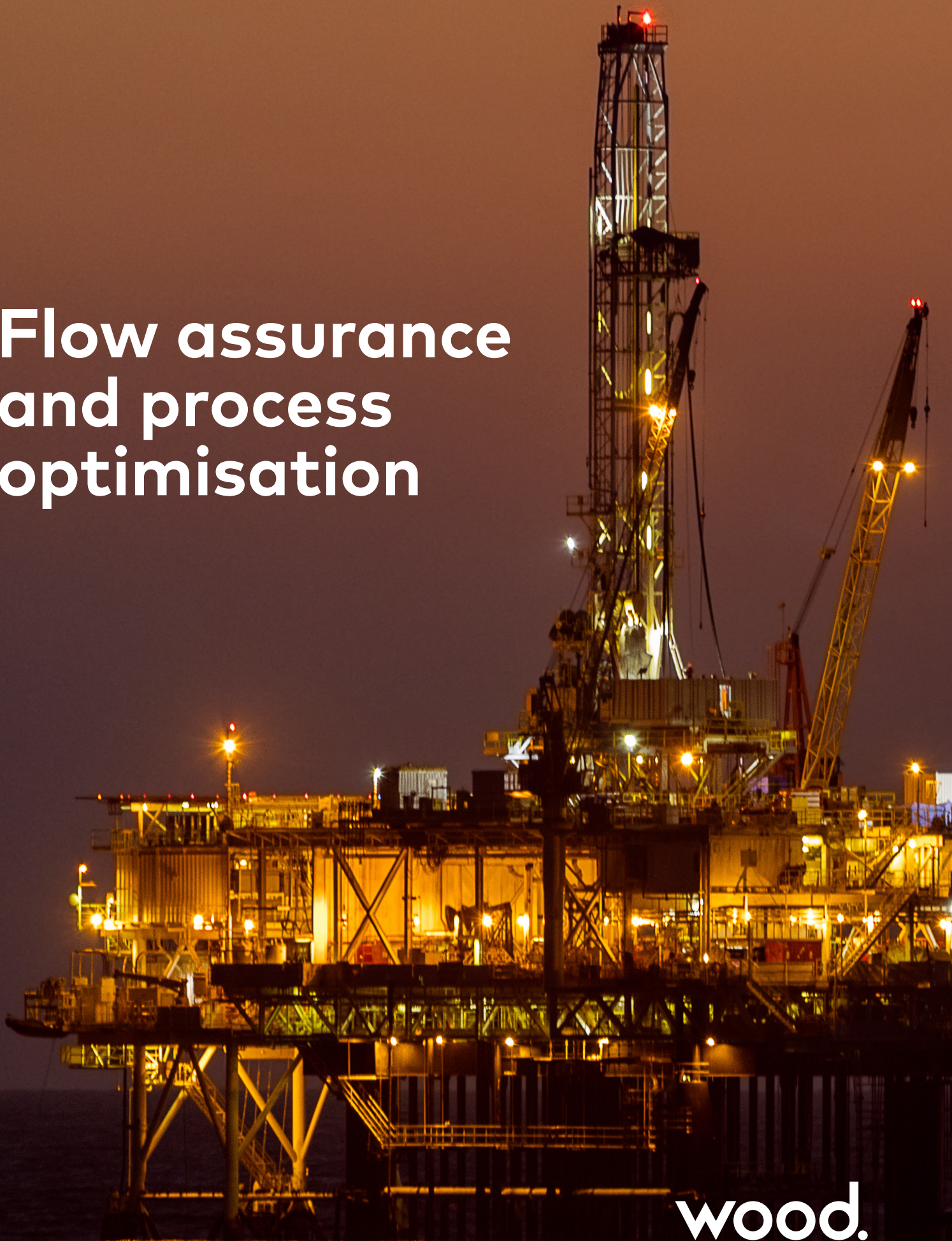# Flow assurance and process optimisation

wood.

As an industry-recognized leader, Wood offers leading-edge technology, strong analytical capability, and field-proven software systems. Our Virtuoso® packages are used to monitor 10% of the world's gas consumption.

Delivery of field-proven systems for operations management

In the last 20+ years, Wood has deployed over 100 software-based systems globally providing real-time, on-line operations management and optimization functionalities. Our Virtuoso® suite of applications actively monitor, forecast, recommend and even control our clients' oil and gas gathering, production, export, and processing operations. Our VP Link® system is used extensively in downstream operations and petrochemical plants as well as other industries.

Key functionalities:
- Virtual well production metering (inferential metering)
- Production and pipeline performance monitoring, advisory, and optimization
- Operations forecasting and "look ahead"
- Operations closed-loop control("auto-pilot")
- Engineering simulators and operator training systems
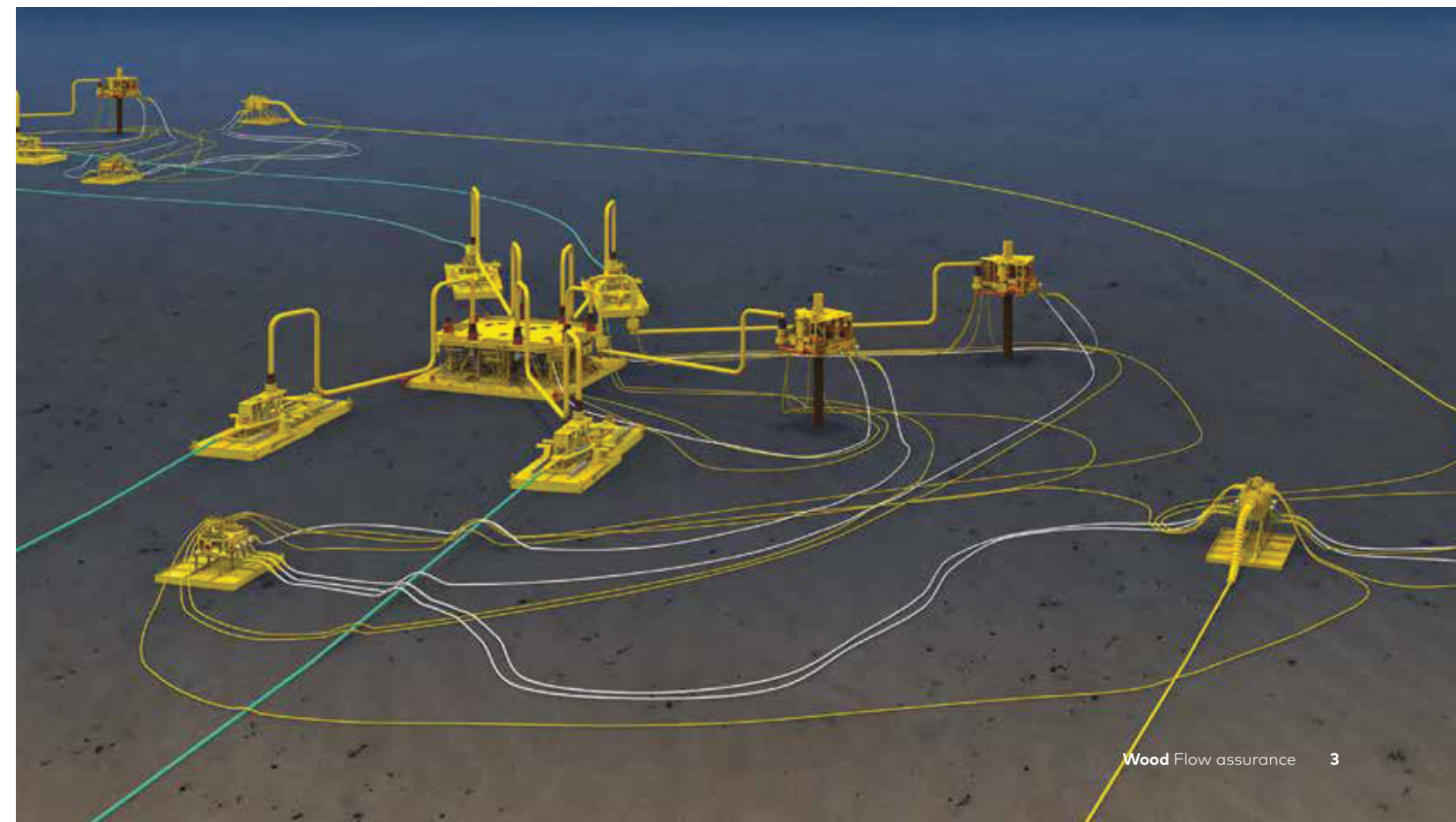- Control system checkouts and testing.

These systems facilitate opportunities for:
- Improved/optimised operations
- Reduced down-time
- Safer operation
- Maximising an asset's value and return
- Flexibility to handle operational challenges
- Maintaining a trained operations and engineering crew

Wood remain at the forefront of innovative technologies including subsea research, establishing new industry standards, writing industry guidelines, funding joint industry projects, using data analytics and machine learning to improve our models and providing ground-breaking technology for clients.

A few of the flow assurance JIPs that Wood have been involved with are as follows:
- SLARP (Slug Load and Response)
- Imperial College Transient Multiphase Flow
- University of Michigan Wax / Asphaltene
- Deepstar

We offer solutions in the following areas:
- Transient multiphase flow
- Computational fluid dynamics
- Production chemistry / fluid phase thermodynamics
- Integrated production modelling/ field development planning
- Process dynamics – topsides, subsea, and plants
- Online monitoring systems / engineering simulators
- Operator training systems – fit-for-purpose fidelity
- Asset management and optimization systems
- Operations support and troubleshooting
- Enhanced oil recovery (including steam-assisted, chemical/polymer flooding, CO_2 or water alternating gas
- Carbon capture and storage, unconventional, shale and methane hydrate resources

Addressing life-cycle requirements

Our specialist flow assurance and process optimization consultants have extensive experience in all project stages for offshore and onshore assets:
- Feasibility and conceptual studies
- Front-end engineering and detailed design
- Commissioning and start-up support
- Operations management and troubleshooting
- Life extension and decommissioning support

Our dedicated team of consultants offers a broad knowledge and skill set devoted to providing the requisite understanding of fluids and production chemistry issues to help you increase production and improve operability.

Wood. Powered by possible

The need for change has never been greater. In our industries, in the way we treat our planet, and in how we live.

To challenge the status quo we must be brave – it's having the courage to forge new answers. We're 40,000 inquisitive minds, on a quest to unlock solutions to the world's most critical challenges, across all of energy and the built environment.

United by our mission to create a sustainable future as the world evolves to a cleaner planet. Our bold spirit drives us to lead the charge, our actions transform challenges into solutions, and our curiosity keeps us pushing, innovating, making the impossible... possible.

Because we understand the time for talk is over. Because the world needs new answers to old challenges. Because at Wood, we are future ready, now.

For further information please go to:

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