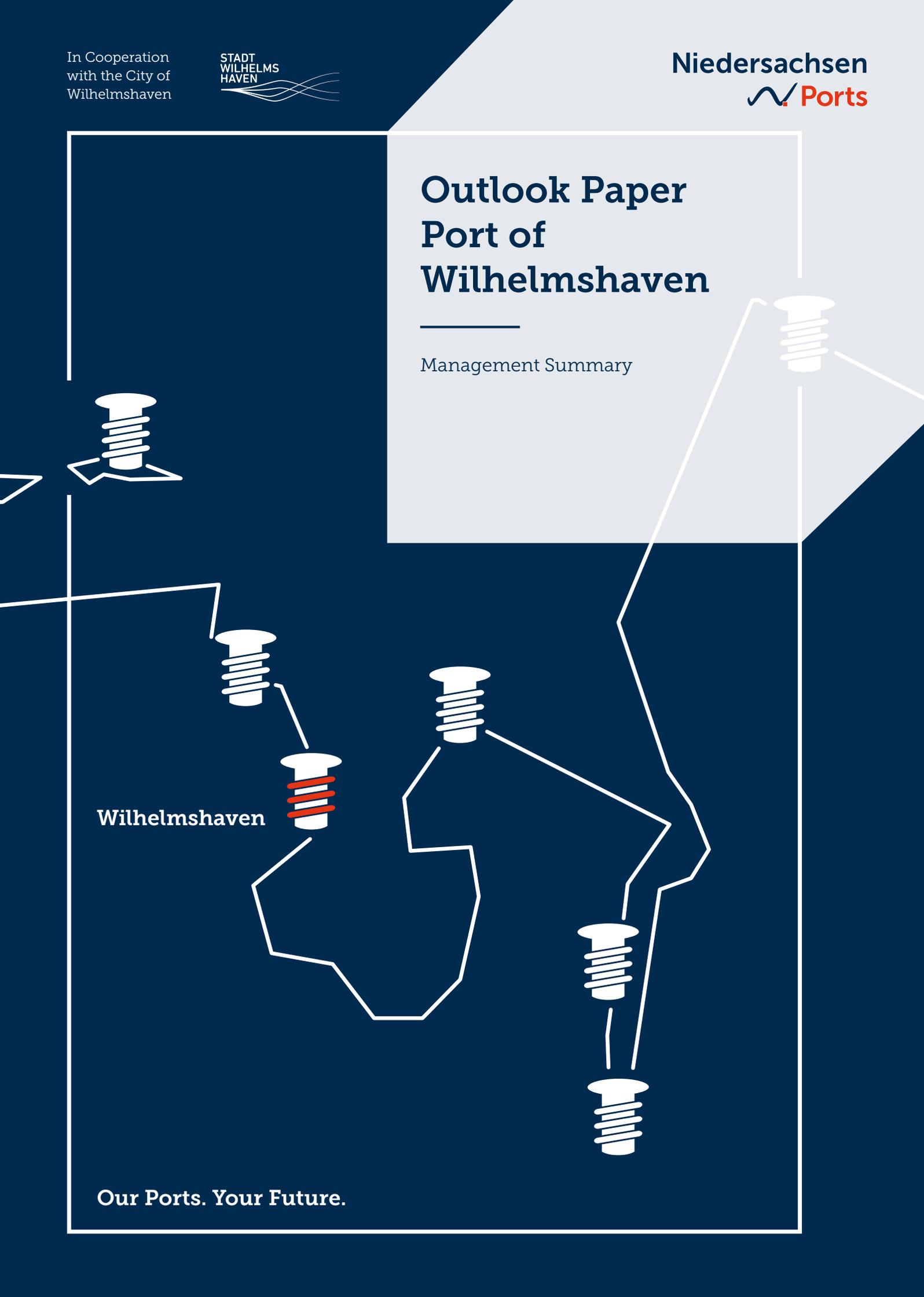


Outlook Paper Port of Wilhelmshaven

Management Summary

Wilhelmshaven

Our Ports. Your Future.



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Management Summary

Wilhelmshaven, originally founded as a naval port, is nowadays one of the largest German sea ports. This port is of great significance for the German oil import. Some 80% of the oil transshipments in German ports, and nearly 30% of German oil imports are handled via Wilhelmshaven. In addition, over 3 million metric tons of coal are currently handled here every year, as well as chemicals and a number of other goods. After some initial start-up difficulties, the container handling is now gaining more and more traction and importance at the new JadeWeserPort, and for the past few years, there has been some notable activity in the area of offshore installation and offshore services.

The economic significance of the port for the city is great. Aside from the functions cargo handling and storage, there are number of businesses that have settled in the immediate vicinity of the port. It is estimated that some 4,000 employees, i.e. close to 15% of the entire workforce of Wilhelmshaven, can be attributed to the port and its environment. In addition, there are the regional economic effects of the Navy, which employs in the area of the Arsenal Port and at the new Offshore Terminal some 9,500 soldiers and civilian workers.

For this reason, the maintenance of the port and its competitiveness is of great importance for the City of Wilhelmshaven and the region at large, but also for the State of Niedersachsen. To this end it is important to preserve and expand the necessary infrastructures in a demand-oriented manner. Port-relevant infrastructure is cost-intensive, durable and must be integrated into the urban landscape under consideration of multi-faceted nautical, economic, traffic-related, legal, environmental, and social conditions and aspects. This also includes the urban planning aspects as they pertain to residential areas and to the maritime tourism, which is becoming increasingly important for the city. Accordingly, for the long-term infrastructure planning in and around the port,

a corresponding port development plan (HEP/PDP) is required.

After an initial phase, in which a first short- to mid-term port development concept has been created, the purpose of this outlook paper at hand is the preparation of a mid- to long-term contemplation (ca. 5 to 25 years) of the port development that results in a port development plan and thus the planning of future infrastructure in the port and port hinterland. Since port development has always a bit to do with the creation or modification of infrastructure, it is important to recognize at an early stage any corresponding needs and to set the right course, in order to initiate the appropriate planning and approval procedures that - in our experience - tend to be tedious.



Cargo Handling Volumes – Today

In 2014, the Port of Wilhelmshaven achieved a total cargo handling volume of 24.2 million metric tons.

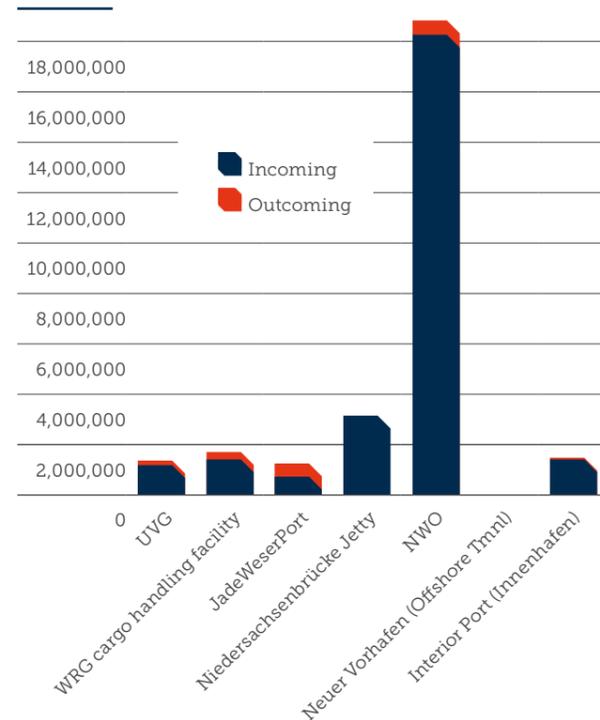
This import-heavy port is vastly dominated by imports and other incoming cargo flows, which make up 96.5% of all cargo handling.

Some 97% of the entire cargo handling volume is transhipped in the area of the Außenhafen (Outer Port), and of this share, the vast majority (more than

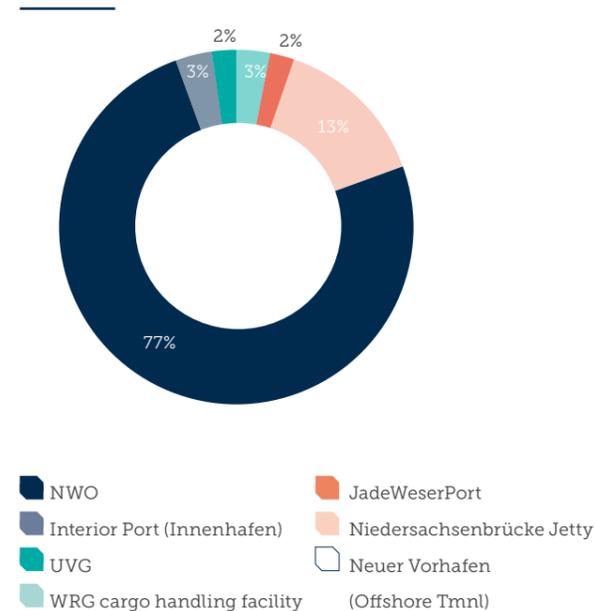
18 million metric tons) is moved via the North-West Oil Pipeline system. With the strengthening of the cargo handling at JadeWeserPort since 2015, an increased focus on the Außenhafen is expected now and for the future, even though the importance of oil may be relatively less pronounced in the future, due to the increased volume in container handling.

Total Handling Port of Wilhelmshaven 2014

Port Sections in metric tons



Port Sections in %



Source: ISL/CPL, based on NPorts Data from 2015

Cargo Handling Volumes – Forecast

Building on the estimates of the Transport Interdependencies Forecast 2030 as the basis for the Federal Transport Infrastructure Plan and the ISL's forecast for the potential development of container handling within the scope of the investigations in relation to the second expansion phase of the JadeWeserPort, the potential of the Wilhelmshaven ports was derived as follows (see also table below): The entire transshipment volume of the port therefore has a potential for some 83 million tons in the year 2030. On the basis of a current volume of 24.2 million metric tons, this corresponds to an annual growth of around 8%. This growth is characterized by the expected capacity utilization of the JadeWeserPort container terminal, which, due to the weak base year 2014, leads to a growth rate of over 30% per annum. The currently dominant bulk goods are growing significantly slower.

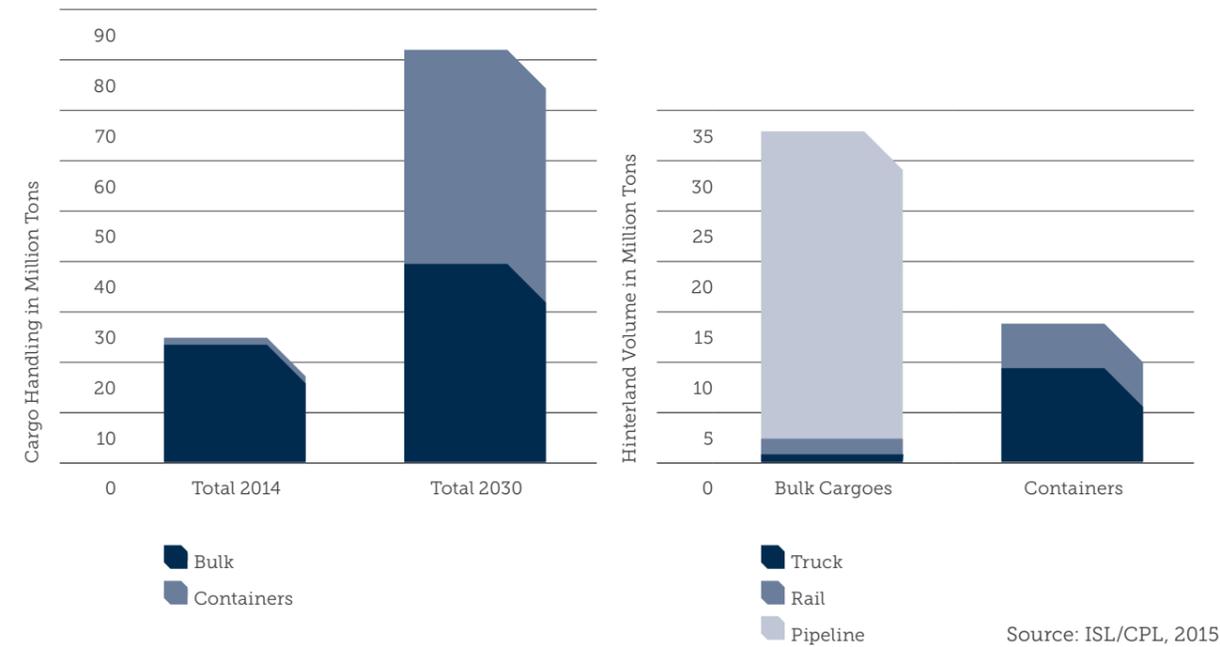
This segment can expect an annual increase of 3.3%. With largely stable quantities in the area of construction materials and chemicals, as well as minor increases in the import of petroleum products, such growth primarily stems from increases in the (import) handling and transshipment of coal and from taking on a new cargo handling commodity, namely liquefied natural gas (LNG), that accounts for 10.5 million tons. At this point, it should be noted that these totals represent an overall optimistic approach and that there is a risk that potentials that were taken into account (such as increases in coal and LNG) may not be realized in full. Even if there is an increase in the outgoing transports due to increased container handling in the near future (caused by exports, but also by transshipments), the dominance of the incoming quantities in Wilhelmshaven will prevail until 2030 and beyond.

Total Cargo Handling Potential of the Port of Wilhelmshaven in 2030 and Modal Split (1,000 metric tons)

Total Potential In 1,000 tons	2014 Total Current	2030 Total Potential	Prod/Cons at Trans-ship Point	Sea Transit	Hinterland Modes of Transportation			
					Truck	Rail	Barge	Pipeline
Bulk cargoes	23,637	39,590	3,644	2,880	689	2,633	0	29,729
Break Bulk	29	62	0	0	60	0	0	0
Containers	541	43,376	0	29,170	9,442	4,764	0	0
Total	24,208	83,028	3,644	32,050	10,190	7,397	0	29,729
Thereof: Sea Incoming	23,380	59,738	3,564	16,015	5,429	4,973	0	29,729
Sea Outgoing	827	23,291	80	16,018	4,761	2,424	0	0

Source: ISL/CPL, 2015

Cargo Handling Potentials and Hinterland Modal Split in the Year 2030 (million metric tons)



Virtually all significant potential is regarding the Outer Port. The handling of construction material, currently located in the Interior Port, is stable (there is an option to shift location to the Outer Port area - see page 9). The same applies to the break bulk segment. This also means that overall, the importance of the Interior Port as transshipment spot for goods will decrease within the holistic context of a likely

continually growing Port of Wilhelmshaven. On the other hand, port business activities with a good value added and revenue potential are conceivable, even without larger cargo handling volumes. This goes especially for the offshore service segment. The berth and development areas of the Interior Port are of particular interest in this scenario.

Options for Action and Perspectives

The following crucial options for action and perspectives for the port development by 2030 were identified for the areas port infrastructure and capacities, hinterland and synergy potentials:

Port Infrastructure and Capacities

- › Implementation of the second expansion stage of the JadeWeserPort by 2025/26
- › Continuous dialog with DTfG with the objective of an investment in an LNG terminal at the Voslapper Groden by 2030
- › Consolidation of mixing plants in the area Rüsterei (provided that it is feasible and in consideration of the noise quotas)
- › No expansion of the commercial port activities related to cargo handling in the Handelshafen (Commercial Port) area, but rather concentration on maritime services, water tourism, etc. Preservation of commercial and industrial sites for the already established companies within the Handelshafen, relating to accessibility and planning reliability
- › Construction of additional dock capacities at the Interior Port
- › The development of Sluice Island for settlements in the area of offshore services, including extension of the quay from Jade-Dienst towards the port gate.
- › Demand-oriented development of the Heppenser Groden with a connection to the Interior Port via a heavy load track

Hinterland Connections

- › Continue to bring up the urgency of the rail hinterland projects, railway electrification for the route Wilhelmshaven-Oldenburg, and the upgrade of the rail corridor Oldenburg-Osnabrück for freight train transport with the state and federal government and the German Railway DB.
- › No implementation of the North Track, if the consolidation of the mixing plants in Rüsterei gets realized (see left-hand side) that were identified as major users of a rail siding in the Interior Port
- › Implementation of the port gate bridge as a prerequisite for the development of Sluice Island
- › No re-opening of Entrance I until 2030

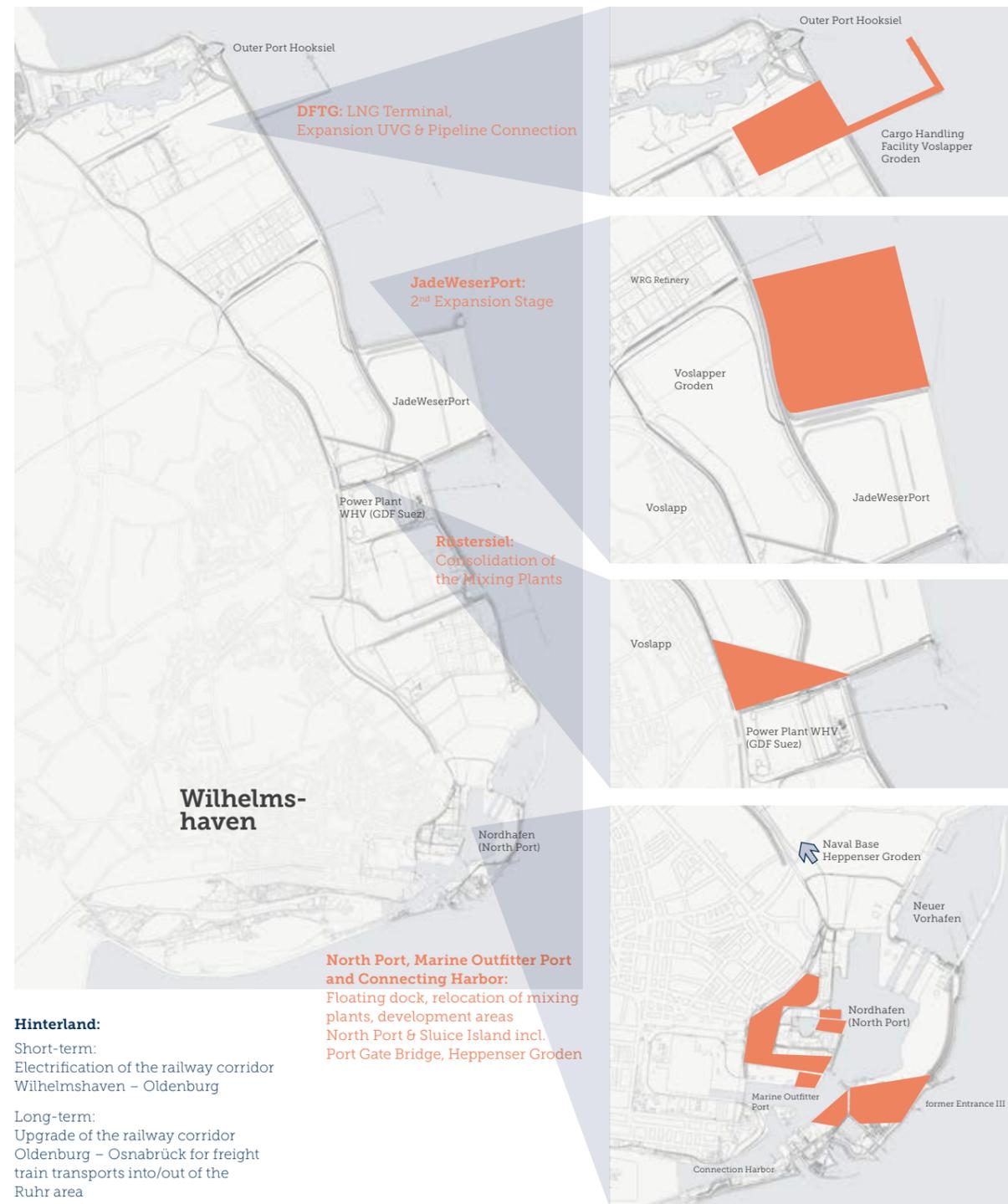
Additional Perspective Development Opportunities

- › Supra-corporate coordination of maintenance dredging in the Außenhafen (Outer Port)
- › Initialization of a coordinated dialog process with the aim of developing a common plant fire department for the Außenhafen.

Vision Port of Wilhelmshaven 2030

This results in the following vision for the Port of Wilhelmshaven in 2030, which shows the key development priorities for the coming 15 years.

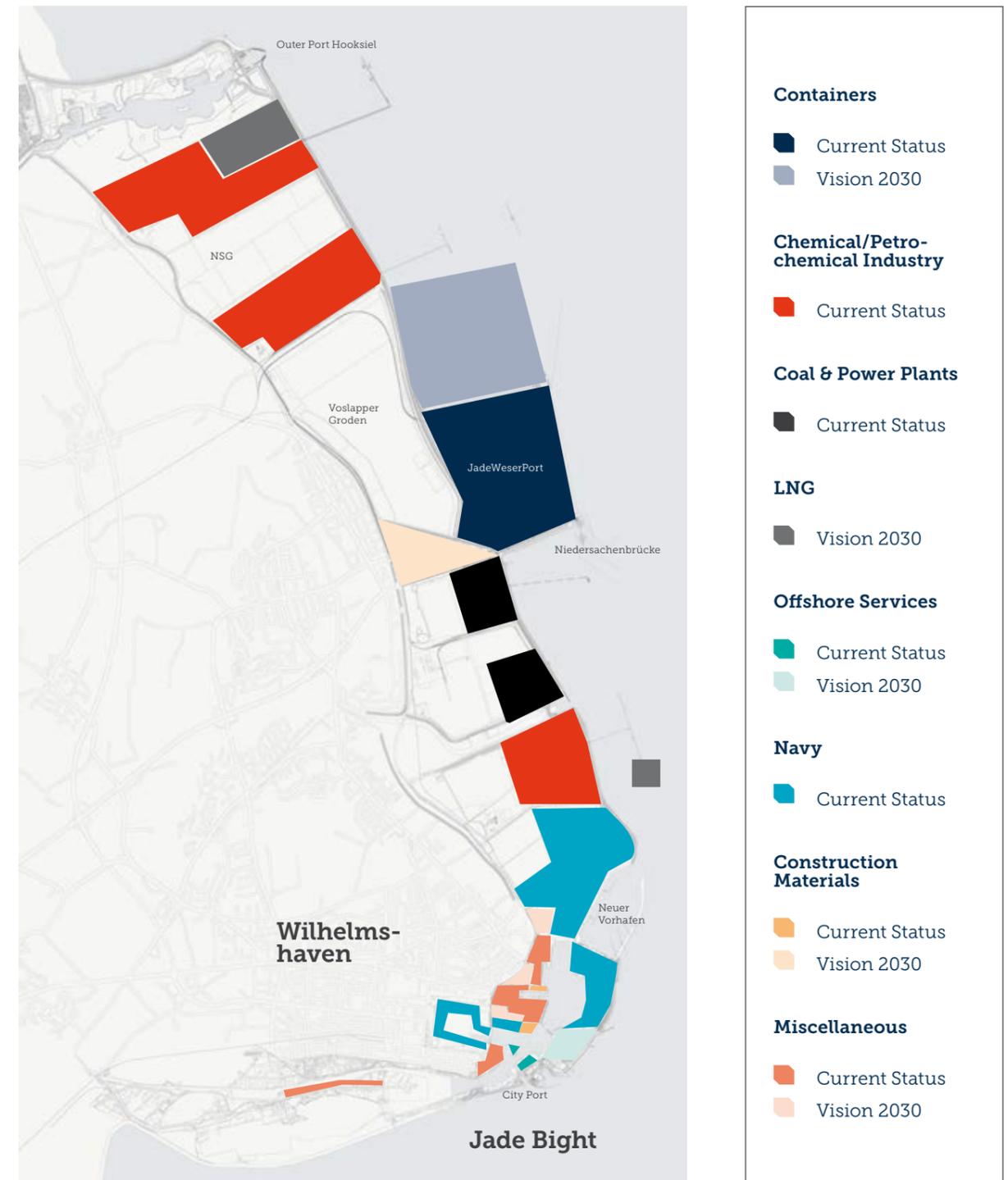
Development Priorities by 2030



Source: ISL/CPL, 2015

This results in the following image as a vision for the Port of Wilhelmshaven, according to the most important commodities.

Focal Points of Development until 2030 by Commodity.



Source: ISL/CPL, 2015

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