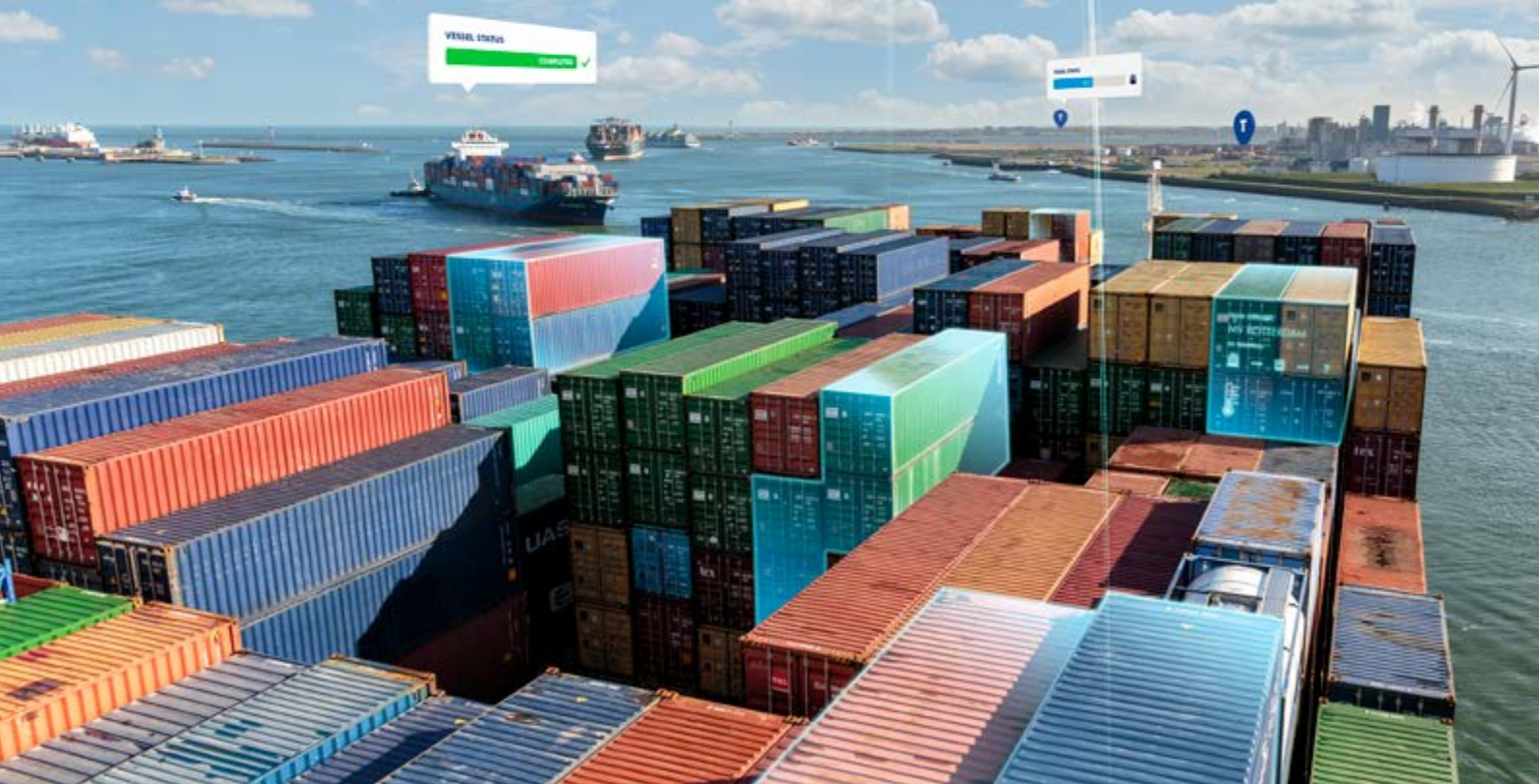


MOVE FORWARD: GO NEXT LEVEL WITH YOUR PORT COMMUNITY SYSTEM.

WHITE PAPER



PortForward

Digital solutions by Port of Rotterdam

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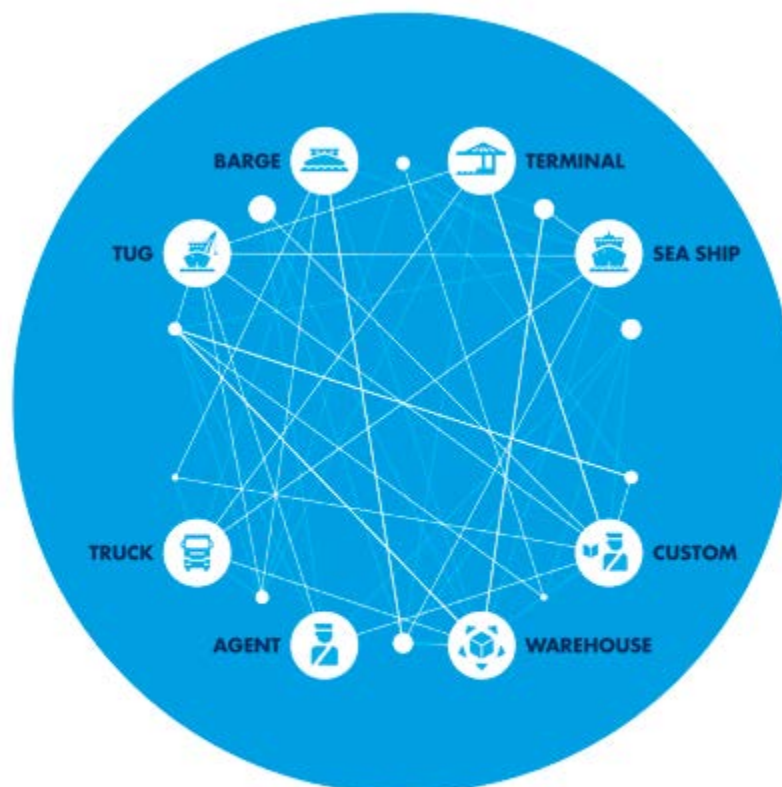
HOW A PORT COMMUNITY SYSTEM TAKES PORTS TO THE NEXT LEVEL

Not too long ago, the major focus for ports was on their physical infrastructure, as the World Economic Forum ranked ports on this basis. The equation was simple: good infrastructure equalled a guaranteed high ranking. However, today's world demands digital connectivity and an optimal port ecosystem that combines physical assets with world-class information management.

Henceforth, in the past few years, the world's leading ports have been investing in their digital ecosystems, in particular in creating Port Community Systems (PCS) to enhance their connectivity. Port Community Systems arrange a single entry platform of data in a port for business-to-government messages and the business-to-business messages. Boosting the efficiency by providing digital, real time information to all players in the port.

Now, in the new digital world, numerous ports of all sizes are following their digital lead, building digital ecosystems for all their stakeholders to exchange data. Even so, projects and proposed systems are still created by frontrunners. But why should ports now starting with a PCS continue to secure their future with old PCS concepts? We think there is a more future-proof way of developing new-style Port Community Systems and digital port ecosystems.

Without Port Community System



SUCCESS TODAY

Port Community Systems around the world deliver tremendous benefits by simplifying connectivity and re-using data boosting efficiency. For example, Portbase – the Dutch PCS – slashed the number of telephone calls in the community by 30 million and the number of emails by 100 million. It also reduced the traffic load on our roads by 30 million truck kilometres annually. The total added value of the PCS in Rotterdam is estimated at 245 million euros (US\$271 million) a year.¹

Huge numbers of course for a huge port, but every ports has significant added value per container (10 to 20 euro). The country of Oman estimates the benefits could reach well into the billions over time.²

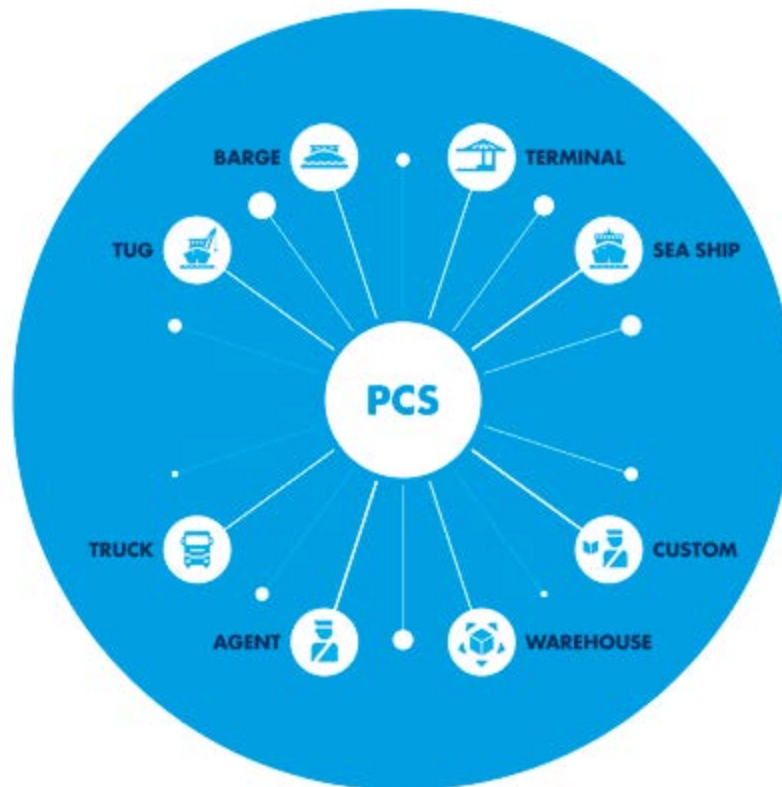
Most of the world's larger ports have PCS systems in operation, however implementation has often proved to be time-consuming and expensive, as well as highly complex. Today's systems also need to focus more on the evolving dimension of worldwide connected ports and logistical chains. This is where larger ports come into their own as they have the resources to take on these large, costly projects.

SUCCESS TOMORROW

Transparency around shipment status generates huge benefits for carriers, forwarders, shippers and so on by providing them with real-time information and the capability to predict container availability, arrival times, gate out, and so forth.³

Ports must deliver this kind of transparency or they will see cargo going to ports with a higher level of transparency. Therefore, smaller and mid-size ports are looking at Port Community Systems as a way of establishing digital ecosystems of their own. Nevertheless, newcomers to the PCS world also tend to stick with the established mould: local systems based on the mostly widely used technology. The question is: does today's success guarantee success in the future?

Current Port Community System



1 — Source:
Portbase benefits, 2019,
<https://www.portbase.com/en/port-community-system/benefits/>

2 — Source:
National Port System to Unlock 98bln in benefits for Oman, Oman Logistics Centre (OLC) Asyad Group,
https://www.zawya.com/mena/en/story/National_Port_System_to_unlock_98bln_in_benefits_for_Oman-SNG_149851188/

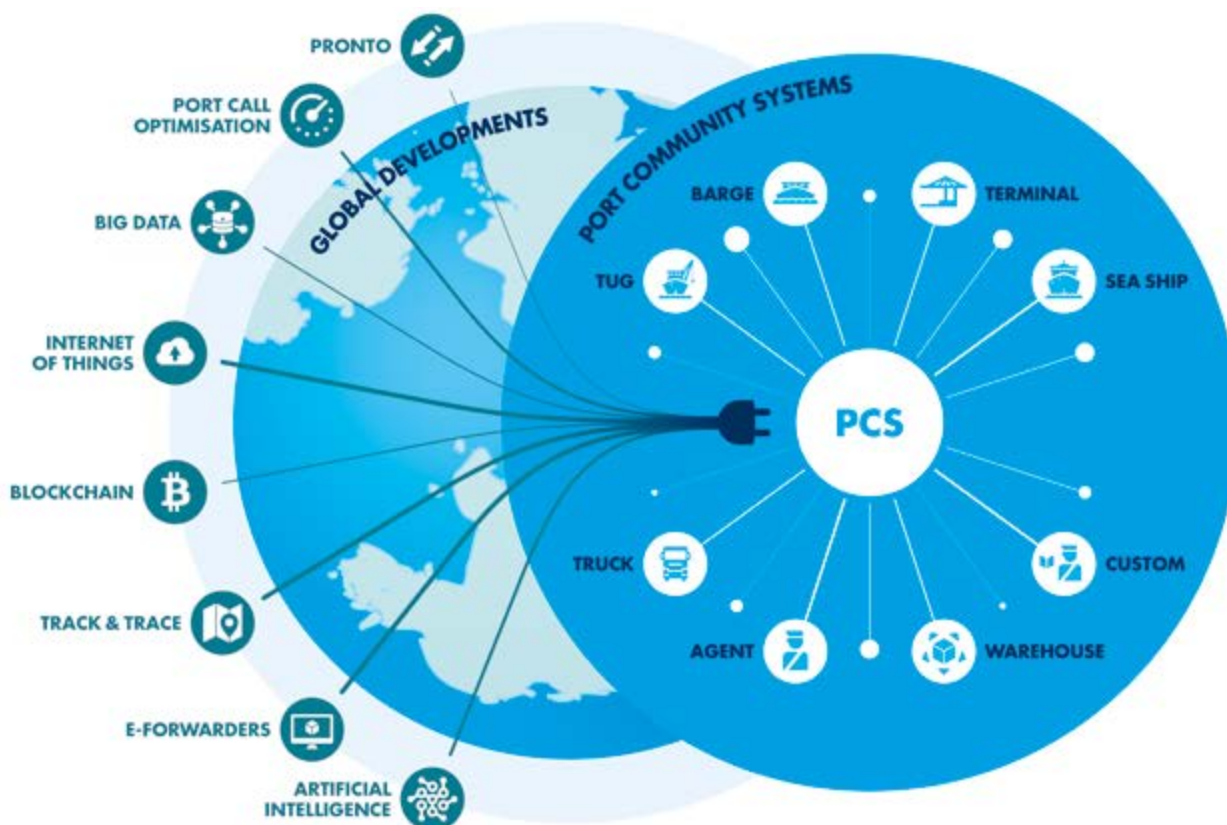
3 — Source:
MC Kinsey, 2017, Container Shipping: The next 50 years of container
Container Shipping: The next 50 years of container

TOWARDS GLOBAL CONNECTIVITY

We can't keep using recipes from the past. It is vital to look ahead to new developments like the need for global connectivity, which goes far beyond the scope of connecting the local community. Ports will have to reach out much further into the hinterland and be connected to other seaports. This is seen in the solutions for tracking containers and ships worldwide such as Calista, Kuehne Nagel, MyFreight, Xvella and Flexport. In another break with the past, new technological developments have huge potential in terms of the efficient construction of port ecosystems. Blockchain, as in Tradelens, Deliver are key examples of this.

Despite these changes, as yet we don't know which initiatives will come out on top, therefore it is important to keep up with a range of developments. Nevertheless, all players in ports cannot work with every global initiative individually. Our new-generation PCS, which we call Portinsider, is being designed to give a port and their community the opportunity to create a hub, thereby helping you to keep up with global initiatives and stay responsive.

Next generation Port Community System



A NEW DESIGN PORT COMMUNITY SYSTEM

What we need is a new approach to Port Community Systems and as part of this we see four distinctive design criteria:

1 Software as a Service: Affordable and Scalable.
Our new PCS solution is provided as a Software as a Service, allowing different ports to select their specific modules needed. Smaller and mid-size ports won't need a large IT department developing and supporting and PCS themselves, but can use it as SaaS trouble-free, now and in the future. They will also save on operating costs and license fees, and benefit from all the development and investments made by leading ports like Rotterdam. Software as a Service creates the possibility to start with modules helping the most urgent needs and gradually increase the system in a port. Adding other modules like Port Call Optimisation or container predictions later.

2 Generic modules: Use proven optimal data flows for vessels and cargo in your port. Modern PCS systems use generic building blocks to facilitate data flows. These record ship visits, cargo, customs, port call optimization and logistical support based on proof, experiences and knowledge of leading ports to boost port performance. The standardization of numerous processes (i.e. IMOFAL, the European Single Window for customs, Taskforce Port Call Optimization) will allow the creation of generic modules.⁴

More generic building blocks simplify the set-up and make this type of system more affordable. As a result, systems are more easily tailored to the needs and capabilities of ports of different sizes and functions, while retaining the full potential for the future growth of these ports. But preventing long periods of custom development of software.

3 Data ownership is central: Data ownership is crucial for sharing data, especially considering matters like security, relevant legislation and commercial value of data. Data owners will be in charge of what and with whom they will share data getting full control over their own data. This will boost the usage of PCS and data-sharing across the logistical chain. Even now, more than 100 million messages a year are sent in Rotterdam through the PCS.⁵ The new-generation PCS

will provide a robust platform so that data owners can exchange the required data securely, cutting out insecure practices such as fax, email and phone.

4 Ready for global developments: The new-generation PCS provide you with a hub that allows your port and community to get on board

with new developments and technology initiatives globally. In line with the structure we have described elsewhere, the Port Community System of the future will allow ports to expand their focus from the supply chain to the hinterland and global connectivity.



4 — Source:
International Maritime Organization, 2019, Electronic information exchange mandatory for ports from 8 April 2019, <http://www.imo.org/en/MediaCentre/PressBriefings/Pages/06-electronic-information-exchange-.aspx>
International Port Call Optimization Taskforce, 2019, <https://portcalloptimization.org/>
European Union, 2019, https://ec.europa.eu/taxation_customs/general-information-customs/electronic-customs/eu-single-window-environment-for-customs_en

5 — Source:
Portbase benefits, 2019, <https://www.portbase.com/en/port-community-system/benefits/>

WHAT'S IN IT FOR YOU?

The new-generation PCS will deliver the following benefits:

- 1** Worry-free through Service as a software: Benefit from the functionality of other systems and from the investments and developments made by the leading ports and affordable license and implementation fee.
- 2** Learn from front-runners: Use the optimal data flows defined by the best ports for imports, exports, customs, ship arrival etc. Preventing long periods of custom development of software.
- 3** Control your Data: Data owners' needs are met and they retain control over their own data.
- 4** Future proof: The new-generation PCS allows for a rapid and effective response to global developments.

So whether you are an ambitious port authority that wants to boost port performance, a port partner eager to optimize your logistic processes and still safeguard data ownership, or a trusted national or local authority that wants to help port users to optimize cargo transit times without compromising safety and security: the new-generation PCS will help you to achieve your goals. We can help you to build a vibrant ecosystem with engaged stakeholders using a Port Community System based on the latest technologies, world-class security, and leading collaborative capability.

The new-generation PCS – Portinsider – developed by the Port of Rotterdam can be the key, not only to the doors of today but also to the new doors located in the future of ports and logistics. And all at an affordable price, however large or small your port may be.

Would you like to know more?

Or are you interested to see how Portinsider works? The Portinsider team can give you a demo to Portinsider.

COLOPHON

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