**Solid bonds:**
Taking composite pipe to new depths

**Oz innovators:**
Geo business done differently

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**Surf ahead**
Sector shows its strengths

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**Pump power:**
Meeting artificial lift challenges

**Rig assist:**
Semi design aids riser installation
Forsys Subsea, the new joint venture of Technip and FMC Technologies, is striking a confident note as it enters a troubled market, with vows to bring radical changes to the way subsea installations are designed, delivered and maintained. The company’s top founding executives explain to Russell McCulley how, drawing on the strength of the two parents, they intend to make good on those promises.

Early last year, when plans to form the Forsys Subsea joint venture were taking shape, oil prices were riding high, and had been for some time. The industry mood was ebullient. Yet as FMC Technologies president and chief executive John Gremp pointed out at this year’s Offshore Technology Conference in Houston, increasing costs have led to diminishing financial returns for deepwater projects, a trend that was evident even when oil prices were robust. The protracted downturn has, if anything, lent even more urgency to the question of deepwater economics — from industry forums to informal conversations, there is increasing talk of efficiency, standardisation and greater recovery as keys to building a stronger business case for deepwater developments.

Forsys Subsea aims to turn that talk into action by aligning the subsea production and processing systems (SPS) strengths of FMC Technologies with the subsea umbilical, riser and flowline (SURF) expertise at Technip. The company will bring in front-end engineering and design (FEED) teams from both parents to establish early involvement in the concept selection and design phase of subsea developments, when the choice of equipment and field layout can have a significant influence on both initial expenditures.
and long-term operating costs. Forsys Subsea will also provide life-of-field well surveillance, monitoring, data interpretation and advisory services once the development is up and running.

By integrating SPS and SURF, the company hopes to improve uptime, standardize hardware and processes, and reduce the number of subsea interfaces for cost savings and more efficient maintenance.

“This alliance is basically focusing on how we can work together, on an exclusive basis, on the overall field development and the life-of-field,” says Rasmus Sunde, Forsys Subsea’s chief executive.

The new venture will cover much of what Sunde, who joins Forsys Subsea from his former post as head of FMC Technologies’ Subsea Systems Eastern Region business unit, terms the “chain of events” in a subsea development.

“The front end is where we optimise the subsea field architecture. And we would like to convert that into a common integrated contract between the parties” — operators and the parent companies and their suppliers — “that they would naturally execute. That’s where the alliance comes into play.

“And Forsys can take over life-of-field with the surveillance systems that we have, monitoring, analysis and advisory services. Eventually, we will combine those advisory services with additional brownfield front-end engineering. And we can convert this into service packages as well. That’s why this is unique — I think we are the first in the industry to combine SPS and SURF. And there’s a lot in between, where technology is going to come into play.”

While drilling and well construction account for roughly half of a deepwater field development’s costs, about 30% of capex goes to SPS and SURF combined. Rein in the cost of that 30%, and deploy life-of-field services to maximise returns, the thinking goes, and marginal fields and tiebacks currently deemed uneconomic will come back into play.

“T think the beauty of this collaboration, this alliance,
is that we are coming from separate angles," says Alain Marion, chief technology officer, another industry veteran who was most recently senior vice president of the Subsea Assets and Technologies group at Technip.

"We are not competitors. There’s not much overlap between the two companies, so it’s more about complementarity than competition. We have the strength to bring to the table all the subsea architecture needed to develop those smaller developments, plus the understanding and strength to modify or adjust any topsides facility required to enable these developments."

Forsys Subsea’s initial workforce will include FEED resources from the parent companies, with the exception of Technip’s wholly owned but independent Genesis subsidiary, as well as life-of-field staff from both companies.

“This is a 50:50 joint venture, and the contribution in terms of people and technology is approximately 50:50,” says Sunde.

The company will have offices in Oslo, London, Houston, Rio de Janeiro, Paris and Singapore, and is considering a seventh location in Aberdeen. "Basically, where the customers are, and where we see a good front-end and life-of-field environment in which to grow the business," he says.

Long-term commitment

Forsys Subsea differs from other recent alliances in the subsea industry, Marion insists, in that it will have a comprehensive role in the entire life cycle of a subsea development. The close participation of its parent companies in engineering, procurement, construction and installation (EPCI) will provide solid data to demonstrate cost savings.

"One aspect that makes it somewhat different than the other alliances in the marketplace is that, not only do we cover the entire chain, from the conceptual stage to life-of-field and intervention, we also are able, through that set up, to provide some very robust and valuable numbers at the front-end, conceptual stage. So when we say what a field development is going to cost, we feel that is a solid, robust number, because we are going to have the strength of the organisations behind us, either on the SPS side or the SURF side, to provide this clarity and robustness."

Technology development under the Forsys Subsea umbrella will come in stages.

"It was recognised by both partners early on that one way of making a real difference was to develop new technology by combining the best brains between FMC Technologies and Technip," Marion continues. "We are going to be able to identify the technology building blocks that will make a big difference in, for instance, field architecture. That will be a focus of the new company."

The first step will be the integration of each parent’s signature strengths, he says.

"Then, the second step is to say, how can we combine this knowledge to create new hardware? That is quite important, knowing that the third element of the technology roadmap is to end up with a superior life-of-field performance."

Both parent companies have strong technology positions in their respective fields, notes Sunde. "And we have access to all of that. We even take over some of it, as in life-of-field. There are a lot of areas in between, and some to develop towards a complete subsea factory."

Life-of-field is "probably the market where we can expect the most growth, because that market will accelerate on the back of the age of the subsea wells. The older they are, the more work you have to do to maximise production."

Research will focus equally on technology that brings down the cost of subsea developments at both the front end and over the lifetime of the field, Sunde says.

"Historically, when you work on a project (operators) have a tendency to be very focused on capex. But I think we are going to see more and more attention to life-of-field, and how the design impacts not only the capex but also the operating
“Technology will be a focus of the new company.”

Alain Marion, Forsys

expenses. And that’s where we fit in well, because we work over the whole life cycle of a development.”

Marion adds: “Early engagement is key with our clients if we want to materialise those cost reductions. A collaborative approach is quite crucial. We need to be able to convince our stakeholders and clients that to achieve those savings, lines have to move. People have to rethink the way they do things — to reconsider some of the ways they are contracting, some of the ways they are using technology.”

Both Marion and Sunde have spent years in the subsea arena. After earning a Master’s degree in mechanical engineering in the US, Marion returned to his native France to take a job as “a baby engineer in R&D” at the French Petroleum Institute, where he specialised in hydrodynamics and the behaviour of floating structures. He soon joined the flexible pipe company Collexip, which merged with Technip in 2001.

Sunde earned advanced degrees in Germany, the UK, the US and Norway. He began his career as a research fellow at the Norwegian School of Management, and held various executive positions at ABB for 15 years. Following a stint at Vetco, Sunde served as president and chief executive of Aibel Group. He joined FMC Technologies in 2009 and, as head of the Eastern Region subsea unit, oversaw operations in Africa, Europe, the Caspian region and Russia.

He describes his new role as “a one-of-a-kind opportunity to establish something from scratch that could revolutionise, so to speak, how the subsea business is being done, starting with optimising the subsea architecture, combining two incredibly strong market leaders, through the whole life-of-field”.

Both men insist that the joint venture is making its debut at a critical moment.

“Our timing couldn’t be better,” says Sunde. “At a time when the industry needs sustainable cost reduction, we really have a solution.”

Marion adds: “The feeling I’m getting is that there’s a collective sense of urgency — that something has to be done about the situation we are all in, and that people are really conscious about helping the offshore industry pull back up again in a dynamic manner.

“I think this is encouraging, even though the context is complicated,” Marion says.

“You can hear people say that in the current climate, deepwater is dead. I don’t believe that for a second. I think we have the means at hand to actually do something about it. And I’m quite confident that we are going to make a difference.”