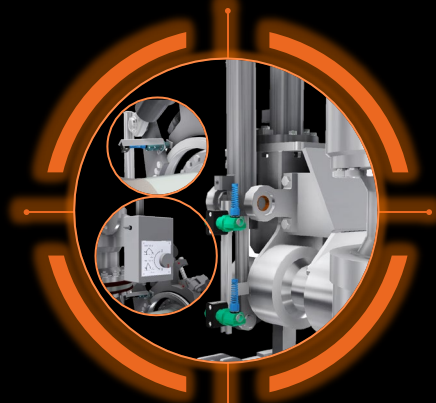
Lifetime Extension



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.



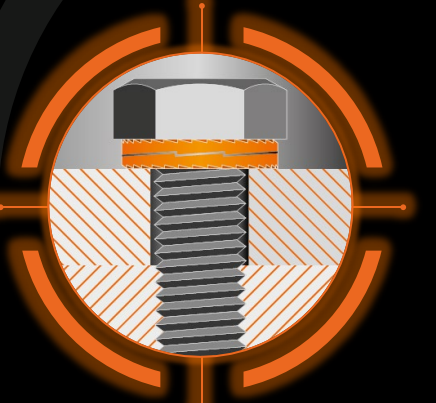
Safety Integrity Upgrade



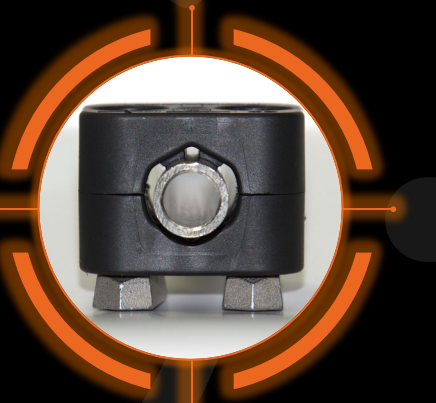
Training



Catridge Lubrication System



Wedge Lock Washers



Act Clamps

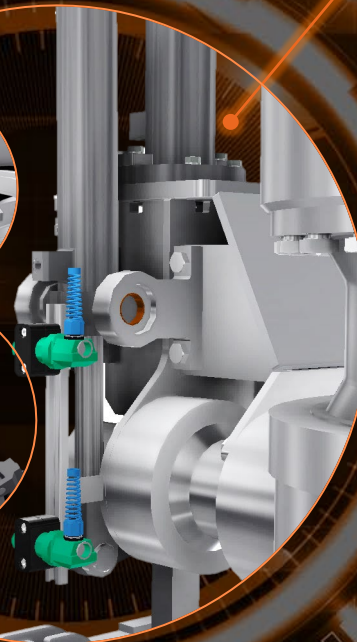
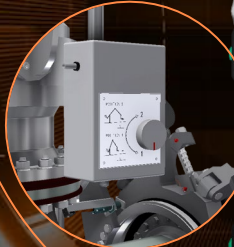
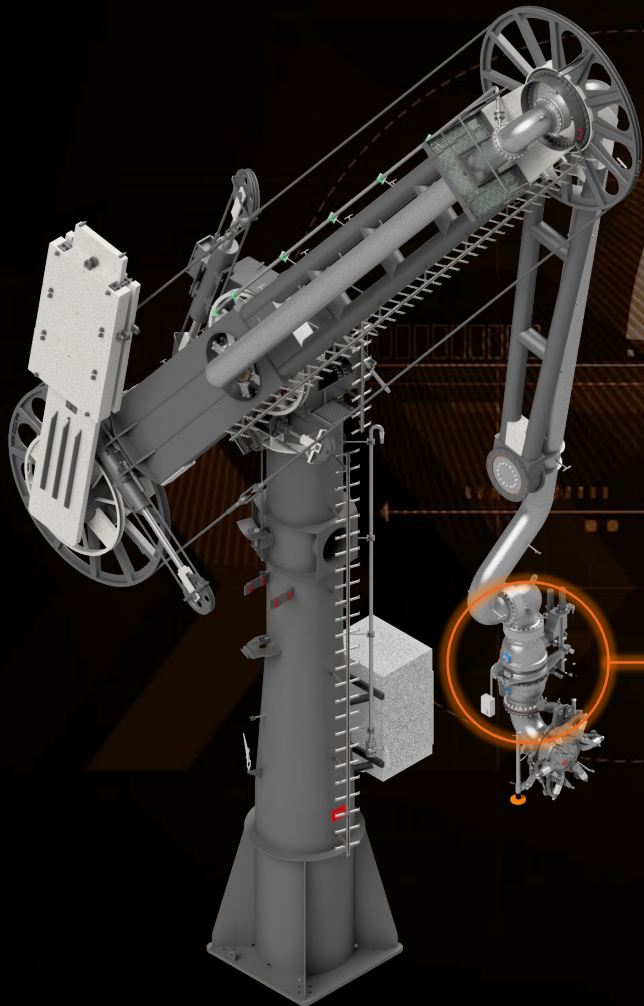




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SAFETY INTEGRITY UPGRADE



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

BENEFITS

- Additional status messages
- Interlocks
- Fail safe components
- Redundancy
- UPS (uninterrupted power supply) 24V
- SIL Upgrade (IEC 61511)

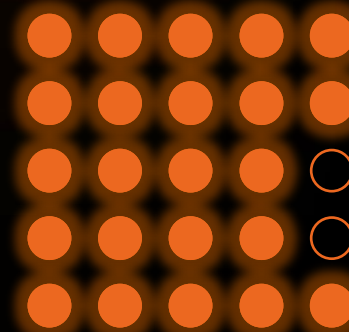
Safety Improvement

State of the Art

Downtime Reduction

Performance Boost

Lifetime Extension





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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.

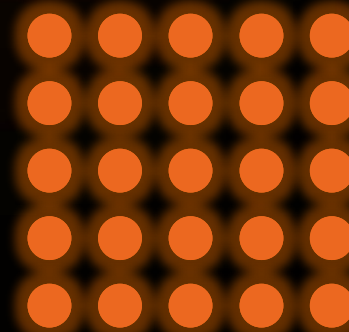
Safety Improvement

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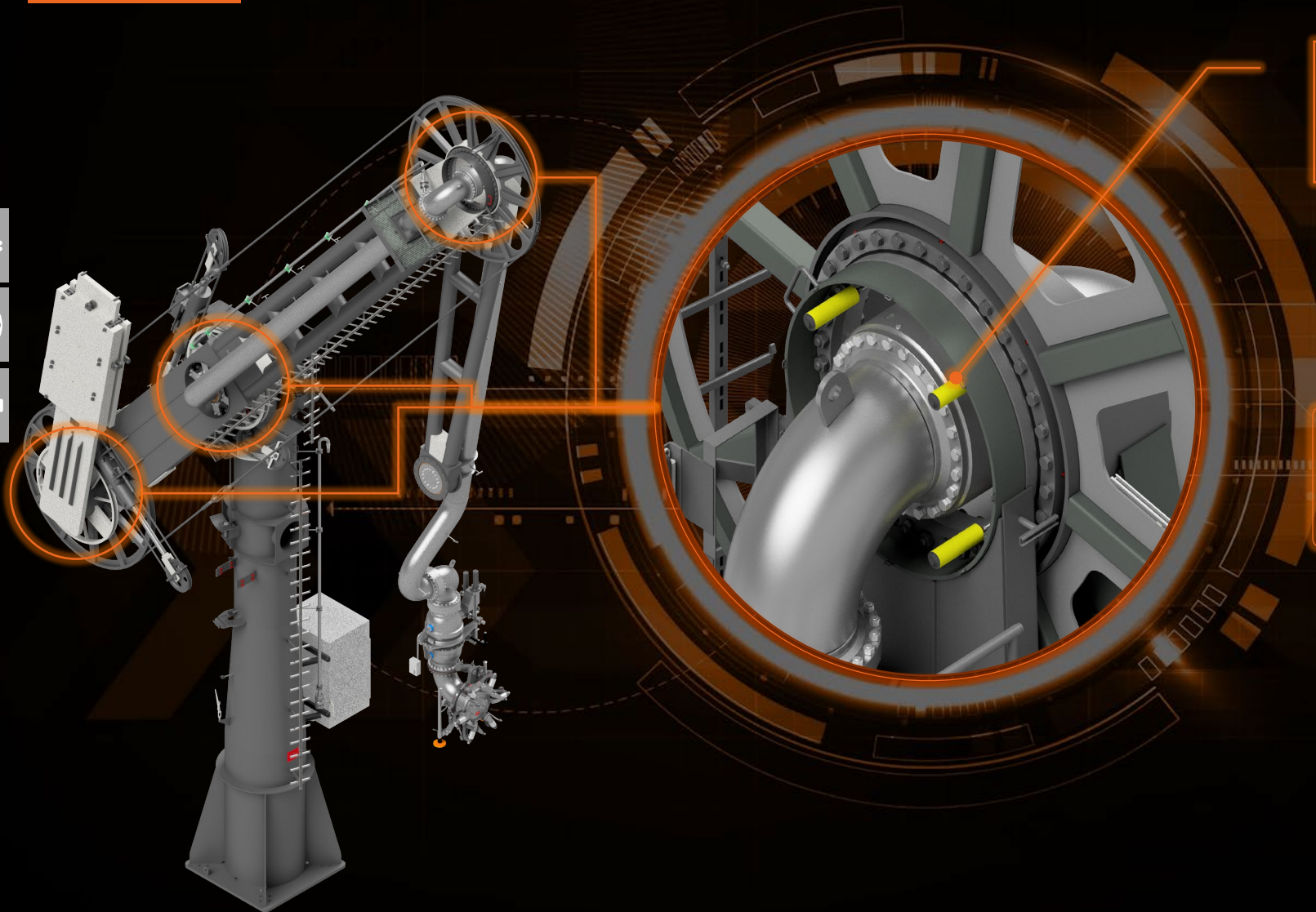




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CARTRIDGE LUBRICATION SYSTEM



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

BENEFITS

- Continuous, automatic lubrication
- Minimal installation effort
- Less wear and tear of ball bearings
- Easy replacement.
- Reduced maintenance duration/costs

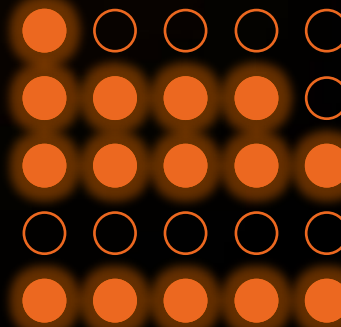
Safety Improvement

State of the Art

Downtime Reduction

Performance Boost

Lifetime Extension





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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

- Superior Vibration Resistance
- Increased Maintenance Intervals
- High Material Hardness and Compatibility

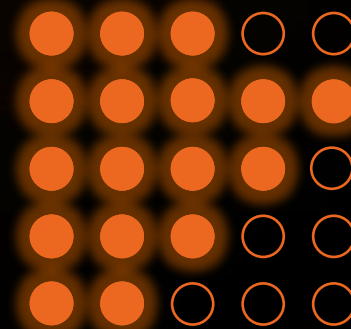
Safety Improvement

State of the Art

Downtime Reduction

Performance Boost

Lifetime Extension





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ACT CLAMPS



Hydraulic Line



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

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Lifetime Extension

