



CASE STUDY

Washington Maritime Blue's 5G feasibility study paves the way for innovation and sustainability

Avanade's design-thinking approach helps identify use cases and an actionable path forward

Business situation

Ensuring future economic growth for an important port ecosystem

Ports are the lifeblood of many economies around the world and there is fierce competition to stay ahead. Washington state has implemented a "blue economy" strategy to help create a thriving and sustainable maritime industry through 2050 and beyond. Washington Maritime Blue – a nonprofit, strategic alliance of key maritime stakeholders formed to accelerate innovation and sustainability – has a mission to implement this strategy across the state. The group's goals are to maintain and support the growth and safety of a maritime economy through digitalization.

One key area is the Tacoma Tideflats, which cover more than 5,000 acres and include port and terminal operations, industrial and manufacturing hubs and a critical marine ecosystem. Port operations have a complex mix of technology from a variety of vendors and many don't offer an end-to-end view or data sharing across stakeholders working in the port ecosystem. By expanding connectivity in a way that's flexible and secure, the Tideflats – and the people who work in and around the area – would benefit from the digitalization of transportation, including real-time awareness of port operations, just-in-time arrival of vessels and lower carbon emissions due to shorter waiting times for port calls.

"To achieve our goals, we're looking for ways to modernize port operations by exploring different technology use cases."

Joshua Berger

Founder and CEO, Washington Maritime Blue

"An enterprise grade private 5G network would establish the infrastructure for those working in the Tideflats today to utilize the technology they're envisioning for the next decade and beyond. We will create an ecosystem like no other in the world to attract innovators building the

technology of the future. This is an essential next step to maintain and support the growth of the maritime industry and blue economy," says Joshua Berger, founder and CEO of Washington Maritime Blue.

To bring this vision and strategy to life, Washington Maritime Blue first tasked Avanade, the 5G Open Innovation Lab – a group of industry experts which Avanade is a founding member of – and TTS Wireless Amdocs to perform a functional user experience and technical network feasibility study for building a 5G network in the Tacoma Tideflats. Creation of the study was also supported by organizations including Washington State Department of Commerce, Impact Washington and Business Finland.

Solution

A shared, design-led approach

The feasibility study began with the following goals:

- Engage core stakeholders to understand the needs and priorities of multiple port companies
- Identify near-term priorities to establish use cases and prove value through testing before committing to a larger effort
- Create a relevant use case roadmap based on real-world needs across the port partner network
- Create a private 5G strategy for both current and future-state IT investments
- Explore potential community impact

Avanade and TTS Wireless took a divide-and-conquer approach, using parallel paths to focus our areas of expertise and to fast track the findings. Avanade's role in the project was to conduct the functional experience portions of the study. We held a series of interviews and workshops that uncovered specific use cases in collaboration with key stakeholders to identify the business value and a technology pathway to build and use a private 5G network across the Tideflats.

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Using a design-thinking mindset, we performed a combination of ethnographic research and concept ideation to arrive at a set of overarching themes, including:

- Improving safety
- Enabling a sustainable future
- Orchestration and efficiency
- Infrastructure modernization

A common opportunity in all scenarios is a unifying desire for ecosystem data sharing across trucking, rail, ships and the environment to bring together a more holistic operating view. In total, the workshops identified over 160 ideas for using a 5G network.

Results

Laying the foundation for a more sustainable future

The study confirms there is an opportunity for using a private 5G network in the Tacoma Tideflats. It outlines both the business value and the technology pathway to build and use this network to become a global leader in advancing port operations, advanced manufacturing and environmental services.

“Modernizing the network infrastructure will enable massive connectivity enhancements that improve efficiency and sustainability. Real-time data will help the port know where everything is at all times and Avanade has helped identify strategic actions that we can take to achieve this outcome.”

Jim Brisimitzis

Founder and General Partner,
5G Open Innovation Lab

Maritime Blue and 5G Open Innovation Lab are now preparing to further engage with coalition partners to pilot a 5G network. Importantly, the feasibility study is being used as a key driver to secure funding for the implementation from industrial partners as well as the federal and state governments. Through knowledge sharing, collaborative project development and enabling an ecosystem for innovation, the Tacoma Tideflats will realize its shared vision for a sustainable and equitable economy and become a blueprint for other ports around the world.

About Washington Maritime Blue

Washington Maritime Blue is a nonprofit, strategic alliance formed to accelerate innovation and sustainability in support of an inclusive blue economy. With a mission to implement Washington State's Strategy for the Blue Economy, delivered by Governor Jay Inslee's Maritime Innovation Advisory Council, we are a partnership between industry, public sector, research & training institutions and community organizations. Maritime Blue works to create a world-class, thriving, equitable and sustainable maritime and ocean industry through knowledge sharing, joint innovation, entrepreneurship, commercialization, business and workforce development. Learn more at www.maritimeblue.org

About 5G Open Innovation Lab

The 5G Open Innovation Lab is a new model software development ecosystem operating at the intersection of innovative startups, technology platforms and industry leaders building what's next. The Lab is backed by trusted relationships with technology leaders including T-Mobile, Intel, Microsoft, Accenture, Avanade, Amdocs, Dell, VMware, F5 Networks, Spirent, Ericsson and more, who actively collaborate with our startups on a wide range of technology product development and go-to-market initiatives. Partnerships with leading public sector entities and influential investors round out our unique ecosystem to provide the greatest opportunities for success. Learn more at www.5goilab.com

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About Avanade

Avanade is the leading provider of innovative digital, cloud and advisory services, industry solutions and design-led experiences across the Microsoft ecosystem. Every day, our 56,000 professionals in 26 countries make a genuine human impact for our clients, their employees and their customers. Avanade was founded in 2000 by Accenture LLP and Microsoft Corporation. Learn more at www.avanade.com

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