

PIER71

Port Innovation Ecosystem Reimagined at BLOCK71

ENABLING DATA-
DRIVEN DECISIONS
THROUGH AN
INTEGRATED
COMMUNICATIONS
PLATFORM

SkyLab is a 5G-ready data logistics company that aims to enable the data-driven world. A Singapore-based deep technology company, SkyLab provides robust enterprise grade Industrial Internet of Things (IIoT) and edge cloud solutions to sectors ranging from green energy, smart cities and buildings, telecommunication and maritime.

SKYLAB

The Journey So Far

SkyLab was co-founded in 2016 by a group of industry veterans with deep expertise in telecommunications, info-comm technology, data centre and e-commerce, international business and smart built environment. Recognising businesses' needs for seamless and scalable data integration of legacy, current and future mission-critical systems, SkyLab developed a robust data logistics solution that enables clients to have access to timely and good quality data for actionable insights and enhanced decision-making.

Through Smart Port Challenge (SPC) 2018, SkyLab saw an opportunity to address the limitations of satellite communications out at sea by leveraging their data transport accelerator (STA™) which was first developed for the solar industry. Their participation in PIER71™ Accelerate exposed them to maritime corporates and veterans, which ultimately helped them refine their solution to address the industry's business and operational needs.

Since emerging as the Runner-up of SPC 2018, SkyLab has developed a Maritime Control Center (MCC), an integrated communications platform with an in-built cybersecurity protection. This allows digital data from off-shore vessels to be robustly and expeditiously delivered, providing actionable insights that aid enhancement and optimisation of fleet management, cargo tracking, predictive maintenance, processes, navigation, safety and security, crew welfare and more.

In 2019, SkyLab formed a strategic partnership with iO3, to roll out their MCC to shipping lines. iO3's flagship Maritime Digital Platform, JARVISS (Just a Really Very Intelligent System), leverages SkyLab's data acceleration technology to manage connectivity via satellite networks to transmit critical data efficiently and securely to empower digital transformation of maritime customers.

**Founded 2016
Singapore**

Gary Kwang
CEO

Sean Kim
CTO

Stephen Ho
COO



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We are deeply appreciative of the strong support that we received participating in PIER71™'s Smart Port Challenge. Not only have we benefited greatly from the very structured mentoring process during the SPC, which exposed us to the maritime ecosystem as well as its 'real pain points', we continue to be part of the maritime ecosystem thereafter, allowing us to carry on developing innovative technology solutions for the industry.

Stephen Ho
COO

Optimising Data Connectivity

Constantly changing bandwidths, packet losses and latency, network congestion and re-transmission hamper the smooth flow of internet traffic through wireless networks. This challenge is particularly severe in the maritime industry with satellite links being the primary mode of data communication, and impedes the large-scale adoption of IoT, and overall digitalisation efforts.

SkyLab's data transport accelerator (STA™) engine overcomes the limitations of satellite communications by analysing real-time traffic and routing conditions to find the fastest route between the data source and destination on cellular, satellite or IoT radio networks. Its ability to predict the network's condition ahead of time, and to seamlessly switch between networks, allows it to reduce network latency, increase throughput, optimise the transport layer performance and reduce overall network congestion. This revolutionary data delivery solution supports real-time monitoring and management of plant, equipment, crew health, systems and IoT connectivity.

Collaboration with iO3

iO3 Ptd Ltd was established in 2019 to adopt an innovative approach in enhancing and optimising satellite connectivity so as to empower the digital transformation of its maritime customers. Leveraging SkyLab's data acceleration technology, its flagship Maritime Digital Platform, JARVISS, has been specially designed to support enhanced integrated solutions, asset optimisation and delivery of secured critical applications globally. JARVISS encompasses Ship to Cloud communications from shipboard edge processors to fully secured and resilient Cloud hosting. It is an open ecosystem platform that encourages partnerships with various software companies, combining their cutting-edge technologies to deliver value within the Maritime space.

Key Results



up to 400% increase in data throughput



up to 50% improvement in response time



adaptive congestion control 20ms ahead of time

Looking Forward

With digital transformation gathering pace, SkyLab, together with iO3, will be focusing on partnering with various stakeholders in the maritime industry for the development and implementation of value-adding data-driven technological solutions.

In addition, SkyLab is also actively pursuing and implementing data logistics projects in other domains such as telecommunications, green energy, smart built environment and land transportation. Plans include growing their operations in Indonesia, after establishing a presence in Jakarta in 2019.