



HAROPA
Ports de Paris Seine Normandie

LE HAVRE: A SMART PORT 5G PROJECT

Beth Maundrill, Editor, PTI, spoke to Cyril Chédot, Head of Innovation and Planning, Port of Le Havre

Smart Ports and Smart Cities go hand in hand, and one way that the two are being brought together is through 5G and wireless connectivity. In France, the Port of Le Harve, part of the HAROPA port group, has embarked on the Le Havre Smart Port City project to coordinate maritime and city operations. Over the next 10 years the Port and wider community will explore wireless connectivity through the 5G Lab initiative.

Speaking to Port Technology International, Cyril Chédot, Head of Innovation and Planning, Port of Le Havre, said, "The ambition is not to do a smart port on one side and a smart city on the other side, because we realise we should be working together on this kind of approach. We said we should do something together to have a global approach called a Smart Port City."

"The project is a 10-year transformation roadmap where we want to innovate more and to be more attractive to investments.

For the territory it will be more open to innovation and transformation."

Chédot noted that one of the projects aims will be to attract investments into the port and surrounding industrial region as the global economy continues to evolve.

"We know we have to transform for the economy and citizens."

PROJECT PARTNERS

In January 2019, the French Government and Arcep, France's electronic communications, postal and print media distribution regulatory authority, launched an appeal for 5G testing platforms to test and identify new uses around this technology in France. Le Havre's project was one of only 11 such initiatives to be selected.

Chédot explained the Le Havre Smart Port City project represents a €240 million (\$260 million) investment across the ten years and will eventually involve up to 80 partners.

The 5G Lab aspect currently involves five partners from across industry and the port authority.

The five partners include Siemens, EDF, Nokia, the Urban Community of Le Havre and the Port of Le Havre. For the first two years of the project €2 million (\$2.2 million) in funding will be made available with co-investment from Nokia, EDF and Siemens.

"We have organised a collective group that will work together to find in which direction we can use 5G for the industry, the people of the city and our logistics operations," he said.

The Port signed a memorandum of understanding (MoU) with Nokia in October 2019 and the company's focus will be on the connectivity and telecommunications aspect of the project.

Siemens, Chédot said, will be able to evaluate the impact of the project and work on the technical and financial specifications.

Finally, EDF is working to optimise electricity energy production and will aim to produce the precise amount needed for the network. This is because too much energy can be a problem and there is a constant need to balance production, Chédot explained.

Chédot also noted that beginning in mid-2019 the experiment has been advertised to local companies. He said this has been very successful as many local companies are now exploring the potential of 5G as part of the project.

USE CASES

Practically, two types of uses for 5G have been identified, the urban type and the port type.

“As a port authority we act as a community manager and what we want to do as a community manager is to explore the way we can offer new services to our customers and to the companies that are located on the port territory,” Chédot.

One of the strategy questions surrounds a private 5G network, can the port use such a network for its partners on-site.

Chédot said the Port is working with two large gas and oil storage companies, which could not be named at this time, to explore how to secure their information systems with a new connectivity system using 5G or LTE system.

Other identified cases include the maintenance of port tools and mobile structures with the idea to develop smart services. Chédot notes that predictive maintenance can be particularly useful in the container terminal for the gantry cranes.

Regarding containers the port is also exploring new camera technology that will be able to read information that is presented on individual containers and this will highlight any dangerous goods that are being contained within.



In addition, the Port of Le Havre has its own roll-on roll-off terminal for car transportation and the new generation of cars incoming there is likely to be an increase in deliveries overtime. It is already working with the car terminal to implement a 5G private network which could help manage the increased amount of data that the stevedore companies will have to manage.

At the cruise terminal, growth is also expected and while at present there are approximately 500,000 passengers annually, this is expected to grow to around one million in the coming years. A private 5G network in this area could be used to enhance security via new video systems for passengers embarking and disembarking at the Port.

Ship-to-shore connectivity and solutions for downloading information from dredging operations are also uses for 5G that are being explored under the 5G Lab project, Chédot mentioned.

5G enables real-time data analysis and therefore offers the ability to anticipate, support and improve the performance of existing services.

For example, in the long run, we can imagine that smart services and equipment (roads, traffic lights, road signs) interconnect with each other to contribute to smoother traffic.

EXPERIMENTATION

Looking ahead the 5G Lab will look to explore the network capacity of the 5G network to ensure that it can manage the various use cases that are being explored. New antennas are set to be installed which and there is a roadmap of three years' worth of trials, Chédot said.

The trials will be directed to many of the companies involved in the prior mentioned companies including energy, stevedore and car terminals.

These antennas will be able to be used for multiple purposes in order to test various use cases.

The experimentation is to be based on the targeted region of Le Havre and it is intended that all innovations will be rolled out on the Seine axis from January 2021 which includes the other two HAROPA Ports of Rouen and Paris.

The long-term results of this experimentation could see a plug and play network that can be used by multiple customers in the region.

