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NETHERLANDS

PORTBASE

PHOTO BY: PCS OPERATOR | PORTBASE, NETHERLAND

Introduction

In Brief

This case study concerns the PCS for Ports in the Netherlands, namely Portbase. Portbase is a publicly owned entity run and operated as an independent private company. It is an affiliate of both Havenbedrijf Rotterdam N.V. (Port of Rotterdam Authority) and Havenbedrijf Amsterdam N.V. (Port of Amsterdam Authority). Both entities are publicly owned and are shareholders of the company Portbase.

Portbase was established in 2009 following the integration of two PCSOs: Port infolink operating at the port of Rotterdam and PortNET operating at the port of Amsterdam. The impetus for uniting the ports was efficiency and coordination. The aim was to end digital fragmentation and promote better coordination nationwide.

The initiative is voluntary and is the result of both a formal top-down approach from its shareholders and an informal bottom-up approach. The initiative gained traction when the Harbor Masters designated the PCS as their formal notification stations and Customs decided to go paperless with the electronic manifest system. On the level of B2B services, port operators are free to use it or not. As the acceptance and commitment of the port community is substantive, that uptake is high.

Why this case is significant

Key features of this case study include the greenfield nature of the project and the importance of building trust between stakeholders. Government support was critical for the development of the PCS for both port communities and the creation of a nationwide port system.

Secondly, the case study highlights the role played by the alliance between Portbase, the Harbor Masters, Customs, and the port community, represented by Deltalinqs, the promotor of the common interests of the entrepreneurs in the main port of Rotterdam. The Harbor Masters created solid foundations for the PCS by appointing the PCS as its formal notification station. That provided a springboard for B2B services. These are voluntary. There is no legal compulsion to have a PCS.

In addition, the project regards the PCS as operating for the common good and as an integral part of port infrastructure. This is common to other projects but not all. It shows that treating a PCS as a public good can support cooperation and engagement among stakeholders.

The Portbase PCSO is the largest in Europe by annual revenue, customers, users, and transactions and is in the top league worldwide. Portbase is also a founding member of the International Port Community System Association.

Project preparation and development

The Portbase PCS is rooted in earlier systems including Port infolink, which was established in June 2002 by the Port of Rotterdam Authority. Sponsors and supporters of Port infolink included the Association of Rotterdam Ship Brokers and Agents (Vereniging van Rotterdamse Cargodoors (VRC)), Deltalinqs, and Dutch Customs.

The pilot phase for Port infolink lasted two years and had the goal of optimizing processes along the transport chain at the port of Rotterdam. Emphasis lay on the type of the platform, identifying functionalities, and engaging with stakeholders on matters such as ownership and responsibility for the operations. The first PCS platform was built by an in-house system developer and was technically managed by systems integrator PinkRoccade.

The approach concerning who should operate the PCS was rooted in the idea of the public good. The start-up of the system was organized by the Port of Rotterdam Authority, which was regarded as impartial and without immediate commercial interests. In addition, the digital infrastructure of the port was seen as part of the general infrastructure of the port rather than a separate set-up. The Port of Rotterdam Authority therefore financed the project and became the sole shareholder of the separate entity Port infolink, which operated the PCS.

The PCSO of the Port of Amsterdam, PortNet, on the other hand was established in 2000 and mainly focused on information flows concerning border control, Customs declarations, and Harbor Master notifications. Through the involvement of National Public Works there was not only a focus on the seaport of Amsterdam, but also on inland navigation. That said, Port infolink was the more advanced system.

Both systems were initially meant to make their respective ports more competitive by offering PCS functionalities. The driver to join forces was the ambition to serve customers active in both ports by enabling them to use the same system. Government agencies in both ports encouraged moves towards one system for both port communities and with a view to create a nation-wide system.

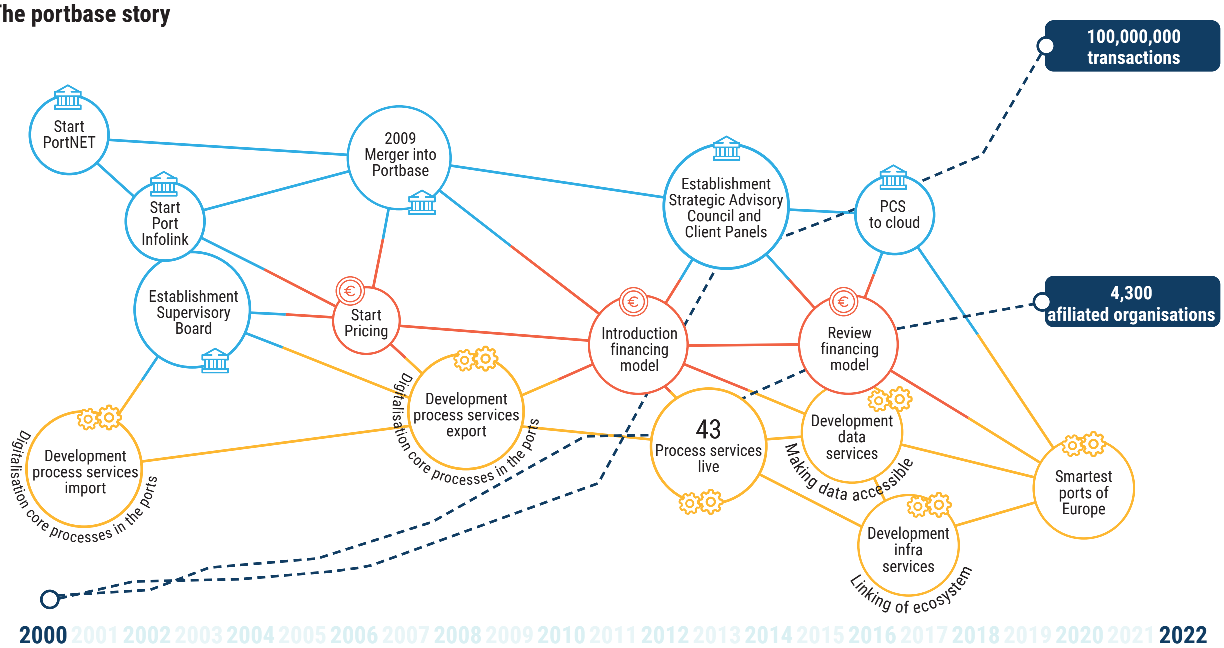
The merger took place by an amendment to the Port infolink Articles of Association and the accession of Port of Amsterdam Authority with a 25% shareholding. Through this merger, the scope of Portbase gradually expanded from a local focus on Rotterdam and Amsterdam, to the Netherlands as a whole.

Governance and business model

Portbase has a strong governance framework. The company is a private limited company and is managed by a Board of Directors under the supervision of a Supervisory Board. Because a PCS is not enshrined in legislation in the Netherlands, contracting out the operation of a PCS through a concession does not apply. The

Figure 4. Portbase development 2002-2022

The portbase story



operation of Portbase is possible through the internal procurement of the respective ports.

A Strategic Advisory Council examines the services offered. The Council, which includes port community representatives, determines whether services are adequate and whether new services should be offered. Strategic portfolio objectives are defined from which a community roadmap emerges.

The composition of the group reflects the strategic landscape of the Dutch port community. The roadmap is a method to keep the broader port community committed to Portbase and the other way around, to keep Portbase aligned with the different domains in the port community.

Client Panels help to set new objectives and priorities. These panels consist of representatives of clients and sector organizations. There are four Client Panels: 1) Hinterland. 2) Freight forwarders and shippers. 3) Ship operators and shipping agents. 4) Terminals and depots. Based on the strategic objectives agreed upon in the Strategic Advisory Council and the established selection criteria, the Client Panels set priorities for their specific domain. These together form the (concept) domain roadmap.

Financing and pricing model

Portbase runs on a not-for profit basis. Revenues are used to cover the costs of operating the platform and improving the system. The overall CAPEX invested by shareholders since the start of the PCS is reported to be over 120 million euros (approximately USD 130 million).

Figure 5. A national PCS

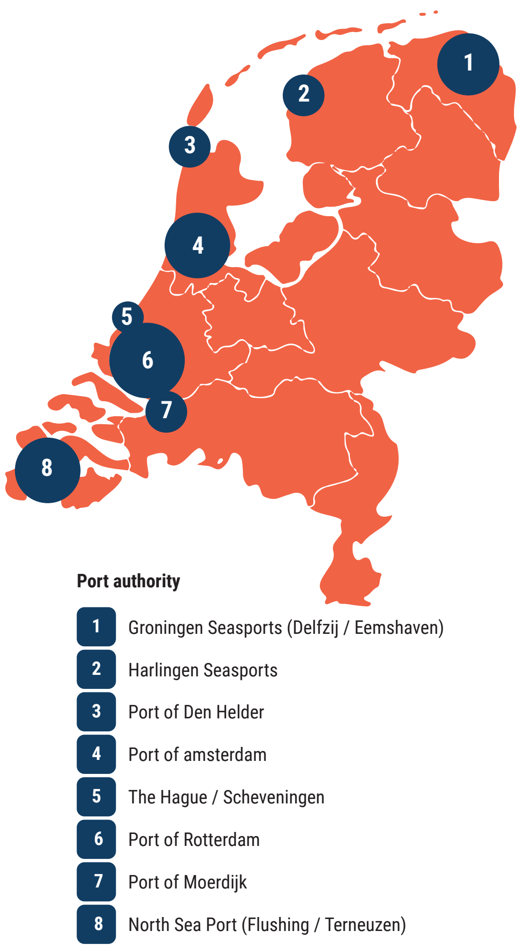
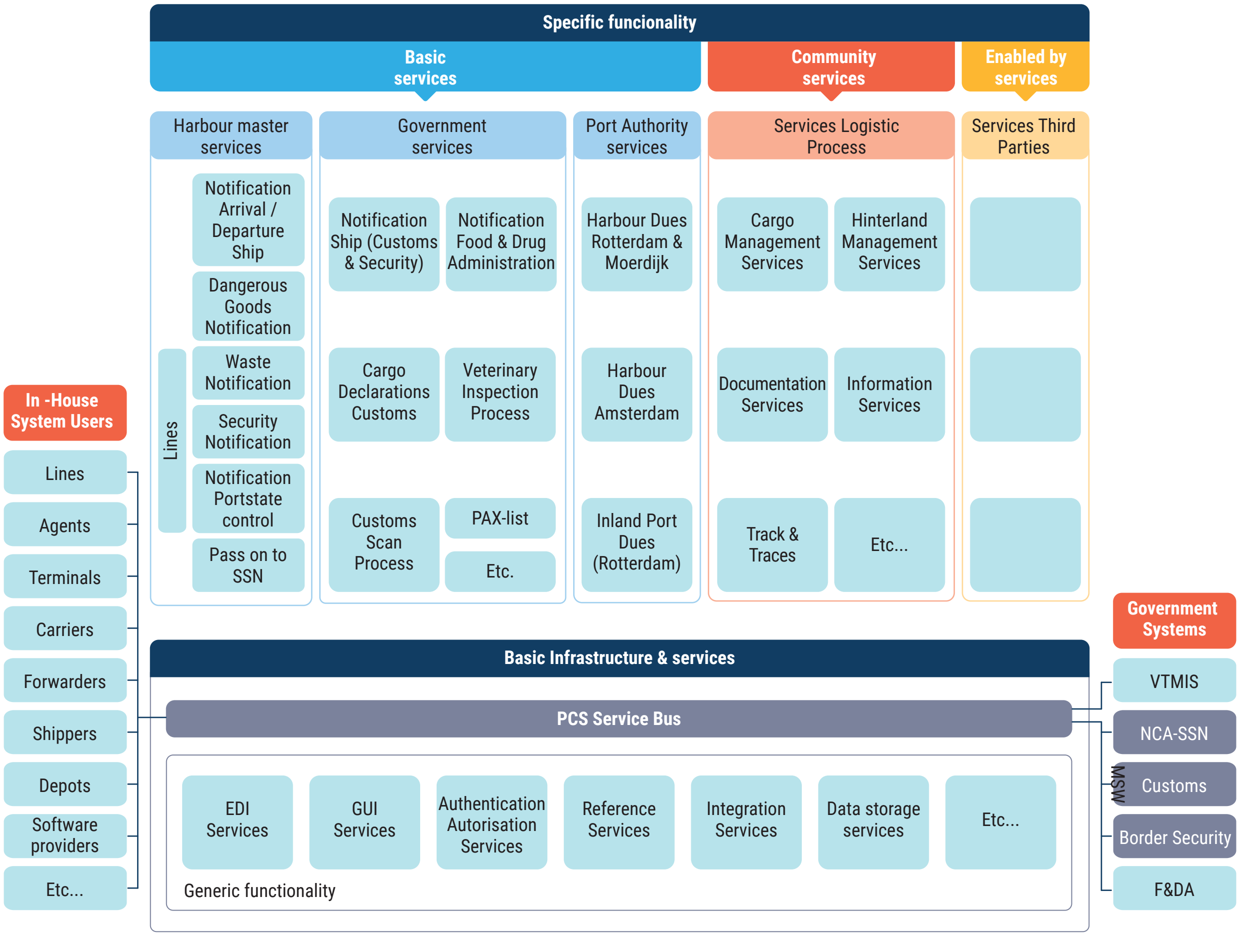


Figure 6. Portbase Functional and Technical Services



The investments and costs are partly funded by the Port of Rotterdam Authority and the Port of Amsterdam Authority as shareholders, and partly by the income of the specific services delivered by Portbase. The income covers CAPEX and OPEX such as staff, which amounts to approximately 115 full-time employees, including a CEO, COO, and leadership team of 10 persons.

In addition to the above, other cost streams that are covered by stakeholders through their allocated budget include:

I. Notifications to the Harbor Masters: the costs related to the development and operating of the notification services are financed by the respective Harbor Masters.

II. Community services to Port Operators: the costs related to the development of these services are pre-financed by Portbase and paid back by clients of the services, using a monthly subscription fee.

III. Strategic services: the development costs and the operating costs of these elements are paid for by the port authority for whom the strategic services apply to.

IV. Services to connect public sector users: the development costs and the operating costs for these are paid for by the specific (public) user.

From a transaction fee perspective, services fees were introduced in 2008 and the price of any specific service provided by Portbase consists of two components: a fixed fee for the subscription to a service, and a variable fee for every time a port user engages in a transaction using a service. In addition to traffic-based fees, connection fees also apply. These include an initial, one-off charge for setting up the system-interfaces.

Portbase applies fees when it provides community services to port operators. As highlighted above, the related costs for the development of the services are then pre-financed by Portbase and the price of a specific service is made up of two components: a fixed fee for the subscription to a service and a variable fee for every time a port operator engages in a transaction using the service.

Functional and technical architecture

Portbase has responsibility for designing, building, management, maintenance, and innovation in ICT-infrastructure. Portbase has migrated the entire Dutch PCS to the public cloud hosted by Amazon Web Services (AWS) in 2018. It provides a minimum 99.5% uptime environment with 145 million transactions per year. The uptime in 2021 was 99.98%. Portbase is also ISO 27001 certified.

Portbase serves four different groups:

V. Principal clients of Portbase include Harbor Masters and the port authorities of both Rotterdam and Amsterdam, covering the port notification segment of the ICT-infrastructure, and the data collaboration segment of the ICT-infrastructure.

VI. Notifications to Harbor Masters (and onwards to the Dutch Single Window Maritime & Air, and in context of local nautical regulations). Principal clients of Portbase in this context are the Harbor Masters assigning the development and operation of the notification tools on the platform and different port operators using the available notifications tools.

VII. Community services to port operators. The applications and services available for the stakeholders in the port representing 5,000 companies and 16,000 users.

VIII. Strategic Services. The Port Authorities via Portbase perform these tasks to improve port processes.

All ports in the Netherlands are connected to the Harbor Master Notifications system of Portbase except for North Sea Ports (Flushing, Terneuzen). All the major ports are connected to Portbase for MSW-notifications. These include Groningen Seaports, Harlingen, Amsterdam, Scheveningen, Rotterdam and Den Helder. These ports act as a funnel for the notifications to other (river) ports. Finally, almost all maritime terminals for all types of cargo in the Netherlands are connected to the PCS. The main ones include Rotterdam: ECT (3 terminals), APM Terminals, Rotterdam World Gateway, Rotterdam Short Sea Terminals.

Key Takeaways

Portbase is an example of a greenfield PCS project that was enabled by the merger of PCSOs in the Port of Rotterdam and the Port of Amsterdam. As a result of the merger these entities became a national PCS. The fact that there were PCSOs in place before the merger of Portbase enabled a swift transition. The applicable governance framework was basically transferred to the new operation and amended as needed.

Port authorities and stakeholders worked together to ensure uptake and interoperability. **This was a recipe for success.** This allows for service levels to be maintained and effective developments and improvements to be applied. Trust was an engine that drove the start-up phase of the Dutch PCS's.

The coming into existence of Portinfolink and PortNET was more about momentum and grasping opportunities, and less about a carefully planned process. It was the result of an informal bottom-up approach by port stakeholders, but with strength and guidance from the top, its shareholders. This resulted in a great level of acceptance and commitment in the port community.

Having Customs involved was a crucial element. Customs aspired to serve the transport community with a paperless process. Portinfolink functioned as a voluntary tool and gained traction in this way.

Further relevance was gained by Portinfolink becoming the electronic station for public notifications to the Rotterdam Harbor Master. A next step was the development of services and applications for B2B port community processes.

A Port Community System resulting from an informal bottom-up process, has challenges. Appreciation of the benefits of creating a PCS helped to embed use of the Maritime Single Window.

Portbase is a founding member of the International Port Community System Association and has been able to generate annual revenues in 2021 of USD 21.98 million.