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Collabor8 virtual inventory

OFFSHORE NORGE

Virtual Inventory Solution for Offshore Norge_

Saving hundreds of millions, enabling an effective sharing economy, and securing a sustainable future with consolidated inventory management and search

Industry: Energy, Oil & Gas   **Location: Norway**   **Employees: 50+**

Business Challenge

Client Background

Offshore Norge is a governing organization, connecting oil and gas sector companies. The association helps industry players find the most recent information about the equipment or spare parts in stock, excess materials, and suppliers of different industry-related products and services, using a modern e-procurement platform. The extensive portfolio of Offshore Norge solutions helps both operators and suppliers of the procurement process cut costs and time, improving operational efficiency and simplifying deal closing.
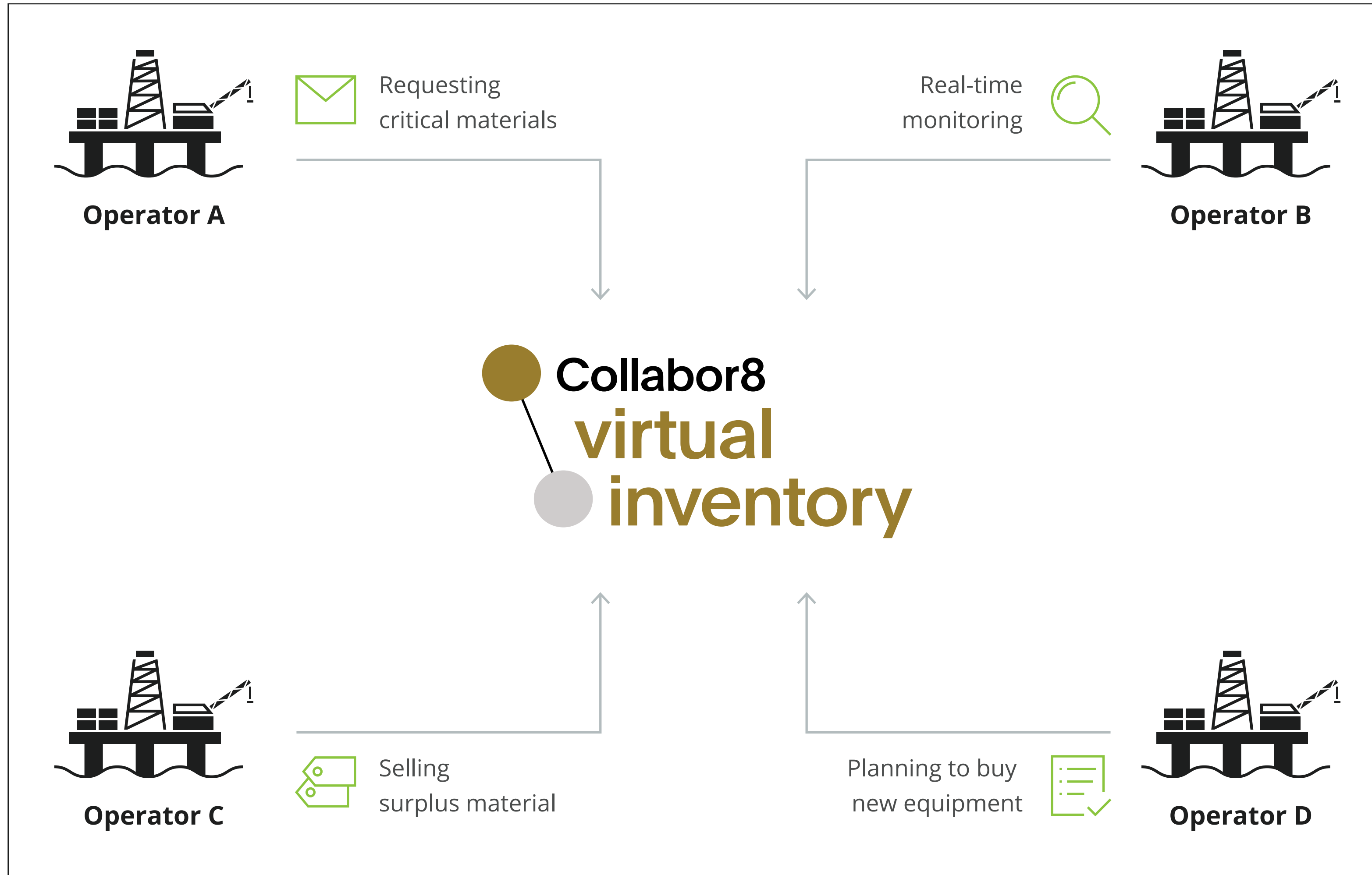
Website:
https://offshorenorge.no/en/

Infopulse has a long history of collaboration with Offshore Norge. Our preceding project with the same client was to create a Critical Material Requirement (CMR) tool. This solution allowed 'coopetitors' to place common system requests for the required machinery in ad hoc and emergencies. Such situations can potentially turn into immediate production losses if there is no access to other operators' inventories to search for the necessary equipment across multiple databases.

Having adopted the culture of 'coopetition' – a mutually beneficial collaboration among competitors, oil and gas players utilize Offshore Norge offerings to minimize costs and create benefits for the whole pool of oil and gas operators. The lack of universal standards for efficient material management resulted in radical excess of inventory, extra expenses on warehouse and maintenance, environmental burden as well as regulatory non-compliance.

Without consolidated information in Material Master Data that would fall under one single standard, millions of euros could be lost due to production downtimes. For instance, if an operator had a piece of equipment broken that caused oil rig operational interruption, they had to manually search for this piece, using their personal connections – by calling or emailing associates of other oil and gas companies. Sometimes, instead of searching for equipment due to lack of transparency and visibility, an operator would instantly order a new piece of equipment, increasing equipment overhead on the continental shelf.

Holistic approach to collaboration

Operator A

Requesting critical materials

Real-time monitoring

Operator B

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Operator C

Selling surplus material

Planning to buy new equipment

Operator D

Thus, we needed to produce a **brand-new inventory management system** that would allow operators from the Norwegian continental shelf to share equipment from their stocks among other operator companies and reduce at least 1/4 of stock overlap.

○ The client had earlier attempted to create such a system several times. However, none of the outcomes of such endeavors could meet their expectations and tackle the issue with SKU description matching. Infopulse introduced a modern technology that could solve the challenge of the client.

○ Furthermore, the client wanted to fully capitalize on the 'economy of share', transforming its operations with an environmentally conscious approach to using equipment, storage optimization, and purchasing only necessary machinery.

○ In addition, the client required a robust solution that would allow for incremental development and further scalability if necessary

○ Finally, the solution had to address the issue of sharing data that comprised of both sensitive and non-sensitive information, circulating among operators

'Share today – invest in tomorrow' has become the motto of the new system as Offshore Norge was planning and executing the project with a revolutionary idea at its core.

Solution

IInfopulse had the necessary subject-matter expertise to create a fully functional consolidated database, tackling the existing challenges of Offshore Norge. After several workshops, where our client explained their business requirements, the Infopulse cognitive team designed an effective solution.

Since it was impossible to search for specific equipment across the whole pool of operators, Infopulse had to consolidate and clean up the data. As stats indicated, only some parts of the data were ready-to-use, the rest were inaccurate records. On top of that, our team had to work on a tight schedule, obtaining files from operators and manually processing them as well as accommodating evolving project requirements due to the industry specifics.

Virtual Inventory was designed as a cloud-based portal, where operators upload inventory data presented in a structured way so that users can search and request inventory; the portal facilitates cross-license transfer.

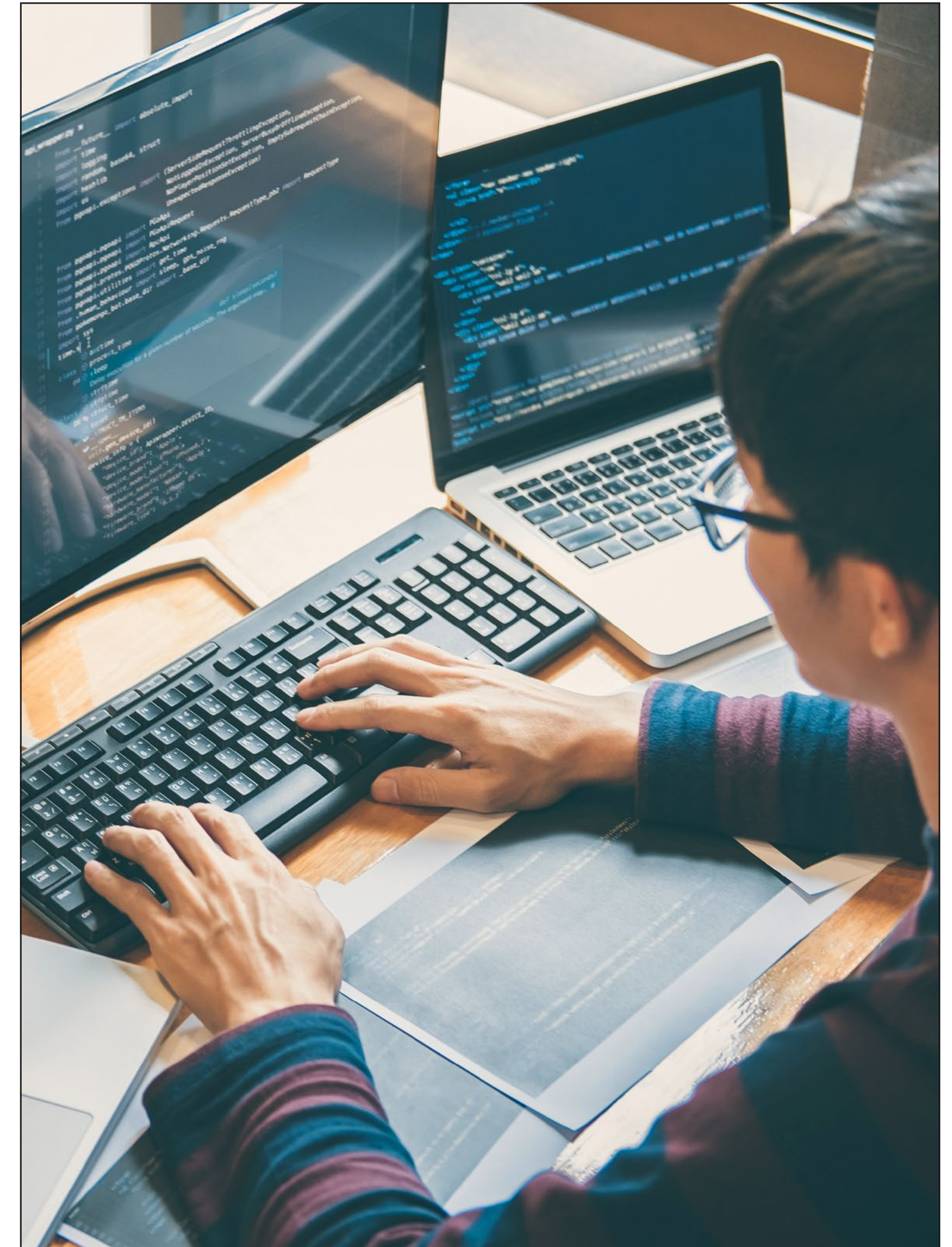Through Virtual Inventory operators can submit several types of requests:

○ Critical material request based on requester free input or inventory item from the VI system with high to highest criticality and multiple recipients

○ General request based on requester free input or inventory item from the VI system with mid- to high criticality and multiple recipients

○ Regular request based on inventory item from the VI system with any level of criticality and just one recipient.
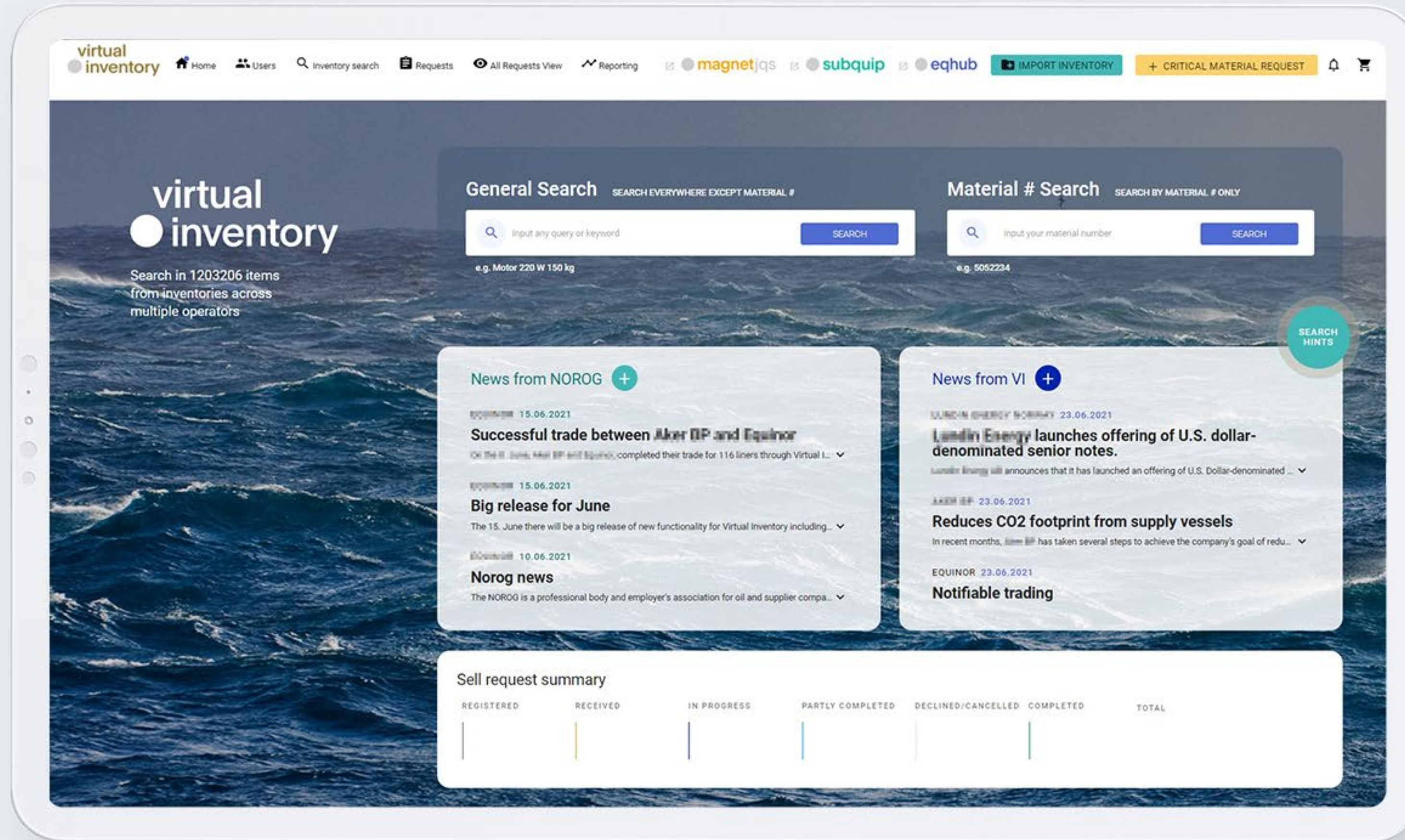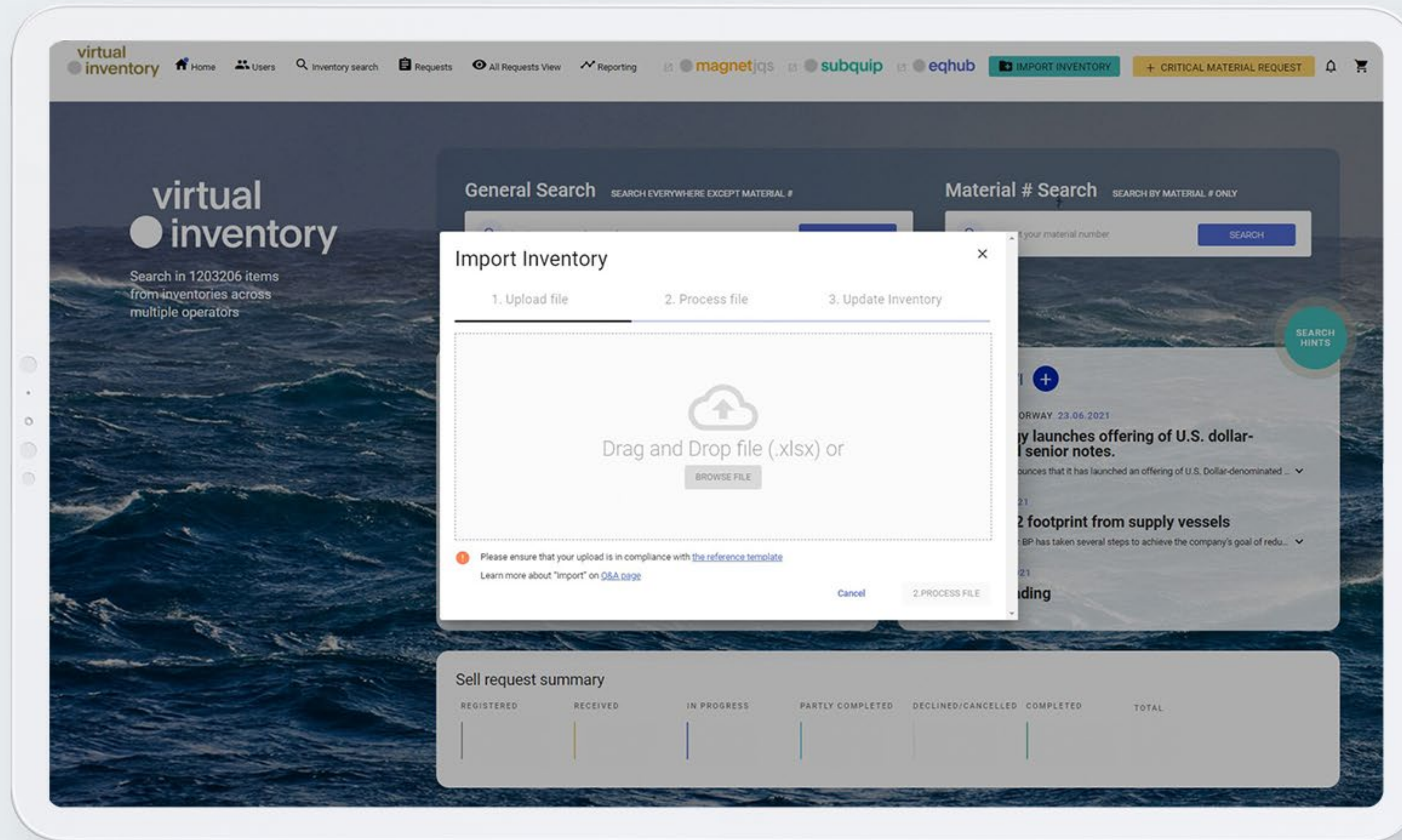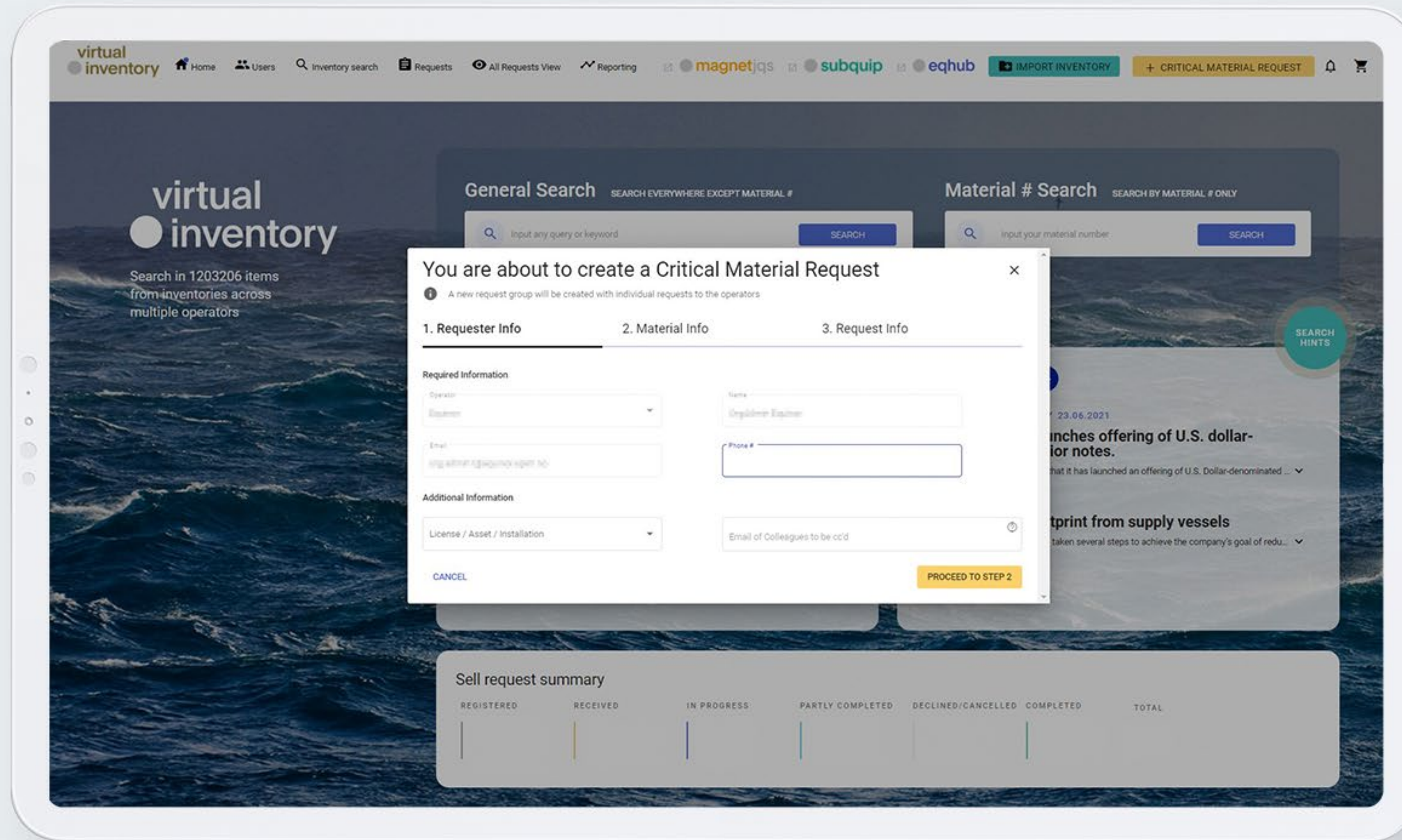
More information is available at
https://collabor8.no/services/virtual-inventory/

The long-term goal of the end-to-end system is to have:

○ Seamless exchange of equipment: sharing economy

○ New forms of collaboration
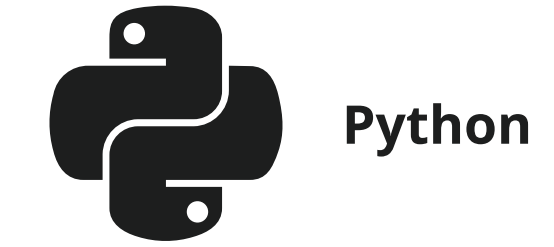
○ Securing a sustainable future

Technologies

Programming languages:

Node.js   Angular   Typescript   Python

Technologies, Web Servers:

Elasticsearch   Nginx   PostgreSQL   Redis

RabbitMQ   Kubernetes   MongoDB   MinIO

Timeline

The Infopulse team delivered the project in modules:

Module 1

Module 2

Jan – June (6 months), 2020 was the core development with a detailed discovery phase.

The subsequent stage is an ongoing development and system improvement phase lasting until the end of 2021.

Business Value

The Virtual Inventory solution provided to Offshore Norge by Infopulse vastly improved material management for oil and gas operators:

- Since all databases are in sync now and the system works smoothly, the urgent search for equipment is no longer a challenge with aggregated data.

- 10+ major Norwegian shelf operators can, from now on, reuse the equipment and reduce the ecological footprint.

- Reduced stock overlap by at least 25%

- Costs and inventory size cut: the project saved up to hundreds of millions of Euros for oil and gas operators:

  - fewer inventory levels (reduced CAPEX) due to shared information on excessive materials and predefined processes for interaction and transaction among operators

  - lower OPEX reduction through reduced warehouse costs due to fewer inventory levels

- Platform engineers and asset managers at warehouses have access to the inventory of all companies operating across the continental shelf with the brand-new fully automated system, co-designed with the help of the Infopulse Cognitive Team

- Increased cross-sale of equipment and spare parts

- More efficient utilization of stored spare parts and materials resulting in reduced waste.

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About Infopulse

Infopulse, part of the leading Nordic digital services company Tietoevry, is an international vendor of services in the areas of Software R&D, Application Management, Cloud & IT Operations, and Cybersecurity to SMEs and Fortune 100 companies across the globe. Founded in 1991, the company has a team of over 2,300 professionals and is represented in 7 countries across Europe and the Americas.

Infopulse is trusted by many established brands, such as BICS, Bosch, British American Tobacco, Credit Agricole, Delta Wilmar, ING Bank, Microsoft, Offshore Norge, OLX Group, OTP Bank, SAP, UkrSibbank BNP Paribas Group, Vodafone, Zeppelin Group, and others.

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