

# The new era of mega-ports



Olaf Merk, Administrator Ports and Shipping,  
the International Transport Forum (ITF) at the Organisation for  
Economic Cooperation and Development (OECD), Paris, France

Ports have been ever-present throughout human civilisation, yet only in recent times have we witnessed the emergence of mega-ports. Mega-ports can be considered truly indispensable nodes of the current globalised economic system. But what are mega-ports, who needs them, how does a port become one of them, and should we be glad about them; these are the questions that this paper seeks to address.

## What is a mega-port?

There are three dimensions to a mega-port: the cargo volume it handles, the economic value it represents, and the land and water surface it utilises. Therefore, a mega-port can be 'mega' because of large throughput, economic force or sheer physical size. These dimensions can go together, but do not necessarily. For example, there are ports that handle a lot of cargo but do not generate that much economic value, because they do not have trade clusters (such as Singapore), industrial estates (such as Rotterdam) or thriving waterfronts (such as Barcelona) connected to the port. A mega-port has the power to contribute up to a third of a regional economy.

There is a large variety in the size of port areas; some ports have large logistical and industrial areas integrated in or connected to a port, and some mega-ports take up to a third of the land surface of the city they are serving. I would suggest that only the ports that combine these three characteristics could be considered true mega-ports.

## Who needs mega-ports?

The development of a mega-port is driven by three forces: mega-ships, mega-cities and the facilitation of a globalised economic model. Ever-larger ship size naturally implies larger terminals and ports as quays need to be longer and yards need to be bigger to accommodate larger

ships. Moreover, economies of scale on the shipping side only make sense if port time is reduced, so larger ship size has meant the concentration of cargo in fewer ports. This means big ports get bigger, while smaller ports decline in mass. Mega-ships have also led to consolidation in the shipping sector which has in turn fuelled port concentration. The contemporary trend towards intensified collaboration via alliances in container shipping will lead to winners and losers in the ports sector.

Another important factor is urbanisation and the emergence of mega-cities. This means that more cargo movements are concentrated in and around urban centres, therefore activity is becoming less scattered around the coastline. Urbanisation will continue at a rapid pace, especially in emerging economies, and this will result in mega-cities needing mega-ports to cater for their needs.

This creates a special challenge: ports need to be close to mega-cities to minimise land transport costs, but far enough from urban centres in order to be sustainable. All too often developing cities are constrained by an urban port that is no longer completely suitable for large ships but continues to occupy prime urban waterfront areas. Constructing a new mega-port can solve two problems at the same time – it liberates valuable urban land and gets a port site that is more suitable for large ships and efficient operations.

Over the last few decades spectacular trade growth has taken place which has fuelled maritime transport and port growth. This expansion of trade was built on a globalised economic model of outsourcing, global supply chains, and very cost-efficient maritime transport. Ports have been dubbed the 'frontline soldiers of globalisation', and in line with that metaphor, mega-ports are destined to be the command centres of globalisation, essential nodes and cores of decision-

making on the movement of global flows. One only has to review Hong Kong and Singapore's activities to witness this in action.

## How to become a mega-port

There are three key factors in establishing a mega-port:

### Planning

First and foremost, before anything else, a port authority must plan ahead. This means planners should have a clear strategic vision and be ahead of the curve. The 'curve' being competitors. Reservation of land to realise the predefined vision is vitally important as it allows planners to strike when the time is right without delay. In order to implement the construction of a mega-port, one must show dexterity and courage. It is essential to defy the traffic prognoses that everybody else uses without creating white elephants<sup>1</sup>, especially if there are concerns that the boom in intercontinental trade has come to an end.

### Innovation

The second key factor after planning is innovation. Mega-ports often mean mega-complexity considering the wide variety of clients and trade routes coming together in one dynamic space. Building a mega-port is building for the future, so a keen interest in questioning business-as-usual and applying new technologies and inventions to the port business is required. It is more than reasonable to be cynical regarding a mega-port's legitimacy if it does not have links to applied science and research and development.

### Interlinkages

The third key factor relates to the creation of interlinkages within the local economy. It is not just the mega-port that counts – it is what the mega-port means to the local economy, or - more often - the economy

<sup>1</sup>White elephant: a metaphor for a possession that is troublesome, especially one that is expensive to maintain or difficult to dispose of



### About the author

Olaf Merk is Administrator, Ports and Shipping, at the International Transport Forum (ITF) at the OECD. He has extensive experience in directing studies into ports, port-cities and port regulation and governance. He is the author of a number of OECD books, most notably 'The Impact of Mega-Ships' and 'The Competitiveness of Global Port-Cities'. He is a Lecturer at the Institute for Political Science in Paris. Prior to his role at the OECD, he worked for the Netherlands Ministry of Finance. He holds a Master's Degree in Political Science from the University of Amsterdam.

### About the organisation



The ITF at the OECD is an intergovernmental organisation with 57 member countries. It acts as a strategic think tank for Transport Policy and organises the Annual Summit of Ministers. The next summit will take place May 18-20, 2016 in Leipzig, Germany.

### Enquiries

ITF / OECD  
2, Rue Andre Pascal  
75775 Paris Cedex 16, France

Email: [olaf.merk@oecd.org](mailto:olaf.merk@oecd.org)  
Phone: +33 1 452 41 660

of the mega-city or the country it services. This means facilitating clusters, creating incentives for high value added sectors somehow related to the port, and being attractive to decision-makers.

There are not a lot of ports that have managed to pull off these three tricks at the same time. But it is not impossible, as the example of Singapore shows.

### Should we welcome mega-ports?

This depends - as always - on perspective. One can be against mega-ports because they imply the decline of smaller ports. Shipping lines might actually prefer a larger variety of slightly smaller ports so that they have more choice, or - to put it more bluntly - more possibility to play one port against another for rates. Mega-ports can also be environmental hotspots because they concentrate a lot of the negative impacts that can be associated with ports and shipping, so they bear a large responsibility to be cleaner and greener.

However, mega-ports are also great forces of progress. They are the arenas in which new ideas are tested and applied, and thus, where high-productivity can be attained. If planned well, mega-ports

can be real, driving economic engines. As alluded to earlier, because of the added focus on mega-ports, they are actually often the greenest ports, as size justifies massive green investments.

### Conclusion

Recent decades have seen the emergence of mega-ports; ports that are gigantic in terms of cargo, economic value and the land (and sea) surface that they represent. The port sector is facing larger ships and larger cities as globalisation advances, and mega-ports are the logical response to this.

Yet this is only just the beginning. Trade growth might have flattened, but there will be more mega-ports in the years to come, and even more effort to achieve mega-port status from authorities around the world. Not all of these efforts will be successful. Success is grounded in meticulous planning, a sincere interest in innovation, and the creation of links within the local economy. These factors must be harmonised to ensure success.

A mega-port development can be a force for good, as long as we are prepared to get the most out of them as a collective. Sound ports policies are - more than ever before in history - of huge importance.