

OFFSHORE

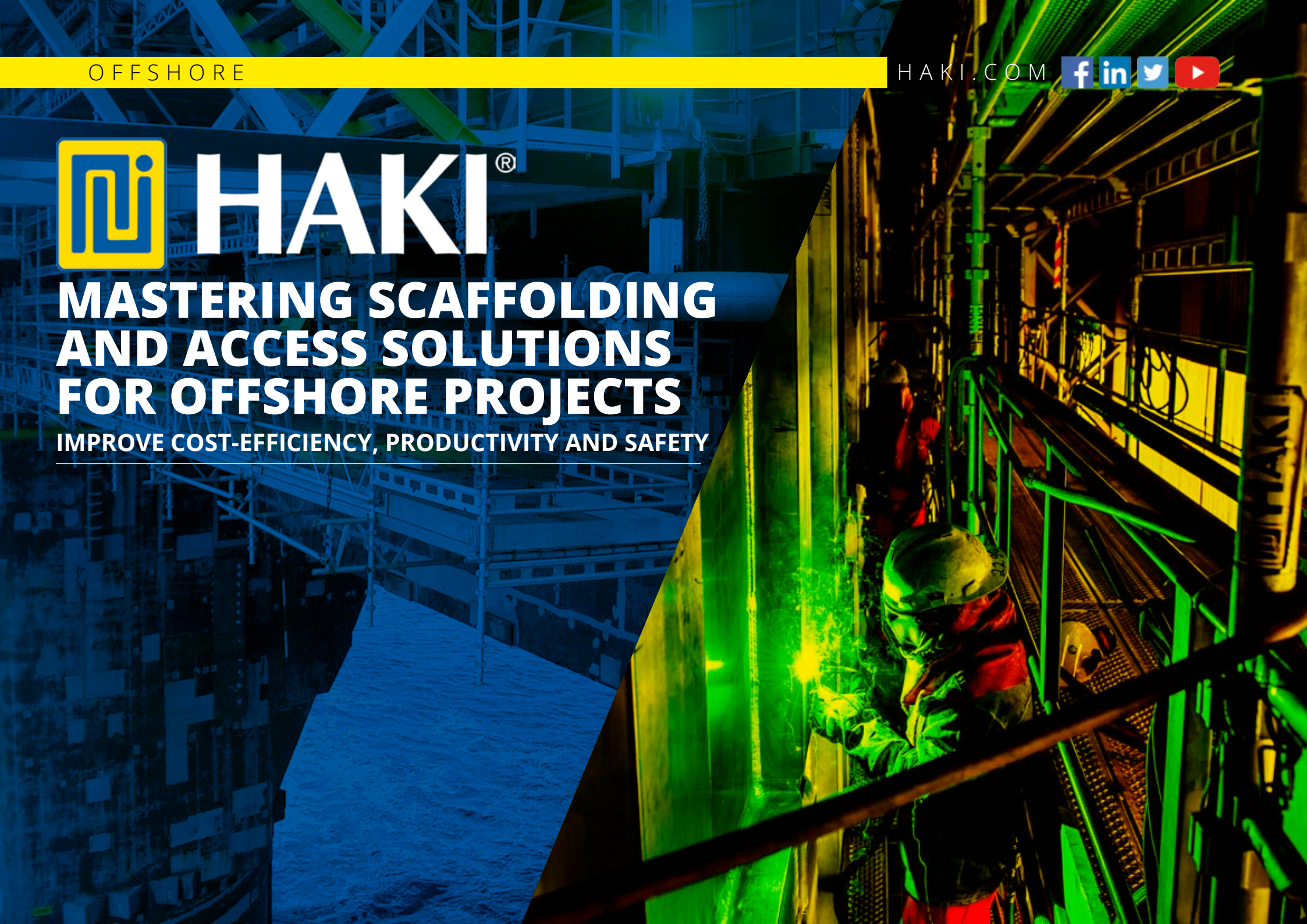
HAKI.COM



HAKI[®]

MASTERING SCAFFOLDING AND ACCESS SOLUTIONS FOR OFFSHORE PROJECTS

IMPROVE COST-EFFICIENCY, PRODUCTIVITY AND SAFETY



AS THE GLOBAL OFFSHORE INDUSTRY CONTINUES TO GROW, SPENDING ON CONSTRUCTION IN THE SECTOR IS CORRESPONDINGLY ON THE RISE.

To meet demands, managers need a collaborative approach with suppliers - working together to achieve the same common objectives, namely:

- 1. Delivering production at a lower cost**
- 2. Reducing risk and improving safety**
- 3. Increasing site efficiency and productivity**

For contractors like you, this means carefully considering types of suppliers and materials specified - such as, the choice of scaffolding and access solutions.

In this eBook, we look at some of the ways HAKI scaffolding products and services can help you demonstrate and achieve these objectives to your offshore clients - enabling you to maximize new opportunities in the industry and win new business.

02 | INTRODUCTION

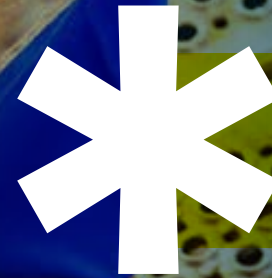
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**INCREASE
PRODUCTIVITY BY
UP TO 30% WHEN
USING ALUMINIUM
VS. STEEL OFFSHORE.**

UNRIVALLED ADAPTABILITY

OFFSHORE PROJECTS ARE COMPLEX AND DEMANDING. TO MAKE YOUR LIFE EASIER AND HELP YOU ACHIEVE MAXIMUM PRODUCTIVITY FOR YOUR CLIENTS, HAKI HAS DEVELOPED A SCAFFOLDING SYSTEM ADAPTABLE TO EVEN THE MOST CHALLENGING OF ENVIRONMENTS.

6 reasons why HAKI is unrivalled in adaptability:

1. HAKI Universal allows platforms to be created almost anywhere on the system, so very close approaches to work surfaces or penetrating objects, like piping, can be made using standard components.
2. HAKI products offer the highest level of compatibility with traditional tube and fitting. HAKI standards are mainly manufactured using a 48mm tube, so standard scaffolding fittings can be easily attached.
3. At the heart of the HAKI system is the load-bearing ledger beam. Made from 38mm tube, it allows off-node connections to be made anywhere, using the beam rider, puncheon unit or any standard scaffold fitting - unlike most ring and lock systems.

4. HAKI steel decks match the traditional width of scaffold boards to maintain compatibility and the HAKI ledger beam allows for transverse decking - eliminating the problematic treading-effect of long boards - creating extremely stiff and stable working platforms.



HAKI HAS DELIVERED THOUSANDS OF TONS OF UNIVERSAL SCAFFOLDING TO OFFSHORE CLIENTS - [CLICK HERE TO VIEW THE CASE STUDIES](#)

5. HAKI can be built suspended and lifted/moved as necessary once erected, making it simpler to build offshore structures.
6. HAKI's unique 'hook-on' system is made up of just 7 to 10 main components. These allow for simple erection - regardless of the type and design of the scaffold structure - and can be used in HAKI stair towers, bridges and weather protection systems. As such, any HAKI investment can be used time and time again, onshore and offshore.



3 REASONS TO AVOID HAKI COPIES

1. Genuine HAKI locks are better. They do not block or stick like the locks on copies - making it easier to secure the scaffolding.
2. The pockets on genuine HAKI standards are rounded to avoid injury, opposed to the sharp edges on HAKI copies.
3. HAKI's mechanical finish is higher quality. Genuine components fit better together than copies, guaranteeing secure connections and safety offshore.

ALUMINIUM OR STEEL

Whilst the Universal system provides adaptability in terms of design and structure to suit an offshore site, HAKI also gives you the option of ultra-light aluminium or steel components.

Although steel is predominantly used for its strength, HAKI aluminium standards are 50% lighter than their steel equivalents. This makes them ideal in situations where there are weight, transportation or storage constraints, and where manual handling is a concern, for instance when mounting suspended scaffolding.

HAKI's engineers are able specify aluminium or steel components on a project-by-project basis, to ensure each access solution uses the most suitable material.

JUST 'HOOK-ON'

HAKI's unique 'hook-on' design is different from typical ring and lock systems. The patented spring locking catch makes erection of HAKI scaffold quick, easy and safe. And with only one tool ever used for erection & striking, noise and tethering issues are eliminated. Watch the video to see how it works.



SUSPENDED SCAFFOLDING MADE SIMPLE.

IT'S A SIMPLE FACT THAT TO DO YOUR JOB, YOU FIRST MUST GET TO WHERE YOU WORK. BUT, WHEN WORK REQUIRES INDIVIDUALS TO BE SUSPENDED MID-AIR OVER CHOPPY WATERS, GETTING TO WORK IS NOT THAT EASY.

HAKI UNIVERSAL, HOWEVER, CAN MAKE IT EASIER.

HAKI's decades of experience within the offshore, petrochemical and shipbuilding industries has resulted in a unique range of suspension devices, which make it possible to suspend scaffolding from virtually any load-bearing structure.

FOR SPEED AND SAFETY, YOU CAN'T BEAT HAKI UNIVERSAL.

Constructed in both galvanized steel and aluminium, HAKI's suspended solutions use fewer components compared to other

systems; enabling reduced project timescales. They can also be up to 50% lighter than our competitors, meaning significant reduction of loads into the structure.

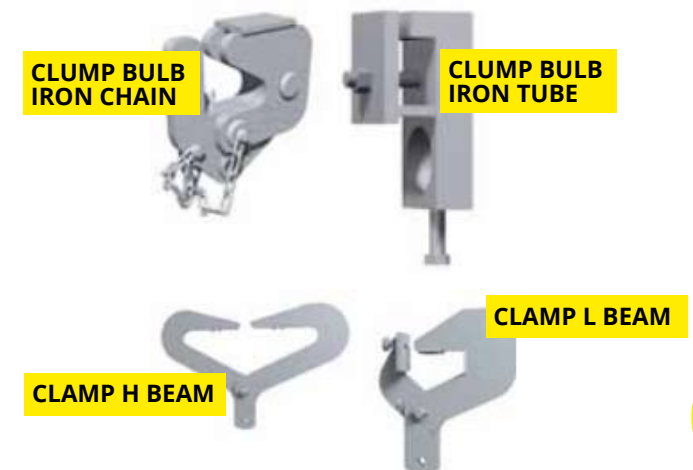
HAKI components can also carry load as soon as the hook has entered the pocket on a HAKI standard, whereas ring systems require the wedge to be fastened. This means just one person is required to mount a HAKI suspended scaffold, in comparison to the two needed when using a ring system.

OTHER BENEFITS OF USING HAKI FOR SUSPENDED SCAFFOLDS:

■ The multi-functional ledger beam can be used inverted as a suspension device for safe assembly of a bay

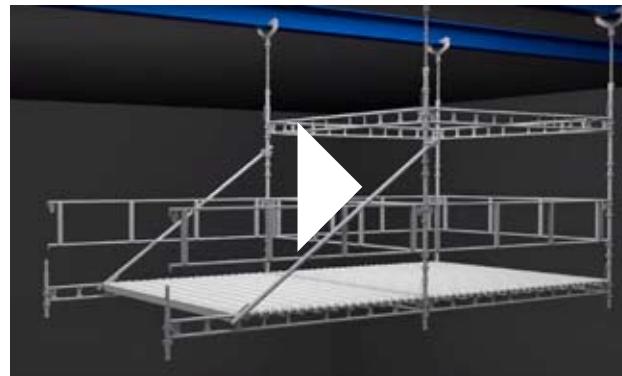


■ A variety of suspension devices, developed from years of experience in the offshore sector, make it possible to suspend scaffolding from virtually any load-bearing structure





■ Increase safety with moving leading-edge protection, by using a double rider and the HAKI guard rail



■ The second lift can be easily lowered and hooked into place, with collective fall measures in place

■ Cold formed spigots provide full-load bearing connections between uprights, eliminating the need to use costly tube and fittings

■ HAKI friction trestles allow for a scaffolding section to fix to round structures, common in offshore suspended scaffold installations

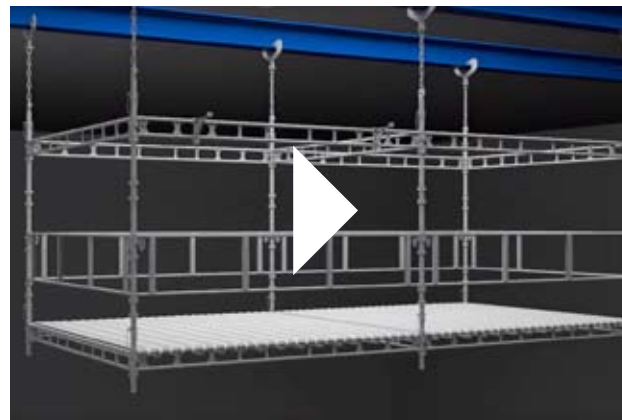
■ Large 3.05m x 3.05m bays can be created with fewer contact points and components, and take less effort and time to erect

■ Either HAKI system decks or scaffold boards can be accommodated, although we advise our steel or aluminium decking to help eliminate slips and trips

■ Off-node connections can be made anywhere on the HAKI ledger beam



AVOID DANGEROUS SITUATIONS
DOWNLOAD HAKI SUSPENDED SCAFFOLD MANUAL



SAFETY FIRST

BOTH COMMON SENSE AND LEGISLATION REQUIRE THAT, WHERE WORK ON A CONSTRUCTION SITE CANNOT BE CARRIED OUT SAFELY FROM THE GROUND OR PART OF A STRUCTURE, SCAFFOLDING OR ANOTHER ACCESS METHOD MUST BE PROVIDED.

This is paramount in any industry - however, it is even more relevant in an offshore environment, to protect the health and safety of workers in a sector that is known to be higher risk than most.

HAKI'S CORE VALUE IS SAFETY.

Providing a healthy and safe place of work is the number one priority of HAKI's design and manufacturing teams. The business continuously works with all stakeholders to ensure safe working practices that meet and often exceed regulations, worldwide.



HAKI see it as part of the job to ensure those who work on our access solutions get home to their loved ones safely!

WHY HAKI IS THE SAFER CHOICE FOR OFFSHORE USE

■ HAKI Universal is 50-times lighter than other systems when used in a **suspended scaffold**, and the unique range of suspension

devices make it possible to suspend safely from almost any load-bearing structure, using fewer components than tube and fitting and other systems

■ HAKI's Universal scaffolding - and the Advanced Guard Rail (AGR) system - allows a 'scaffolder safe zone' to be created and maintained during erection, modification and dismantling without the need for additional

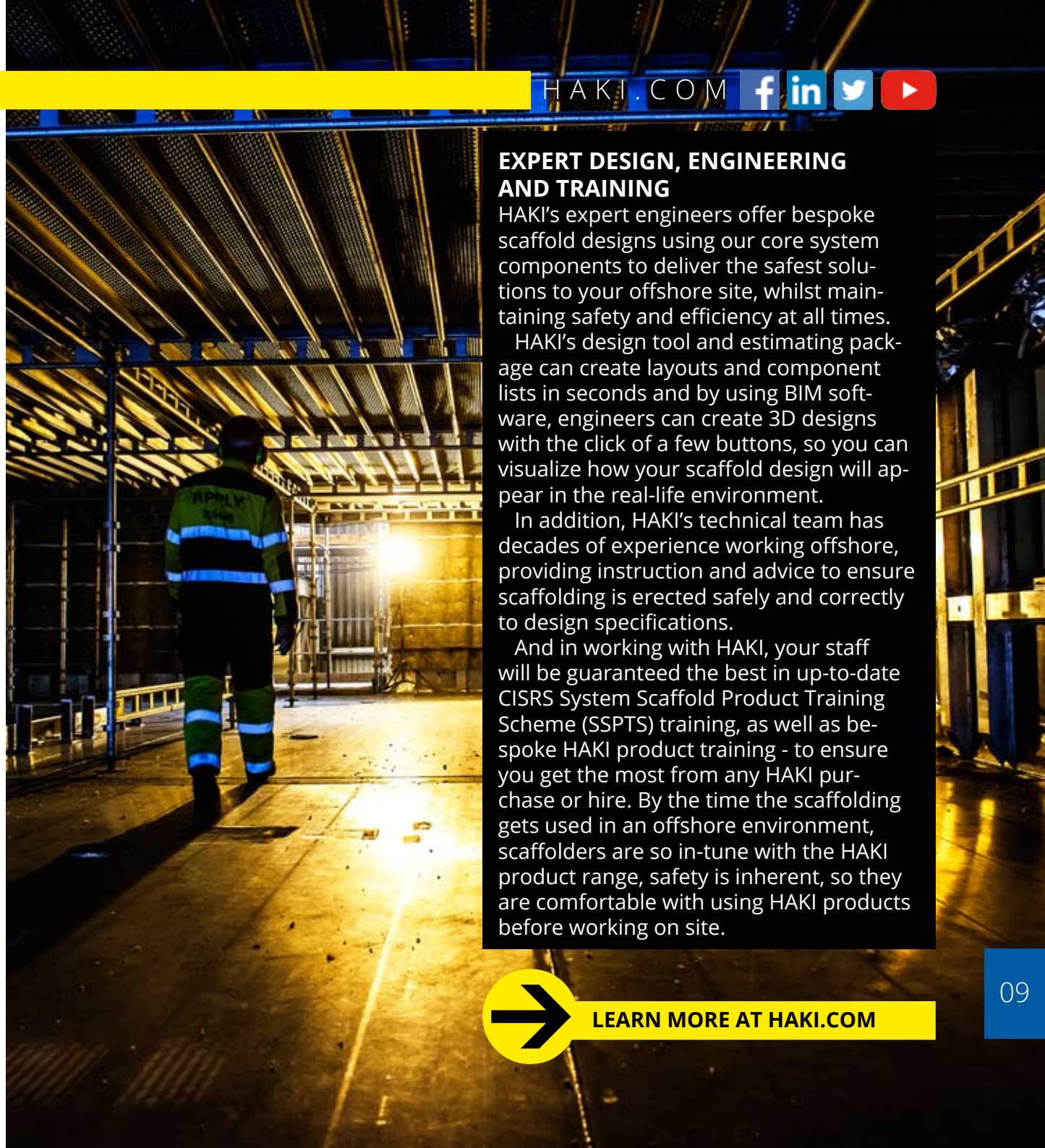
resource - in accordance with NASC's SG4 regulations

■ The HAKI Advanced Guard Rail eliminates the risk of going overboard, removing the need for stand by boats when working on the outside of a rig/FPSO

■ The simplicity of HAKI Universal scaffolding significantly reduces time working over-side - **in one case, this was from ten man-days to just five man-hours.** That's HAKI productivity in action

■ HAKI scaffolding can simply be used as a step over to provide workers safe access across temporary pipe works

■ State-of-the-art manufacturing processes at the factory in Sibbhult, Sweden means HAKI can assure consistently high-quality components that are traceable all the way back to their raw material. There are no unsafe copies that eat away at the safety margin



EXPERT DESIGN, ENGINEERING AND TRAINING

HAKI's expert engineers offer bespoke scaffold designs using our core system components to deliver the safest solutions to your offshore site, whilst maintaining safety and efficiency at all times.

HAKI's design tool and estimating package can create layouts and component lists in seconds and by using BIM software, engineers can create 3D designs with the click of a few buttons, so you can visualize how your scaffold design will appear in the real-life environment.

In addition, HAKI's technical team has decades of experience working offshore, providing instruction and advice to ensure scaffolding is erected safely and correctly to design specifications.

And in working with HAKI, your staff will be guaranteed the best in up-to-date CISRS System Scaffold Product Training Scheme (SSPTS) training, as well as bespoke HAKI product training - to ensure you get the most from any HAKI purchase or hire. By the time the scaffolding gets used in an offshore environment, scaffolders are so in-tune with the HAKI product range, safety is inherent, so they are comfortable with using HAKI products before working on site.



LEARN MORE AT HAKI.COM

HAKI OFFSHORE PROJECTS



TOTAL DUNBAR CRANE BOOM CHANGE

RESULTS

- Reduced project time by eighty five-man days, bringing crane back into service ahead of schedule
- Reduced over-side working from ten-man DAYS to five-man HOURS
- HAKI Advanced Guard Rail

technique provided safest system of work

- Improved adaptability meant a last minute on-board change was easily accommodated, with no additional equipment required

THE PROJECT

The Crane Boom on the Total Dunbar offshore platform had deteriorated due to harsh conditions and required changing with minimal disruption.

The weather meant that the safety boat could only operate in certain conditions, so the amount of time spent erecting & dismantling the sections of the scaffolds classed as over board was a critical factor.

REQUIREMENTS

The project required an access platform 21m long x 7m wide x 8.5m high with a platform loading of 2KN/m², but with supports for the crane boom to carry a skate loading of 65KN. A second platform with the same loadings but 14m long x 5.5m wide & 8.5m high was also needed.

HAKI SOLUTION

At Total's request, the design was changed from the original tube & fitting design to HAKI Universal. To cater for the huge loads required, the HAKI tripod system was also used as the vertical standards (each leg capable of taking a maximum of 200KN).

ELDFISK II

RESULTS

- Good levels of flexibility in difficult and demanding installations
- Positive feedback from client regarding safe working environment

THE PROJECT

The Eldfisk II project included build of a new integrated platform with wellhead and processing plants, as well as a residential area with 154 single cabins. The platform was built by Kværner Stord and was installed in 2014.

HAKI SOLUTION

350 tons of HAKI Universal Aluminium was used for this project. It was chosen by the client due to its adaptability in challenging and demanding environments.





EQUINOR NJORD A MAINTENANCE

RESULTS

- Contact points were kept to a minimum due to the large grid size
- The time that scaffolders were required on-board was kept to a minimum due to the speed of the suspended scaffold erection

THE PROJECT

In 2012, an extensive maintenance and modification campaign was completed on Njord A to enable extended

lifetime, output from the Hyme field, and production from the Njord North-West Flank.

REQUIREMENTS

The project required a suspended platform capable of a load capacity of 2.0kN/m² to cover an area of 48m x 30m to access the steels for a shot blast and repaint.

HAKI SOLUTION

HAKI Universal was chosen by the contractor to provide a scaffold platform based on a 3.05m x 3.05m grid using aluminium decks and accessed via HAKI stair towers.

EQUINOR NJORD A UPGRADE

RESULTS

- Highly satisfied customer due to HAKI's technical solutions, delivery and adaptability

THE PROJECT

Kværner is currently conducting a complete upgrade of Equinor's Njord A floating production platform, due for completion in 2020.

This project includes upgrading of hull and topside; a scope which will enable the platform to produce oil and gas for decades ahead.

The platform will also be upgraded to receive oil and gas from the adjacent Bauge, Hyme and Fenja fields.

HAKI SOLUTION

HAKI has delivered 1000 tons of Universal Aluminium for this project. The speed and the safety of the HAKI system will allow contractor, Kværner to meet the March 2020 deadline.



EDVARD GRIEG

RESULTS

- Scaffolders felt safe whilst working on site
- Installation of scaffold was simplified due to adaptability of HAKI Universal

THE PROJECT

In 2015, production of the Edvard Grieg field commenced. The project included build of a bottom-mounted platform (jacket steel foundation), with full-range plants, dry wells with external jack-up drilling, and residential neighborhoods.

HAKI SOLUTION

HAKI supplied 450 tons of HAKI Universal Aluminium to help produce the Edvard Grieg platform.

ABOUT HAKI

With more than 60 years' experience, HAKI is committed to delivering safe and adaptable temporary workplaces worldwide. We are proud to provide first-class access solutions for a variety of sectors including marine, offshore, power generation, processing, and construction.

OUR PRODUCTS

- HAKI Universal system scaffolding
- HAKITEC weather protection systems
- HAKI stair towers
- HAKI bridge systems

OUR SERVICES

HAKI also offers customers expert technical advice, design support, training and flexible financing options.

OUR LOCATIONS

HAKI has distribution facilities across the globe, allowing us to meet contractor requirements regardless of location.



CONTACT US FOR MORE INFORMATION