

Dublin Port Post 2040 Dialogue – Paper 2

HOW HAVE OTHER EUROPEAN PORT CITIES DEVELOPED?

28th September 2020

As is the case in Dublin, most ports in Europe (91%) are located in or very close to an urban area¹ and each port has grown over many years based primarily on local geography. It follows from this that there are few hard and fast lessons which can be learned from what has happened in ports in other countries which can be easily applied in Dublin.

It is, of course, a valid question and it is worth looking at how other European port cities have developed in order to give perspective to what has happened in Dublin over centuries and to suggest options for future development here.

The development of ports in six other European port cities is considered below. These ports are in the Baltic (Copenhagen and Helsinki), the North Sea (Rotterdam), Spain (Bilbao and Barcelona) and in Italy (Genoa). Some are very much larger than Dublin (notably Rotterdam), one is about the same size in cargo throughput terms (Bilbao) and the two Baltic ports are each less than half the size.

There are notable similarities between the development of Dublin Port and that of Europe's largest port, **Rotterdam**.

Between 2008 and 2012 the Maasvlakte 2 project expanded the Port of Rotterdam by the construction of a four kilometre dyke in the North Sea behind which 2,000 hectares of additional port area (land and water) including 1,000 hectares of port land was created by infill.

Port	Tonnes (2019)
Rotterdam	469m
Genoa	68m
Barcelona	66m
Dublin	38m
Bilbao	35m
Copenhagen	15m
Helsinki	15m

¹ Trends in EU Ports Governance 2016, European Sea Ports Organisation; a survey of 86 European ports in 19 member states. https://www.espo.be/media/Trends_in_EU_ports_governance_2016_FINAL_VERSION.pdf



© Google Earth

The Maasvlakte 2 project was the fourth major expansion of the port in the post war period. This series of projects progressively moved the centre of gravity of the Port of Rotterdam downriver along the estuary of the Rhine and, ultimately, into the North Sea as summarised below².

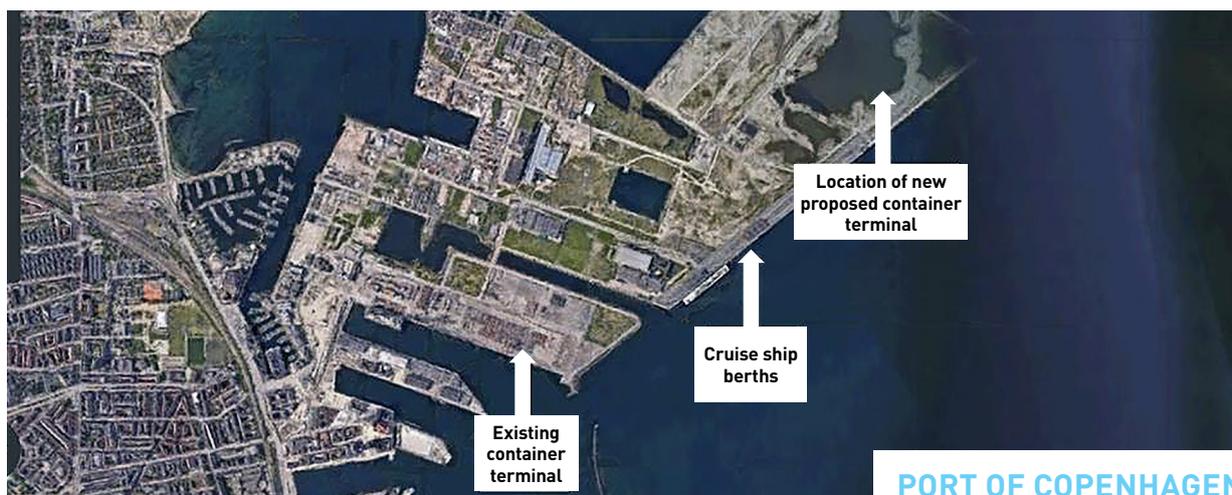
Project	Construction period	Gross port area hectares	Net port land hectares
Botlek	1952-1955	1,100	835
Europoort	1958-1960	2,205	1,701
Maasvlakte 1	1986-1973	2,630	1,761
Maasvlakte 2	2008-2012	2,000	1,000

The progressive development of the Port of Rotterdam over 60 years mirrors the development of Dublin Port over a longer period of 160 years from the construction of North Bull Wall between 1819 and 1824 up to the completion of the final eastward expansion of Dublin Port by infill into Dublin Bay in the 1980s.

It does not seem likely that the Port of Rotterdam will increase its size by any further infill into the North Sea. Similarly in Dublin, there will be no further expansion of the port by infill into Dublin Bay. Permission to do this was sought over a 31 year period from 1979 before being decisively rejected by An Bord Pleanála in 2010. Since then, Dublin Port Company has accepted this reality and, in Masterplan 2040, has explicitly ruled out the option of further expansion by infill into the bay.

“ The progressive development of the Port of Rotterdam over 60 years mirrors the development of Dublin Port over a longer period of 160 years.

² Lobby For Land, Dirk Koppenol, 2016



© Google Earth

The **Port of Copenhagen** provides a second useful case study. In Copenhagen, new berths for cruise ships have been built on infilled land. The relocation of the port's container terminal to a new facility two kilometres away in the Outer Northern Harbour, adjacent to these cruise ship berths, is under construction and is due to be completed at the end of 2021.

The new container terminal is being constructed on made ground created by infilling the sea. It is a relatively small container terminal with a land area of 8.5 hectares and with a capacity, using Dublin Port land utilisation benchmarks, of 340,000 TEU per annum. It is designed to be capable of being expanded by additional infill in the future, if required. The new container terminal is small by comparison with the three container terminals in Dublin Port and by comparison with the 14 hectare Ringaskiddy Container Terminal currently under construction in the Port of Cork.

Before deciding to build the new container terminal, CMP Ports (the operator of the ports of Copenhagen and Malmö), considered the option of moving container handling operations from Copenhagen to existing facilities in the adjacent port of Malmö. CMP additionally considered moving the terminal to the Port of Köge 25 kilometres south of Copenhagen. The option of exiting

the container business entirely was also considered. Ultimately, however, the decision was taken to maintain container handling capacity in the Port of Copenhagen.

What has happened in Copenhagen provides no useful insights into what should happen in Dublin. Doing in Dublin what happened in Copenhagen would involve more and more infill of Dublin Bay.

In the **Port of Genoa**, on Italy's Ligurian coast, the expansion of the port's container handling capacity was achieved by the construction of a new container terminal at a nearby location 10 kilometres along the coast. The older SECH container terminal is located close to the centre of the city and is still in operation. It has a land area of 20 hectares, 526 metres of quay wall and a water depth of 15 metres.

The newer Voltri Container Terminal became operational in 1994. It is much bigger with 116 hectares of land and 1,400 metres of quay wall. The water depth at Voltri is also 15 metres.

There is no equivalent option to build a new facility on the east coast of Ireland where such deep water is readily accessible. A similar distance north of Dublin Port would take you to Malahide and the Rogerstown Estuary. To the south, it would take you to Killiney Bay.



© Google Earth



© Google Earth

The **Port of Barcelona** has been considerably expanded by a southern extension and some of the old historic port was redeveloped as a tourist attraction prior to the 1992 Olympics notably as the Port Vell area. Today this area houses a large aquarium, a shopping mall and marina facilities for pleasure craft.

The major development of the industrial port facilities in Barcelona included the two kilometre diversion of the Llobregat river and the completion of a major project between 2007 and 2013 to construct 6,900 metres of new harbour walls. This comprised a 2,100 metre extension to the port's existing eastern breakwater and the construction of a new 4,800 metre long southern breakwater.

An equivalent approach in Dublin would involve the infilling and redevelopment of Sandymount strand. Incredibly, just such an approach was considered as an option by Dublin Port & Docks Board in *Studies in long term development in the Port of Dublin* published in 1972. More recently, the infilling of Sandymount Strand and also of the Tolka Estuary have been suggested to provide new housing.

Impressive though the development and expansion of the Port of Barcelona are, a similar approach to expand Dublin Port is not conceivable. The example of Barcelona does, nonetheless, serve to highlight the huge size of breakwaters which a major port development project would require.

PORT OF HELSINKI



The **Port of Helsinki** has been cited as the definitive case study demonstrating how Dublin Port should be moved to a new location, specifically to a new port to be built at Bremore, 25 kilometres north of Dublin. This is what happened in Helsinki when a new harbour was constructed 20 kilometres away at Vuosaari.

Following the construction of the new harbour at Vuosaari between 2003 and 2008, much of the activities in Helsinki’s West Harbour were transferred there and port lands were freed up for urban development.

However, notwithstanding the movement of much of the Port of Helsinki’s cargo handling activities to Vuosaari, ferry operations (passengers and accompanied freight) and cruise ship operations have continued in Helsinki’s West Harbour and South Harbour.

Two container terminals were constructed at Vuosaari alongside nine berths for Ro-Ro freight ships. The total land area of the new Vuosaari Harbour is 150 hectares, 90 hectares of which was created by infilling the sea. Significantly, and in contrast to Dublin, there were no petroleum importation facilities in the Port of Helsinki that had to be relocated.

The development of the new harbour was greatly facilitated by there being a redundant brownfield shipyard in Vuosaari. One of the main challenges to replicate Port of Helsinki’s approach on the east coast of Ireland is to find a suitable location in which



VUOSAARI HARBOUR

to build a new port. Unlike Helsinki, there are no brownfield sites adjacent to deep water available and any development north or south of Dublin would have to be a greenfield development.

Finally, there is the **Port of Bilbao** on the northern Spanish coast.

The port is situated on the Nervion River, an even smaller river than the Liffey (75 kilometres long with an average flow rate of 10 tonnes per second).

As in Dublin, port facilities have been pushed downriver over decades and are now concentrated at the mouth of the river where the Nervion flows into the deep waters of the Bay of Bilbao and the wider Bay of Biscay. As the port facilities moved downriver, the vacated riverside sites were redeveloped, notably in the case of the Guggenheim Museum. The redevelopment in Bilbao is equivalent to the Docklands development in Dublin.

Where Dublin has expanded inside the eighteenth century Great South Wall and the nineteenth century North Bull Wall, in Bilbao a 2,600 metres long outer breakwater was constructed in the 1970s and new port areas and berths were constructed by infill into the sea where deep water (in the region of 30 metres) is available.

An equivalent, but unimaginable, development in Dublin to mirror what has happened in Bilbao would be the construction of a large breakwater running southwards from Howth Head into Dublin Bay with new port facilities constructed on the south side of Howth Head and along the length of Bull Island.

“As in Dublin, Bilbao’s port facilities have been pushed downriver and are now concentrated at the mouth of the river.”

The dogged determination to develop Dublin Port in the eighteenth and nineteenth centuries was for the very good reason that there were no better or easier alternative options available. The development path that was followed in Dublin resembles the path followed elsewhere, notably in Rotterdam and Bilbao where the ports migrated downriver to the sea as far as they could go.

Options to expand Dublin Port along the coast in a similar manner to Genoa or Barcelona are not conceivable. Likewise, the expansion of Dublin Port by infilling the sea in the way the Port of Copenhagen has done in the Oresund is not an option for Dublin.

Finally, there is no brownfield site available on the east coast of Ireland equivalent to the redundant Vuosaari shipyard which could be redeveloped to allow the relocation of cargo handling activities from Dublin Port as happened in Helsinki.



PORT OF BILBAO

© Google Earth

Port expansion and development options are limited everywhere by geography. They are also constrained by the same environmental laws which are paramount in decision making by planning authorities throughout Europe.

Local geography is the decisive factor that has determined the nature and scale of port developments in all of the ports of Rotterdam, Copenhagen, Genoa, Barcelona, Helsinki, Bilbao and Dublin.

By comparing what has happened in other European port cities, it is clear that the proposed movement of the cargo handling activities in Dublin Port to a new port built on a greenfield site would be an unusual development. There is no good reason or precedent for Ireland undertaking a uniquely challenging, environmentally impactful and enormously expensive megaproject to build a new port for Dublin.

Having looked at what lessons can be learned from other European port cities, a look back at how Dublin Port developed over the past three centuries also provides useful insights as we consider options for Dublin Port’s future development.