Data Analytics Shapes the Shipping Industry

– Pioneering R&D Collaboration from the Finnish West Coast

ENABLED BY
FINPRO'S CAPITALIZE YOUR KNOWLEDGE PROGRAM

Meaningful business cooperation is a matter of trust and seamless teamwork. Marine industry shaper MacGregor teamed up with analytics expert Bigdatapump and sensor specialist ionSign, who had previously joined forces through Finpro's Capitalize Your Knowledge growth program. Together, the three companies form a highly motivated team that aims to change the way data analytics is used in the shipping industry.

Shipping cargo around the world is no walk in the park. Coordinating shipments and ensuring everything reaches its destination safely and on schedule depends on dozens of moving parts – both literally and figuratively. In the coming years, data analytics and predictive modeling are expected to create a number of new possibilities for the entire shipping industry.

MacGregor, an expert in marine cargo handling solutions and services, set out to develop new ways to utilize big data and analytics to support its container

ship business in late 2015. The company organized an innovation day for potential business partners, including Bigdatapump, with the aim of identifying relevant development areas and coming up with new approaches to solve them.

"MacGregor is striving to expand its offering and find new business models. In the future, the most impactful and beneficial value for our clients will come from services and specialist know-how. We are constantly pursuing new ways to generate added value that are also difficult for our

competition to copy or reverse engineer, and analytics will likely play a huge role in these kinds of services" says Manager, Cargo System Development **Janne Suominen** from MacGregor.

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—— MACGREGOR'S NEW BUSINESS MODEL'S TARGETS

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Increased
efficiency, reliability & safety

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Improved
planning process

+

Maximized
utilization rates

+

Increased
added value for clients

BUILDING ON EXISTING BUSINESS

MacGregor's innovation day yielded a number of promising development areas that supported the company's existing business. One of them revolved around cargo flow and safety optimization. This called for smart data retrieval from vessels and cargo operations as well as a solution for producing tangible data for an improved cargo flow. Its ultimate goal was to maximize cargo area utilization rates.

Having originated the idea, Bigdatapump was also able to introduce ionSign into the innovation project. They had originally connected through Finpro's Internet of Things (IoT) growth program, Capitalize Your Knowledge, which aims to promote Finnish IoT expertise to global markets and enable synergies through a joint Finnish offering.

"IonSign is specialized in electronics and sensors used in measuring and acquiring data, while Bigdatapump's bread and butter is cloud-based analytics. Our combination is ideal for building IoT applications and analytics based on sensor data," says **Martti Reilander**, CEO of Bigdatapump.

As of mid-2016, the team has designed a functioning proof of concept scale model. Based on their initial success, their aim is to begin pilot installations of the related sensor systems in real-world environments by the end of 2016 and start large-scale production in 2017. As the third member of the R&D trio, MacGregor is responsible for modifying its own cargo equipment to accommodate this sensor technology.
"Our networked business model has proven to be a great way to work together.

Bigdatapump and ionSign both possess a tremendous amount of in-depth expertise and they are very agile, which speeds up the development process. MacGregor's expertise is in optimized cargo systems and how the marine industry can benefit from them. Bigdatapump and ionSign brought in the competence to build a tangible data gathering solution to support this," Janne Suominen says.

"I just love this project," confesses **Mika Kivistö**, CEO of ionSign. "We had just the right team to turn this into a reality. It's easy to get enthusiastic when we can focus on what we are really good at, bringing sensor signals to a database with a challenging set of environmental prerequisites."

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— NEW BUSINESS THROUGH TEAMWORK AND DATA

MACGREGOR

BIGDATAPUMP

IONSIGN
Smart Connections

MacGregor's expertize in the industry and optimized cargo systems for container vessels, combined with a tangible data gathering solution, creates better business and new opportunities.

Bigdatapump's cloud-based analytics know-how complements ionSign's data solution, creating a perfect tool for developing MacGregor's business and the entire shipping industry.

ionSign's specialization in electronics and sensors used in measuring and aqcuiring data is an ideal pair for Bigdatapump's analytics solution.

TEAMWORK GENERATES NEW BUSINESS FOR ALL PARTICIPANTS

The team's solution is based on Microsoft Azure cloud analytics capabilities, due largely to its fast time-to-market and highly advanced machine learning and prediction features.

The solution will gather data from two major sources: one part is compiled from data provided by existing instruments, and the other is based on new purpose-built sensors that provide new types of data crucial to the task at hand. Real-time analysis then helps turn this mass of instrument readouts into actionable insight, which in turn is key to helping MacGregor's clients optimize their cargo planning processes.

"The work we do together as a team generates business for each participating company, so it comes with a clear benefit. But maybe even more importantly, everyone involved in the project has been really passionate about it and its potential to change the entire shipping industry," Suominen points out.

According to Bigdatapump's Martti Reilander, the entire project was made possible in part by Finpro's growth program, as it fostered the community through which Bigdatapump and ionSign discovered each other in the first place.

"Finpro's Capitalize Your Knowledge has been a truly valuable asset for us. In addition to the platform itself, we have received so much support and encouragement from them. I think it is safe to say that without it, we would not be where we are today"

– Martti Reilander, CEO of Bigdatapump