



A TRULY INTEGRATED OFFERING

Pre-Commissioning,
Commissioning & Completions



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OUR BELIEFS

SAFETY... IT'S FOR LIFE



SAFETY

We believe in safety without compromise. This means adopting the best safety practices possible and providing diligent training to our staff. Safety – it's for life.



PEOPLE

Our people are the most integral part of our alliance. We ensure equal opportunities are provided to empower and grow.



QUALITY

We deliver the highest of quality in everything we do and perform to the best of our abilities with a focus on safety and quality.



AGILITY

We adapt to change, seize opportunities, continue to innovate and are agile in the delivery of our combined solutions.

Our pillars of belief are simply that, ideas we believe in. They are a fusion of our values and work together to shape the character of our alliance.

COMMON INDUSTRY CHALLENGES & PROJECT RISKS

We understand the challenges facing all projects and industries:

Human resources:
skills shortages and competing projects drive up cost and stifle availability

Lack of infrastructure:
complexity and ownership

Engineering completeness and scope definition:
many engineering changes after construction commenced, leading to poor scope definition.

Supply chain & logistics:
challenges are underestimated

Back end loading of pre-commissioning:
creates a “pressure cooker” situation

Interface “gaps”:
between onshore EPC and subsea EPCI

Insufficient Budget for Pre-commissioning & Commissioning:
leads to conflict, delays and execution problems

Regulatory Burden:
Local content demands and evolving environmental regulations

Schedule security:
projects delays increase cost, compress work activities and delay operational revenue

Multitude of vendors and subcontractors:
different systems, priorities, capabilities, competencies

SAFETY ASSURED

SCHEDULE CERTAINTY

LESS RISK

REDUCED INTERFACES

MORE EFFICIENCY

REGARDLESS OF PROJECT SIZE AND COMPLEXITY

THE ENERMECH OTS ADVANTAGE

EnerMech
OTS offers
a unique
solution
reducing
project risk
by reducing
interfaces.

Through **early engagement**, our systemization is driven by commissioning and start-up activities, to achieve client operational readiness

We self-perform **scopes removing the need for multiple subcontractors**, eliminating mark-ups, providing schedule surety and advance cost control

Our **global footprint**, focused around key construction locations, means we have local specialized people & equipment adjacent to your module and vendor facilities

The right people – with access to over 4,000 proven specialists, we have the right people in the right locations, with the skills and experience

We focus on local content and community development in all areas we work in – by training a local workforce we leave a lasting legacy that brings tangible benefits to your project

We use the CMS as a planning tool, not just a data record

Complete schedule and cost transparency throughout the lifecycle of your project

Our **broad training capability** further supports successful project start-up and steady-state operations

Our **maintenance solutions** and specialist service portfolio, then supports your facility through early start up and stable operations

**COMPLETE END-TO-END
PACKAGE**

**FROM SUBSEA
TO EXPORT**

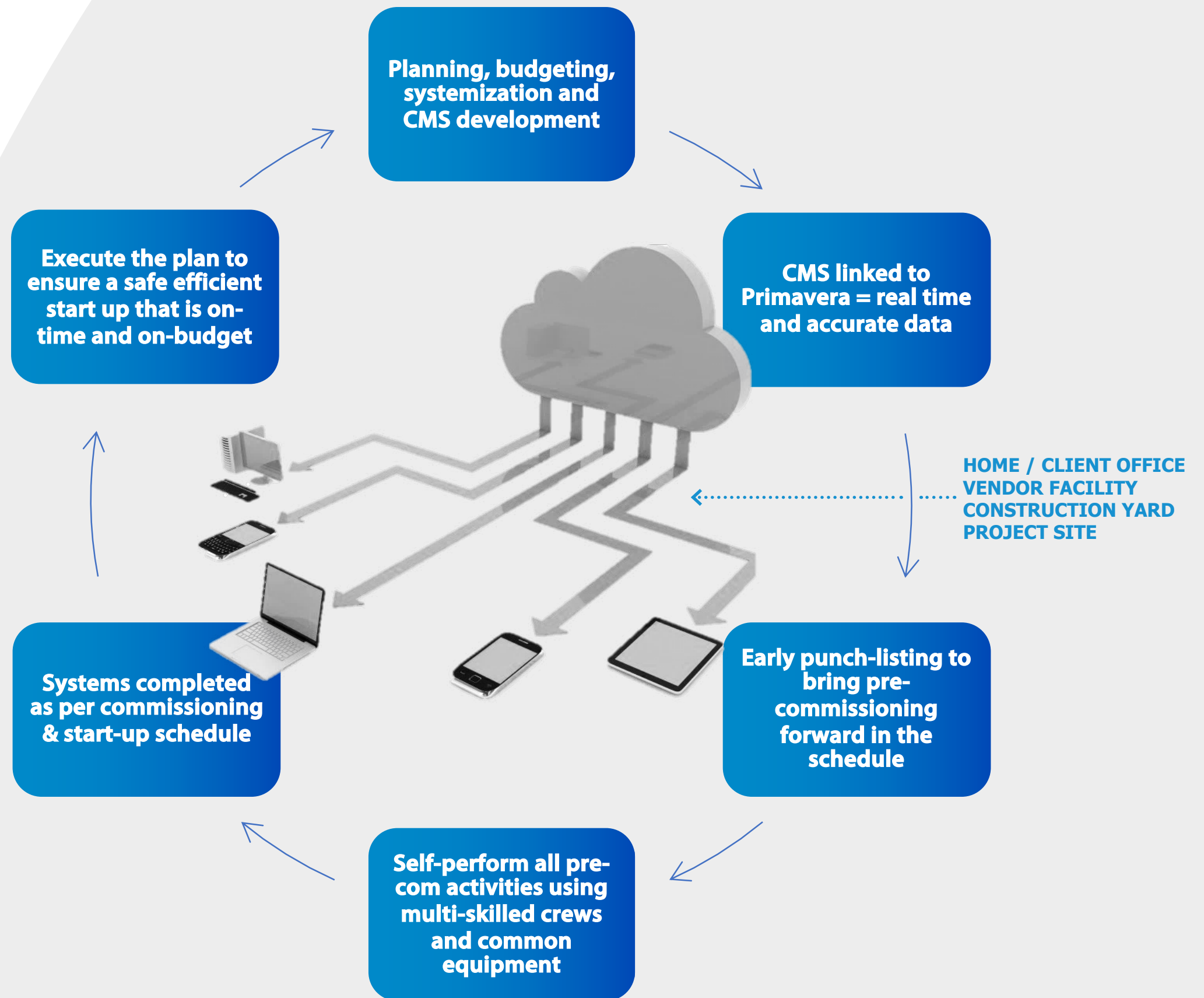
**FROM ENGINEERING
TO START-UP**

**FROM THE YARD
TO THE SITE**

**SUPPORTING YOUR
ASSET THROUGHOUT
ITS OPERATIONAL LIFE**

ENERMECH OTS PROJECT DELIVERY

One Safety Culture
One Management Team
One CMS with Single Data Entry
One System
One Supplier



EARLY ENGAGEMENT

01



Understanding operational **priorities** allows us to define and prioritize systems and subsystems to optimize schedule performance.

02



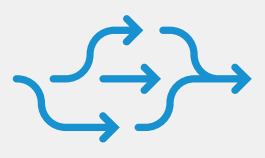
Early collaboration with engineering and construction creates a seamless interface partnership resulting in the **EnerMech OTS Advantage**.

03



Our integrated project **management team** creates overall planning efficiency and can drive decision making during execution that results in overall project cost savings and transparency.

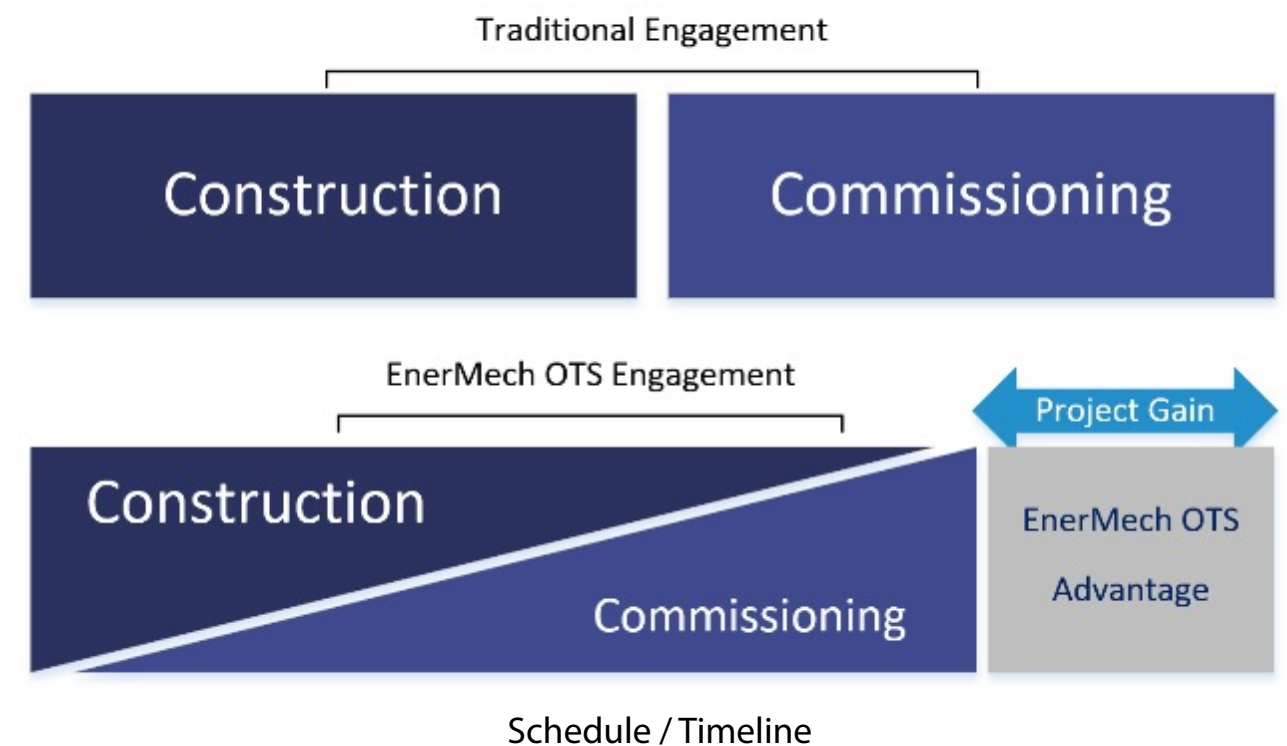
04



By self-performing all specialist **services**, we offer greater flexibility through early commencement.

**THE ENERMECH
OTS ADVANTAGE REDUCES
PROJECT COST AND
OVERRUNS BY ENSURING
SCHEDULE CERTAINTY**

**ENERMECH OTS
ADVANTAGE**



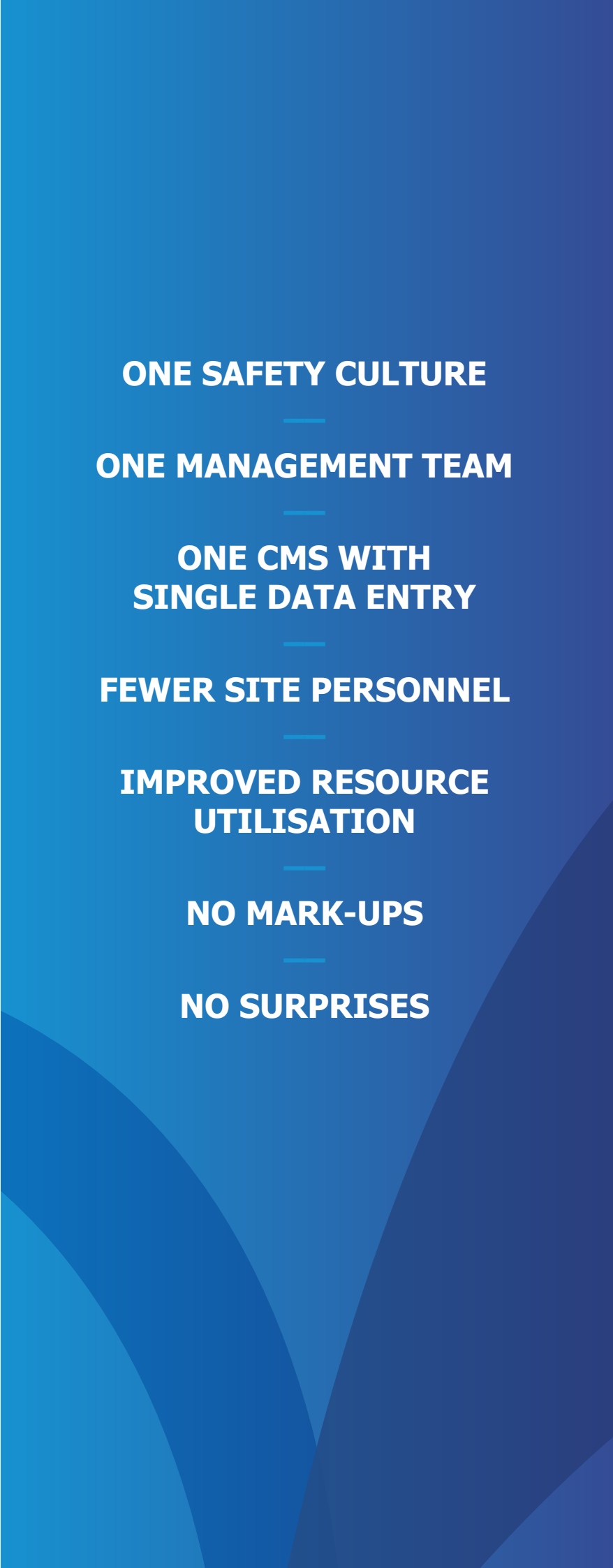
REDUCING SUBCONTRACTOR INTERFACES

EnerMech OTS offers one central commissioning solution
EnerMech OTS offers a complete suite of commissioning specialty services allowing us to self perform project scope that is traditionally subcontracted thus eliminating the interfaces for both contractor and client.

The EnerMech OTS Advantage results in project gain and risk reduction through:

Removes contractor mark-up	Eliminates uncertainty around subcontractor performance and availability	Multi-skilled specialists reduce site headcount whilst improving utilization
Single point of contact for multiple work scopes availability	Limit cost contingencies in early project planning	Cross utilization of specialized equipment drives efficiency

Fewer resources reduces onboarding burden and cost
Single-point data entry feeding a single global CMS
One safety culture

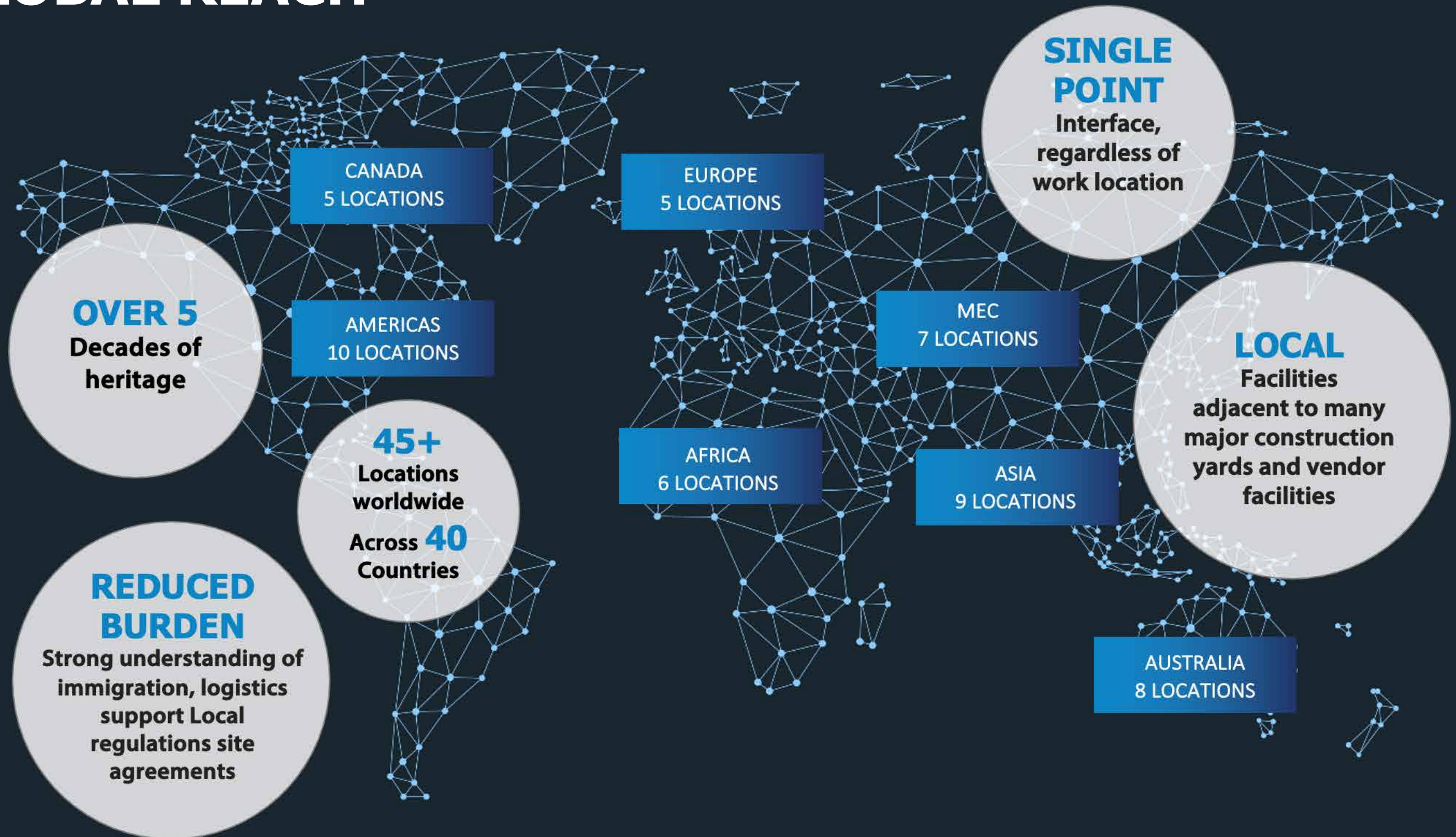


SELF PERFORM

Across all specialist services
from engineering and planning,
to people and execution,
to custom equipment



LOCAL DELIVERY, GLOBAL REACH



LOCAL DELIVERY, GLOBAL REACH

Removes contractor mark-up

Eliminates uncertainty around subcontractor performance and availability

Multi-skilled specialists reduce site headcount whilst improving utilization

Fewer resources reduces onboarding burden and cost

Single point of contact for multiple work scopes availability

Limit cost contingencies in early project planning

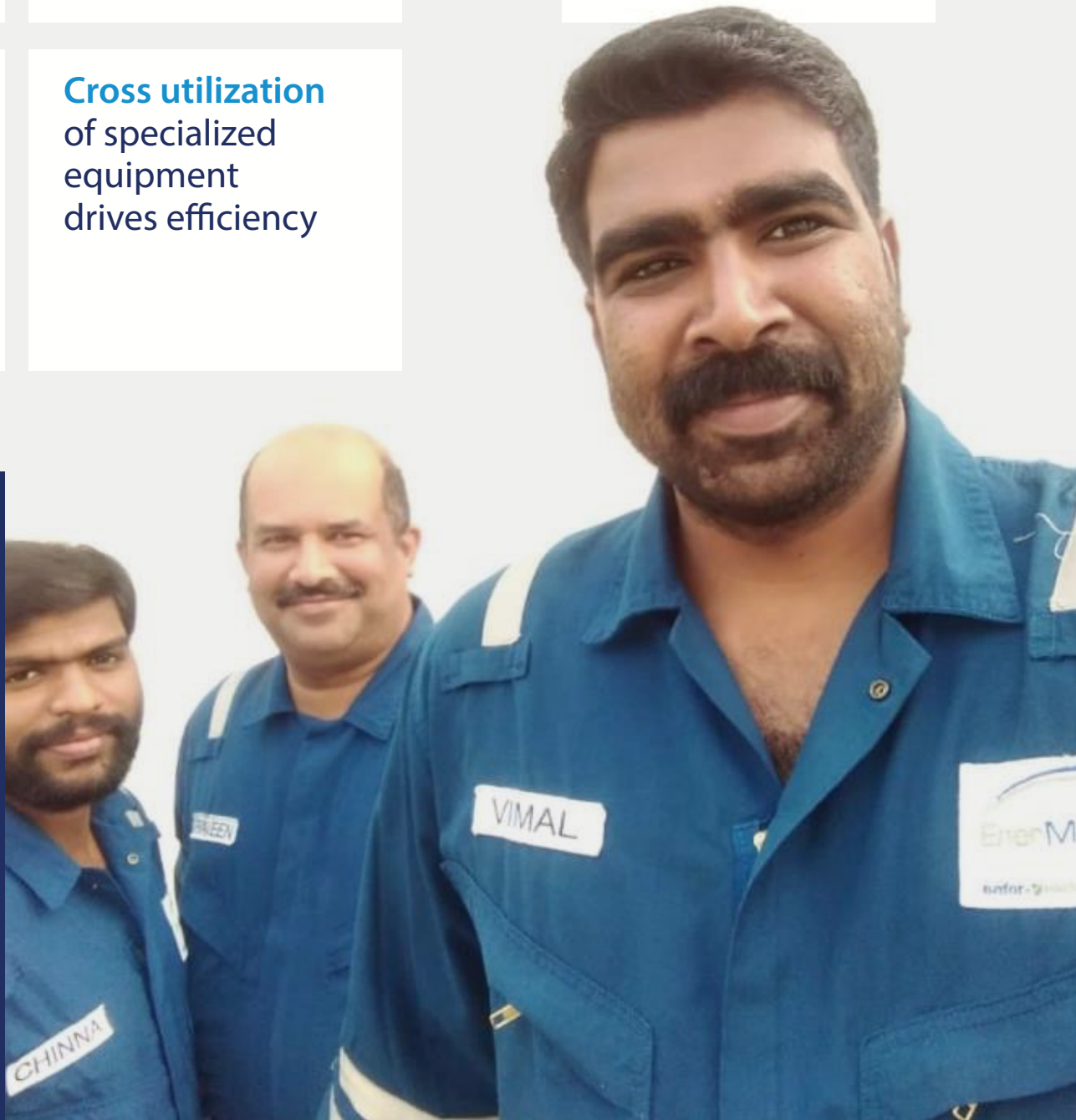
Cross utilization of specialized equipment drives efficiency

A SINGLE CMS AND MANAGEMENT TEAM

MULTIPLE WORK LOCATIONS – SIMULTANEOUS OPERATIONS

ONE SUPPLIER, ONE INTERFACE AND ONE SET OF STANDARDS

Our pillars of belief are simply that, ideas we believe in. They are a fusion of our values and work together to shape the character of our alliance.



THE RIGHT PEOPLE

POSITION TO GROW

A recent recruitment drive has seen the addition of 1,000 new members of the EnerMech Family

LEARNING MANAGEMENT SYSTEM

Learning and development are at the core of what we do. This means giving our employees access to structured course, e-learning and a wide selection of other methods of for continuing career development

TECHNICAL EXPERTS

In addition, we have a further 1,500 additional pre-commissioning and commissioning personnel on our database



CATEGORY A SPONSORSHIP LICENSE

EnerMech have held a Category A sponsorship license since 2009 enabling us to sponsor skilled Workers (eligible for settled status) and inter-company transfers

IN HOUSE TEAM

We have an experienced in-house Global Mobility Team

SCALING UP RAPIDLY

We have immediate access to multi-skilled and qualified workers without compromising safety, quality, or competency.

CMS ADVANTAGE

TRADITIONAL CMS

Build the database – systems, tags, check sheets and asset types
Asset Type to Check sheet Mapping
No Indirect Activities including in the CMS
No milestone integration
No Schedule Integration
Paper execution

ENERMECH OTS VALUE ADD

Build of Work Breakdown Structure Tree in the database for the life cycle of the project
Integrate the WBS into and resource norms into check sheet definition. Check sheets have phase, stage and activity
Indirect activities (walkdowns, permit to work transfer, LOTO exchange, etc.) are included in the CMS with resource norms
Planned tasks are grouped into “Job Cards” and aligned with the WBS – every job card is equivalent to a line item/activity on the schedule
Full integration of high-level structure between the CMS and project schedule
Digital execution on tablets

BENEFITS

Work Breakdown Structure (WBS) is integrated into both the CMS and schedule allowing us to sort work based on a variety of levels to provide more detailed reporting
Work can now be sorted by phase, stage and activity. Additionally, this provides resource outputs for schedule integration
Identifies and drives preparatory work for indirect management team which allows for accurate resourcing/ mobilization of the management team
Easier schedule integration and updated progress as planned tasks are earned
Aligning the data allows us to pass data back and forth between the two systems to provide real time schedule progress
Up to date information attached to assets in the database. Digital turnover documentation and exports to operation software



CMS ADVANTAGE

EnerMech OTS provides real time reporting which allows us and our clients to make educated timely decisions.

From Mechanical Completion through to handover to Operations we can track actual commissioning progress against the expected progress.

We combine outputs from the completions management system, our Primavera project schedule and our internal cost control data to track progress and report on our spend and productivity. This data is compiled into dashboard reporting that can be refreshed in real-time. With the data available

at our fingertips, we are able to use Earned Value Management as a tool to closely monitor both cost and schedule performance.

This systematic approach allows us to identify variances in project performance and react to maintain or outperform the budget and schedule. With this technology in hand, we can offer our clients transparency throughout execution.



SERVICE OFFERING

DELIVERING ACROSS THE PROJECT LIFECYCLE

Market leader in full cycle
project completions from subsea,
topsides to plant



**WE BEGIN WITH
THE END IN MIND.**

**THIS ETHOS IS THE BACKBONE OF OUR
DELIVERY, AND THROUGH EARLY ENGAGEMENT
WE IMPROVE EFFICIENCY, REDUCE COSTS,
AND MINIMIZE DISRUPTION WITH A PROVEN
AND RELIABLE APPROACH THAT LEADS TO
SUCCESSFUL START-UPS.**

SERVICE OVERVIEW

Schedule Development

We develop the resource loaded commissioning and start-up schedule

Budget Development

We develop the estimate to complete commissioning and start-up included all labor and non-labor costs associated with the scope of work

System and Sub-Systemization

We develop the system and sub-system list used for turnover and commissioning and identify the interdependencies required to establish logic in the project schedule

Risk Assessment

We facilitate the risk assessment associated with commissioning and start-up to identify and mitigate risks that could impact safety, schedule or budget

Completions Management System Development

We develop a comprehensive completions management system to guide the execution of commissioning and start-up



Permit to Work

We establish permit to work processes, set up permit to work offices and execute the permit to work program to ensure commissioning and start-up is executed safely

Deficiency Management

We use our completions management system to identify, track, and resolve project deficiencies more commonly referred to as the punch list

Operations Support

We provide support to operations during and after start-up, through performance testing and into steady state operation

Progress Tracking

For all scopes executed, we provide comprehensive progress monitoring and tracking which provides us with the information required to make decisions that will minimize impact on the expected schedule

FAT Strategy Development

We review package specifications and develop strategies to guide Factory Acceptance Testing that will minimize duplication of work on site and ultimately shorten the duration of commissioning

SERVICE OVERVIEW

Engineering & Job Design

Combining software and project experience to deliver custom engineering solutions including equipment selection, pig design, pigging trials and procedures

Flood, Clean, Gauge & Test

EnerMech are pioneers in subsea FCGT using our proven RFC, STM & STM subsea solutions. Plus large topsides and onshore spreads, manned by multi-skilled experts

Dewatering & MEG Conditioning

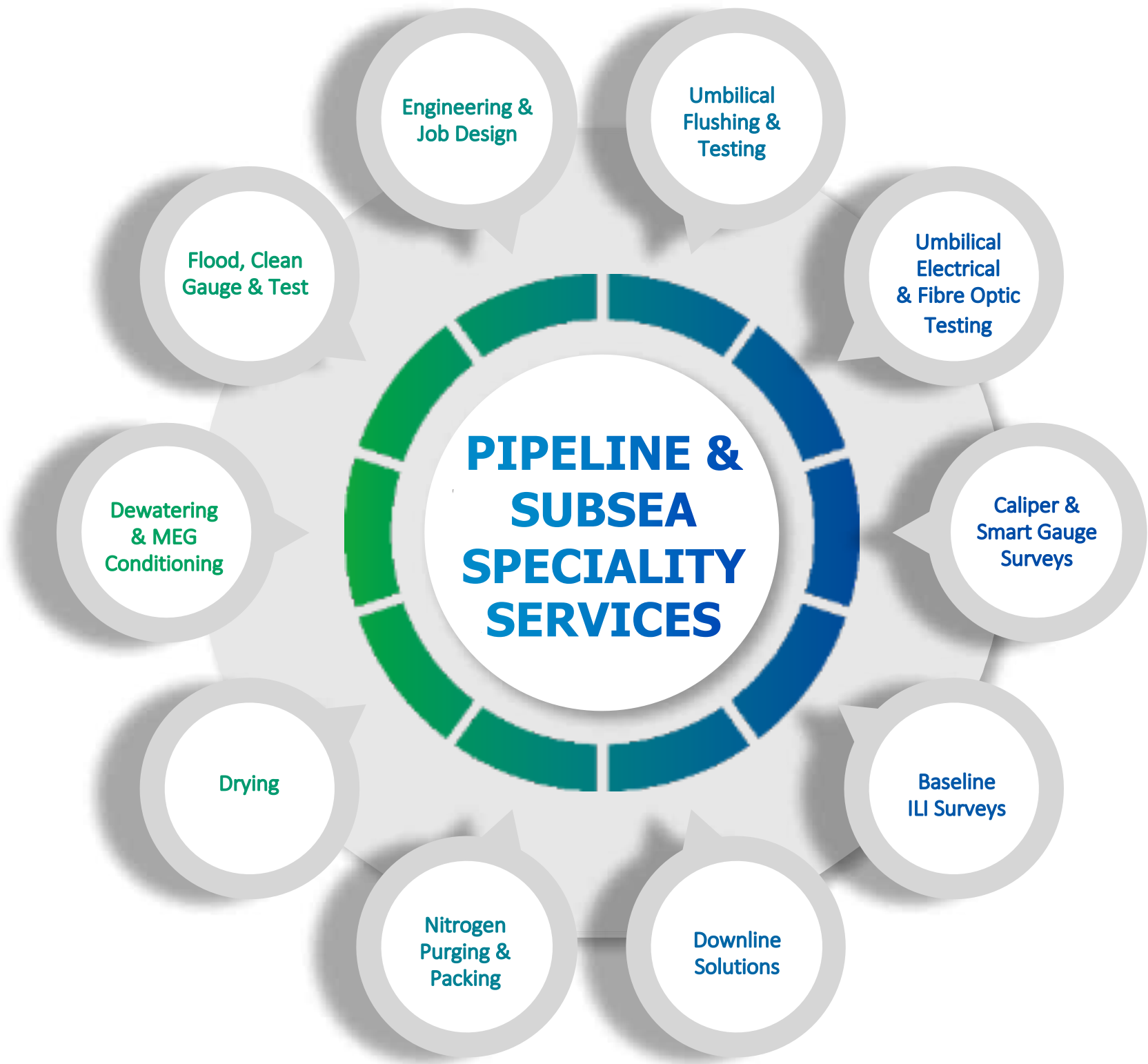
Having modelled and designed the job, our compact air / N2 spreads save vessel space, whilst our clever engineering optimises MEG usage

Drying

When you need to dry you pipeline we have the solution. We select dry air, vacuum nitrogen techniques to best suit your requirement, with an engineered, optimised solution

Nitrogen Purging & Packing

With HP nitrogen spreads in excess of 20,000scfm, we can purge and pack any pipeline safely and quickly, often combining this with MEG conditioning



Umbilical Flushing & Testing

We monitor umbilicals every step of the way from construction facility to installation. We clean the fluids, flush the bores, and prove the system

Umbilical Electrical & F.O. Testing

We don't just take care of the umbilical fluid cores. We also manage the monitoring and testing of the electrical and fibre optic connections, all carefully engineered prior to mobilisation

Caliper & Smart-Gauge Surveys

Whether you want the speed and convenience of smart gauge, or the complete geometry profile of your line, EnerMech has a solution, carefully integrated in to our pre-com package

Baseline ILI Surveys

Unlike some pre-commissioning providers, we are not bound to offer only in-house ILI solutions. We have agreements with many MFL, UT and ART providers, ensuring the best technology is always selected

Downline Solutions

We offer a wide range of self-supporting, single-section solutions. These provide a safe conduit from our surface spreads, to your subsea pipelines

SERVICE OVERVIEW

Engineering & Work Pack Dev't

We write the procedures, carry out the engineering, generate risk assessments, provide planning data and generate work packs

Pressure Testing

EnerMech provides a turnkey pressure testing service including isolations, work packs, test media and test equipment, operated by trained, multi-skilled staff

Retrojetting / Aquamilling

We provide a comprehensive range of HP water jetting, retrojetting and aquamilling services to clean process pipework to a high level of cleanliness

Chemical Cleaning

Using proven chemical blends, EnerMech offers multiple chemical cleaning solutions – from compressor suction lines and lube oil systems, to full AGRU degrease

Oil Flushing

Improving asset integrity, enhancing inspection and reducing risk through innovative and cost-effective technologies and services



Permit to Work Flange Management

Our SIMPro system supports the engineering, calculations and reporting for flange management, as well as the engineering and reporting for all HP leak testing operations

Using trained personnel and owned equipment, EnerMech can provide an integrated FM solution

HP Leak & Strength Testing

Whether it's leak testing below design pressure, or strength testing above, we can offer a turnkey solution

Air & Steam Blowing

We help you clean large-bore lines using either air or steam blowing. Our engineers carefully design the job parameters, ensuring plant cleanliness criteria is achieved

Drying & Purging

EnerMech has a large fleet of both cryogenic and membrane nitrogen equipment combining purging and drying in to a single operation. We can also dry your system using dry air or vacuum techniques



SERVICE OFFERING

**SPEED. SIMPLICITY. FLEXIBILITY.
RELIABILITY. UNDERSTANDING.
VALUE. TOTAL SOLUTION.**

SUMMARY



SPEED

SmartCompletions® is ready to go – already optimized for onshore gas plants. OTS has a network of professionals ready to mobilise to establish and populate the system. EnerMech IMS includes comprehensive work instructions for all speciality services.



SIMPLICITY

EnerMech OTS generally has the contract mechanisms in place to allow the swift and simple execution of any contract. You deal with one contractor and one contract simplifying contract administration and cost.



FLEXIBILITY

EnerMech OTS maintains a bench-strength of over 4,000 completions, pre-commissioning & commissioning specialists worldwide. Together we provide a flexible manning solution that can be adapted to the changing needs of your project.



RELIABILITY

SmartCompletions® is a robust, proven system that avoids the potential teething problems and set up delays possible from using an “off –the-shelf” system. All records are entered one time, and not transposed from subcontractor reports, reducing errors and duplication of effort.



UNDERSTANDING

EnerMech's specialist services and subsea capability ensures that our pre-commissioning philosophy can be quickly expanded to become a full commissioning & start up philosophy. Combine this with OTS' strong onshore commissioning capability, and you have a team that understands your project needs.



VALUE

The ultimate value of SmartCompletions® comes in the early and safe start-up of your facility. The system itself is competitively priced as are our experienced commissioning and completions specialists. By removing subcontractors, we remove mark-ups, duplication and wasted resources.

TOTAL SOLUTION

Operating as a single-entity, EnerMech OTS delivers a total solution - with an industry leading completions system, managed by a team of completions and commissioning specialists, and supported by a leading pre-commissioning specialist-services provider

