MARCH 2023 VOL 1023 ISSUE 2

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PORT FEEDER BARGE ON HOLD

Dr. Ulrich Malchow, the driving force behind the development of the innovative Port Feeder Barge system, highlights its attributes and the politics which have prevented its introduction in Hamburg

The port of Hamburg, which has been experiencing stagnating throughputs of 8 to 9 Mill TEU for more than two decades now, was intended to be the first beneficiary of the Port Feeder Barge (PFB) but a 'roadblock' appeared to prevent the system's adoption.

Around a quarter of Hamburg's throughput is being hauled within the port area before being loaded or after being discharged – 95 per cent of this volume by truck, although many of the facilities at both origin and destination have water access. This causes much congestion at the terminal gates and on the roads, especially on the ailing Köhlbrand bridge which represents a critical bottleneck between the eastern and western part of the port. It is also significant to note the CO2 emissions generated by the intra-port road haulage of around two million TEU annually.

The PFB is an innovative self-propelled and self-sustained container pontoon of 168TEU capacity. Its onboard container crane can handle all container seizes and weights and is equipped with a telescopic spreader of the type used with mobile harbour cranes. The crane makes the barge independent from the availability of quay side cranes and at the same time offers lower cost handling compared to the big STS cranes employed at ocean terminals.

This new type of harbour vessel, for which patents have been granted, even in China, is versatile in that it can be fuelled with LNG, methanol, hydrogen or even batteries, whatever is the preferred option to decarbonise intra-port container logistics.

HERO TO ZERO

When introduced more than a decade ago the idea of the PFB, developed by Hamburg based naval architect Dr Ulrich Malchow, was well received by Hamburg's entire harbour community. All local terminals supported the idea and signed despatch agreements for handling boxes employing the PFB (i.e. refraining from the use of their own cranes). Local politicians also supported the idea. Without exception all political parties of the Hamburg Parliament supported the concept. Even the dockers union gave its consent by signing an agreement regarding the wage of the PFB's crane operator. The general assumption was that the realisation of the PFB concept would be a 'no-brainer'.

Unfortunately, just the opposite has transpired. HHLA (the state controlled and dominant terminal operator in Hamburg), which had already given its consent to use of the system, suddenly reversed this decision by terminating the despatch agreement for the PFB. Some years later, under some political pressure, the formal consent for PFB's self-sustained cargo handling was given again. However, extra charges were implemented for each call of the PFB at HHLA facilities, which none of the other hinterland modes has to pay and which make the PFB uneconomical to operate as it has to compete with the low rates of road haulage in general. Use of the system and the resulting environmental benefits has, therefore, effectively been blocked by HHLA.

Instead of supporting practical proven concepts to improve intra-port container logistics HHLA has pursued what some might call science fiction projects. Angela Titzrath, HHLA's Chairwoman, personally announced that HHHLA was to investigate whether containers can be transported by air within the port by drones. In the same vein, in 2018 HHLA began working with Hyperloop TT, a US-based research and development company, on the so-called Hyper Port project which aims to use high-speed capsules to transport containers in vacuum tubes between ports and inland destinations. The ultimate merit of these projects is reflected in the fact that they have silently disappeared from HHLA's development agenda after costing millions of Euros.

The Port Feeder Barge comprises a self-propelled and self-sustained container pontoon of 168TEU capacity with an onboard container crane offering low-cost container handling

> **Instead of supporting practical proven concepts to improve intra-port container logistics, HHLA has pursued what some might call science fiction projects**

In 2022 the Mayor of Hamburg declared the objective of making the port of Hamburg the most sustainable in the world. In parallel, also a general traffic transition was proclaimed by the local government aiming at significantly reducing carbon intensive road traffic.

Sadly, while HHLA is 69 per-cent owned by the state of Hamburg, such advice from its major shareholder has not yet signalled that HHLA is open to exploiting more practical concepts like the PFB. In contrast, the port of Rotterdam stands out as the port in the northern European port range which recognises the importance and benefits accruing from environmentally friendly and efficient intra-port container logistics.