KONSERT
STRATEGY & IP

Orion's Data-driven operations and maintenance

Industrial IoT in action:
Case study #3

Case series: Industrial IoT in action

In this article series, we present five case studies of how companies with different value chain roles managed the competition over new value enabled by the industrial internet of things (IIoT) in their industries. The cases illustrate different viewpoints on the challenges in claiming a fair share of value pools from digital-driven and data-based services. These value pools are often focused on optimization and maintenance of industrial equipment. Some companies call it digital or connected solutions, some data-driven business, others servitization or X-as-a-Service.

In this case (#3 of 5 in the article series), we learn how operator Orion leveraged IP when navigating how reap the benefits from data-driven performance improvements in the Process industry.

"In most industrial sectors we see players with different roles in the value chain competing for the same data-based and service-oriented value pools, which creates a lot of friction."

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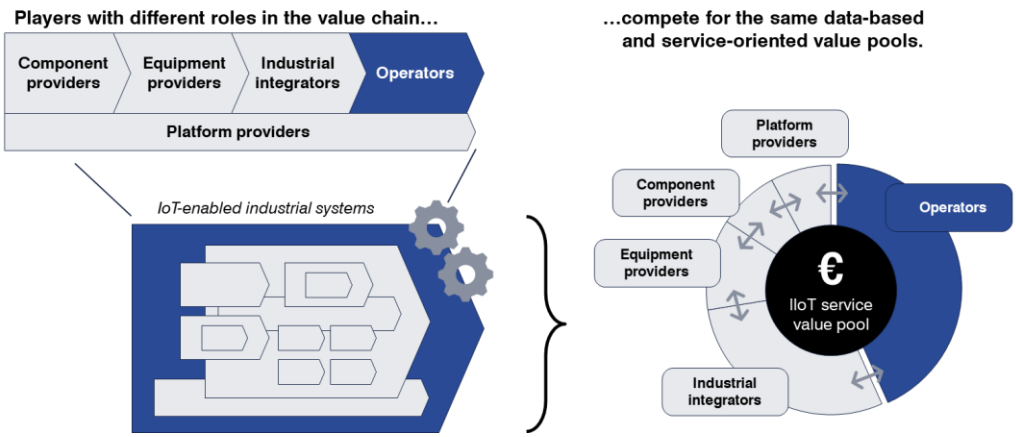
Case	IIoT play	IIoT competitiveness aspects
Orion Operator Process industry	**Data-driven operations** *Approach:* Fit-for-digital IP strategy with IP StratOps	• Data ownership and profits from derived insights • Risk of vendor dependency, shift in power balance and redistribution of profits • Risk of platform lock-in and reduced share of value pool



Case 3 figure: Illustrating Operator role aspects on IIoT competitiveness

Operator role; Process industry

Case 3: Orion

Data-powering the core business

Orion, a leading process industry operator, decided to go back to square one: Abandoning their previous digital business bets and starting anew. Previous initiatives had been scattered and focused mostly on exploring opportunities adjacent to the main business. The new initiative was focused on “data-driven solutions that support the core”, as one executive put it, as well as how to address interrelated industry trends around sustainability.

The top priorities of Orion's digital revamp were to prolong the lifespan of assets and boost the overall operational efficiency of its production sites, thereby enhancing the profitability of the core business. Data-driven operations and maintenance – especially predictive maintenance – were the top use cases and priorities, followed by opportunities in decarbonization, electrification and circular solutions.

Orion was aware of the largely untapped wealth of data from their production sites. Leveraging data-driven insights had the potential to significantly increase productivity, improve operational efficiency and create cost savings. Yet, tapping into this resource wasn't so simple. Each production facility was set up differently with site-specific conditions and configurations in terms of production equipment, processes, and IT infrastructure. In addition, Orion perceived themselves as a digital laggard. Their self-image was purely as an operator, not “a technology player”. This had to change.

Orion acknowledged their dependence on process industry-focused equipment providers and system integrators. These players had increasingly invested in digital technology and data capabilities and offered automation platforms and software solutions for asset optimization and condition-based maintenance. They also had the advantage of deep equipment and solution expertise.

This left Orion’s leadership with one big question: if we become data-driven and optimize operations and maintenance, how do we keep the value created and not just give away the profits to other players in the value chain?

In collaboration with Konsert, Orion arrived at two initial conclusions. Firstly, they realized that their internal digital capabilities had to be boosted as data and software technology would be essential to reaching the goals. Key to Orion’s differentiation were their deep knowledge of the full production system and the operational data their sites generated. Even if Orion needed partners to capitalize on the data-driven opportunities, they needed enough internal capabilities to decide and manage how their data was used and how their core competence was codified and utilized. This led to the second conclusion: intellectual property will be key to maintaining control over the value created from data-driven productivity boosts, efficiency gains, improved sustainability, and cost savings.

Fact box: Process industries

Process industries convert basic materials and natural resources into usable end products ready for consumer or industrial use. Production is often continuous, involving a series of chemical, physical, or mechanical operations. Process industries include sectors like pulp and paper, metals, energy, oil and gas, textiles, pharmaceuticals, and chemicals. Example players in process industries are Operators (in addition to Orion): Dow Chemical, Shell, EDF and International Paper, Integrators: Primetals, DuPont and Siemens Energy, Equipment providers: General Electric, Baker Hughes and ABB, Component providers: Endress+Hauser, Emerson and Festo, Platform providers: Honeywell, AspenTech and SAP.

Industry frictions

Orion anticipated three key frictions in the industry that had to be managed for the data-driven reboot to be successful:

- **Data ownership and profits from derived insights.** Data generated at Orion's production sites is key to improving performance through data-driven solutions. As value chain players seek access to Orion's operational data to enhance the services – possibly provided to other customers including Orion's competitors – Orion must carefully guard its competitive edge. Questions will also arise about who benefits financially from the derived insights generated from Orion's data.
- **Vendor dependency and profit allocation.** Reliance on system integrators and equipment provider solutions could shift the balance of power and influence within the value chain. If it is the vendors' proprietary solutions that primarily drive improvements and efficiencies at Orion's sites, they might position themselves as the primary creators of value. This can lead to a redistribution of the profit margin away from Orion. In addition, the integration of disparate point solutions from multiple vendors can be technically complex and risk missing the full system perspective. Being a large integration job for Orion.
- **Platform lock-in and share of value pool.** If a platform approach is selected rather than a multi-vendor one, it could streamline integration and realize full system perspective advantages. Yet, full commitment to one platform risks lock-in, especially with a major digital player or hyperscaler. Platform lock-in could make it challenging and costly to switch providers or adopt additional solutions in the future. By relying on a single platform, Orion's capacity to innovate could become constrained, and the platform provider may claim the lion's share of the value created. Thereby reducing Orion's share of the value pool.

Fit-for-digital IP strategy and execution

As an operator, Orion historically viewed IP as a competitive factor only in relation to direct competitors. The data-driven reboot, the increased focus on decarbonization, electrification and circular solutions, along with changing dynamics with technologically advanced and IP-savvy vendors, prompted Orion to reconsider the role of IP in its strategy,

Together with Konsert, Orion's management set out two imperatives for the new approach to IP. First, Orion recognized that the business purpose of IP must shift from a passive and defensive stance to an active role in collaborations, negotiations and business transactions. Consequently, IP activities must become more proactive and integrated in the business to understand and effectively support its top priorities, i.e. where and why IP can help increase revenue and decrease costs and risks.

Fact box: Operator role

Operators are typically the companies that ultimately use the complete systems in their operations. They don't produce the systems but are the final link in the chain, as they operate the equipment or systems for their intended purpose, such as manufacturing, processing, or providing services. Operators often have end-user or consumer relationships and are then responsible for the customer experience and satisfaction with the final product or service.

To implement these imperatives, Orion selected an IP Jobs-to-be-Done approach and started in one key business area. The business area was under pressure from value chain players making digital moves, and susceptible to missed opportunities and risks. It therefore embodied the core question of “how do we keep the value created from data-driven optimization of operations and maintenance, and not give away the profits?”.

The IP Jobs-to-be-Done approach involved formulating an IP strategy grounded in a thorough understanding of the jobs of the business, and their drivers – in this case the identified industry frictions – and translating these into IP value missions that defined where, why, and how IP should help the business. Each IP value mission was made actionable and measurable, with key activities defined for the coming planning period, outlining how to get the job done. With a clear set of IP activities to address, Orion could immediately start to drive business impact. To address capability gaps in IP and software-centric business models, Orion embedded an IP StratOps team from Konsert within the targeted business area.

Two IP value missions were prioritized for immediate execution. The first one focused on a data-enabled solution in which Orion already had made significant investments in research and product development. Orion was confident they had the right to win with this solution and had the technical capabilities to commercialize this on their own. IP’s job was focused on strengthening Orion’s control positions to prolong the first mover advantage and defend margins.

The second prioritized IP value mission was centered around how to collaborate with technology vendors. The job to get done was to leverage data and IP as bargaining chips in negotiations with selected vendors. Orion’s aim was to lower development costs and ensure that smartly designed contracts minimized vendor lock-in risks. Driven by the IP StratOps team, Orion used its in-depth application know-how to proactively create patent positions around key use cases to steer future development paths with vendors.

Looking ahead

Orion proceeded to strengthen the internal IP StratOps capabilities in the first business area and adopted the IP Jobs-to-be-Done approach in their annual planning cycle. The approach led to immediate wins with measurable impact, which became internal success stories. Orion’s leadership decided to expand the approach into three additional business areas to support the adoption of a more business-impact focused approach to IP strategy and execution.

Orion’s journey – aimed at elevating productivity, enhancing efficiency, improving sustainability, and cutting costs through data-driven solutions – continues to unfold with intellectual property playing a critical role in capturing the value that's been generated.

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