

The quay to success

by Przemysław Myszka

The 2023 season of BTJ Trips set out to a wonderful start in the second half of April. Upon the invitation from the Port of Norrköping, I had the opportunity to personally witness how the Swedish port is developing to firmly shake hands with the future. First and foremost, the visit was about Norrköping's prime investment, the addition of a new 220 m long and 14.2 m deep quay to the port's container facility in the Pampus Terminal, plus a further 40k m² of yard to accommodate the expected increase in containerised freight traffic. That said, there is plenty more in store across what continues to be one of Sweden's top logistics nodes.



Photos: Przemysław Myszka

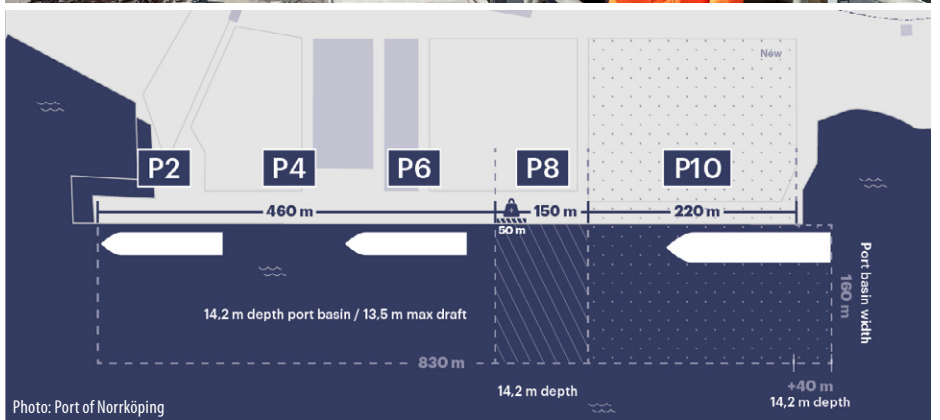


Photo: Port of Norrköping

After planning and obtaining the necessary permits (with the August 2018 green light from the land and environment court), the building of the new quay began in 2019 with clearing works (some 40kt of soil) to make room for construction and its logistics. Dredging (1.0m m³) by the Finnish Wasa Dredging followed suit in November of that year, and its chief portion was already done by April 2020. The contractor, Peab, began their work by excavating some 150k m³ of soil as well as blasting 180k m³ of rocks, after which erecting the quay got underway – in the direction of the existing container handling facility towards the Kardon Bridge.

Interestingly, the materials needed for 'making Sweden a bit larger' with the new quay were found in the nearest vicinity. A small hill was swept away. However, the area wasn't

left as a hole in the ground: the port authority decided to organise it into an open-air paved surface logistics yard (70-80k m²) for future use (during the visit, lighting masts were put together there, and bulk bags with industrial salt were deposited) and also a possible future upgrade with rail access. This way, Norrköping fed many birds with one scone: it used close-at-hand resources, thus avoiding heavy-duty truck traffic that would otherwise be necessary to carry the quay's 'filling' and added new logistics capacity. Additionally, refuse was collected across the construction area: metal for recycling and wood for co-generation.

Peab representatives at the site said the project is going according to the plan, even though they encountered a few challenges. As the works began in 2019, they had to weather down the coronavirus pandemic, which, all told, mostly impacted overseas deliveries

(e.g., equipment like fenders from Asia), not necessarily on-the-spot operations. The Russian aggression against Ukraine and inflation have brought a more noticeable overcast, primarily regarding energy and material costs. That said, these didn't blow up the budget or the timetable. The company's engineers had one additional hard nut to crack: dealing with the somewhat unstable seabed. Securing the new quay's stability was dealt with by drilling the pillars deeper and reinforcing the infrastructure with beams, plates and rebars (a standard procedure, though it required little extra hustle).

A 'breach' could also be seen between the existing quay and the future one. This 45-60 m intersection will be rebuilt (and dredged from 10.3 m) with a higher ground load-bearing capacity of 10t/m², so it could be utilised for handling heavy goods, with project cargo being the one that pops up into mind in the



Photo: Przemysław Myska



Photos: Port of Norrköping



first instance (with Siemens Energy and Hitachi Energy as important customers). Also, this mid-berth will be crucial for transferring the two ship-to-shore gantries (with a specialist team from Liebherr's Container Cranes division coming from Ireland to help with the relocation).

The new quay will also get additional equipment: a twin-lift crane capable of serving 17-row-wide container carriers (the current are 13-row). Overall, the lengthened quay has been designed to efficiently serve feeder vessels. The new quay will also be ready to add an installation for providing ships with an onshore power supply.

The new infrastructure began serving vessels this summer, with Unifeeder's *Judith* making the inaugural call. **The port authority has prepared an impressive time-lapse film that documents the 2020-2023 construction works.** Meanwhile, Norrköping was added to MSC's Baltic Loop 11 (which whose vessel can also be seen in the movie berthing at the new quay). The Swedish port is now part of the sea container service that connects the region's Tallinn, Lübeck, and Åhus with Antwerp.

Sweden and the world – connected

While full of boxes – with over 100k over-the-quay TEUs in 2022, making Norrköping Sweden's fourth biggest container port – the Pampus Terminal is bustling with other cargo handling activities. The present almost 400k m² area offers 38k m² of roofed storage capacity, plus the new 40k m² container yard. The warehouses I saw during the visit were packed full of forest & paper products. The Swedish industries producing these goods are busy with overseas deliveries, chiefly to the US (as a case in point, one of Saga Welco's vessels was berthed there, taking in cargo – some 25-30k m³/month this year).

Just outside Norrköping lies Holmen's Braviken paper- and sawmill, the latter being Scandinavia's largest. Among others, the company recently added to it a new impregnation plant, fully automated and expected to deliver about 60k m³/year of wood products. Next, Holmen will invest SEK450m (about €40m) in rebuilding a paper machine at Braviken Paper Mill by autumn of next year. The rebuilding will broaden the product range for book paper while enabling Holmen to

efficiently increase the production of fluting for use in the centre layer of corrugated boxes (read: more cargo for the port).

In Skärblacka, also a stone's throw from Norrköping and its port, Billerud, a global packaging heavyweight, produces white machine glazed kraft paper, brown sack paper, and fluting (overall, some 460kt/year of output). The facility also houses two laboratories with expertise in developing packaging for food and medical products – two commodities that require excellent warehousing and handling capacities in terms of cleanliness, something that the Port of Norrköping is more than obliged to provide as I saw inside one of the roofed storages, with stevedores running forklifts that carry paper rolls of all sizes (some of them needing additional protection wrapping, a value-added service available on the spot).

Fiskeby, founded in 1637 as one of Europe's first paper manufacturers and nowadays one of the leading packaging board producers, is also seated in Norrköping. Today, the company prides itself on being the only one in Scandinavia to manufacture packaging boards (180kt/year) made of 100% recovered fibre (which consumes



Photo: Przemysław Myszk



Photo: Przemysław Myszk



Photo: Holmen



Photo: Holmen



Photo: PostNord TPL

40% less energy than virgin fibre). Fiskeby is also actively greening its transport operations. Among others, the Alfredsson Transport haulier is 100% trucking Fiskeby's products within Norrköping using e-lorries running on green electricity. This solution not only eliminates CO₂ emissions but also significantly reduces noise caused by heavy road traffic. "This is absolutely state-of-the-art technology and the most lenient for nature, people and the city of Norrköping. The flow is big for us, and we expect to move around 1,000 tonnes of cardboard every week completely emission-free, which we are very proud of," underlined Erik Lundh, Fiskeby's Head of Logistics.

Rusta, a Swedish DIY and home renovation & decor major with 200 stores, is another

establishment that keeps goods flowing through Norrköping. In 2021, the company added 68k m² to its already 117k m² central warehouse in the area.

Stadium, Sweden's largest sports equipment retailer, is headquartered in Norrköping, where its main warehouse is also situated. Through it, the company feeds its 170 stores. But first, Stadium needs to import its merchandise from Asia (China, Vietnam, Indonesia, Bangladesh, and Thailand – a total of 20 export ports, with Xiamen topping the list) – and does so via sea to Norrköping.

In the middle of writing this article, the third-party logistics arm of PostNord, a provider of postal services in the Nordics, shared that it will set up a brand-new warehouse in Norrköping.

The 62.5k m² facility will be commissioned in April next year, adding around 50 jobs to its already 400-strong workforce. "The new warehouse isn't only important to us but also to the entire region of Norrköping. It means growth for our business and possibilities for local companies and workers. We can now offer new customers a flexible warehousing solution that will meet future requirements for automation, environmental certification, and energy efficiency. Norrköping's geographical location gives us advantages in attracting new clients and expanding existing cooperation, like the one with Stadium," Daniel Eriksson, Regional Manager, PostNord TPL, highlighted. The company also underlined in its press release, "Norrköping offers good conditions



Photo: Lantmännen

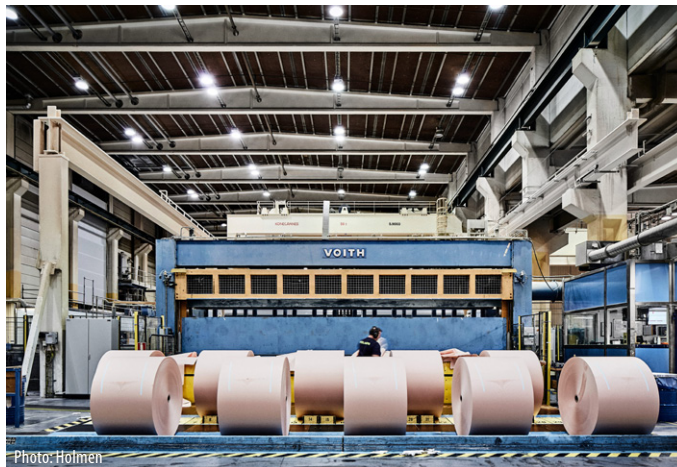


Photo: Holmen

for effective logistics for companies with customers in Sweden and throughout the Nordic region. The city's strategic localisation with well-established rail, air, sea and road connections, as well as the vicinity to goods flow between Gothenburg and Malmö and the region of Stockholm, make it an ideal place for logistics companies." Furthermore, PostNord TPL intends to turn its new facility in Norrköping into a reference model for those thinking about expanding their third-party logistics (not least in creating an employee-friendly working environment).

Being a universal port, Norrköping also trades in goods other than containerised freight. Just next to Pampus sits the Energy Terminal. This area offers three jetties and 800kt of storage space for oil products, acting mainly as a fuel depot (there is also a cavern in another part of the port). That is why the Russian aggression against Ukraine didn't negatively impact the port's liquid bulk turnover in 2022 (which, with 1.14mt, was close to 2021's result). That said, Norrköping is also looking at securing new liquid bulk volumes, with liquid carbon dioxide being the latest addition here (CO₂ was a waste by-product in the past; now, it can be used as, e.g., protein feed).

Lantmännen, a Swedish agricultural cooperative, has an ethanol factory on

Händelö, the part of Norrköping where the Pampus and Energy terminals are located. In 2021, the organisation announced a SEK800m investment (€71m) in a grain-based biorefinery in Norrköping (for the separation of gluten), with operations up & running as of 10 May 2023. Lantmännen's output from Händelö lands on the Swedish and international markets (read: again, more freight flows). On the way to the 14.9 m deep fairway and 100 m wide port access in & out of Norrköping lies Djurön ("the animal island" in Swedish), where the cooperative runs one of Sweden's biggest export grain storage & handling terminals (250kt/year of capacity and capable of serving ships that can take up to 60kt).

Billerud, Holmen, Rusta, Stadium, Fiskeby, PostNord and Lantmännen, as well as the also present in the port Yara, Cementa, Omya and Kemira, are just a few examples of how the port is expanding hand-in-hand with its customers. It serves them and others on a multimodal, user-friendly base, with containers, trains, and trucks loaded and unloaded in and outside the warehouses as per the customer demand.

Existing operations: from strong to stronger

Closer to the city centre, the Öhman Terminal is situated, where primarily

break-bulk is handled (here, too, salt in big bags was abundant) but also dry bulk and project cargo (e.g., wind turbine components for Siemens Energy AB – Norrköping T). The 180k m² place (including 30k m² of warehousing space) offers 500 m of quay wall.

A short time ago, the Port of Norrköping reinforced Öhman's freight handling capabilities with three 50t lifting capacity rail-mounted quay cranes of the Mantsinen 120 model (as part of a SEK100m, €8.8m, investment programme). The move from the old Inner Port (2021-2022) to other parts of the port, including



Photos: Przemysław Myszk

Öhman, saw a 30% increase in bulk handling. Apart from taking care of cargo, the Port of Norrköping is also busy implementing a new stormwater system in Öhman.

Over the Motala River and vis-a-vis the Öhman Terminal's main gate lies the rail-connected berth no. 38, where Sweden's strongest 350t lifting capacity crane is used for taking care of weighty goods (e.g., factory equipment and machines for, a.o., Hitachi's transformer manufacturing plant).

Taken together, these 6,000 m-quay wall-long terminals handling 1,000+ vessels/year feed Norrköping with a steady stream of almost 4.0mt/year, with general cargo leading the chart (1.69mt last year), followed by liquid (1.14mt) and dry bulk (906kt). The export/import ratio is more or less on par. Some 110-120k TEUs/year pass Norrköping's quays, with a very high utilisation rate of every nine in ten containers going out or coming in laden. With its clients' and own investments, the Swedish port intends to take care of noticeably more in the future.

The linking

The Port of Norrköping's Pampus Terminal offers six tracks for trains up to 610 m in length (two dedicated to intermodal services and the other for wagon loads, of which one directly goes into a warehouse). On 1 February 2021, the 7.0 km-long electrified rail stretch, better known as the Kardon Railway, directly connected the port to Sweden's Southern Main Line. This investment allowed diverting rail freight traffic away from the city centre. It also enabled other improvements that will become a reality in the near future, such as erecting a new shunting yard closer to the Pampus Terminal – in place of the current one located within the city.

The port counts on a silver lining to the

Covid-19 pandemic, namely that people increasingly notice the need for remodelling logistics towards greater resilience and sustainability. That move would bring about a shift from road transportation, which is burdened by driver shortage, onto unaccompanied rail traffic. However, the two stumbling blocks are fear of change and lack of coordination. Here, the Port of Norrköping helped one nearby importer solve its logistical problem. Their European suppliers sent their trucks when the company needed them the least, congesting their warehouse and the city's parking lots. The port turned the company's attention to intermodal, bringing the cargo flow into the port. Local hauliers could then pick up the cargo units for the last-mile prompt delivery.

The old-new

The container terminal upgrade and bettering the rail offering weren't done only to improve the port's logistics standing but also to make way for city development. The Inner Port has already been emptied, meaning no more cargo handling operations take place there, to give space for the... Inner Port.

It will be a brand-new residential area (3,000 dwellings) with various amenities such as restaurants, shops, and other meeting places. "It is a challenging construction environment; foundation laying is costly. But our ambition is for this place to become an attractive district for the whole of Norrköping," Lars Löfgren, Head of Marketing at Hyresbostäder, the Inner Port real estate developer, said.

It is a trend seen throughout Sweden in particular and the Baltic in general. In Norrköping, it is carried out on a win-win basis: the municipality, which owns the port,

will have a new waterfront neighbourhood, plus an upgraded terminal whose heavy-duty operations will be out of citizens' way (though it is precisely their port that enables so many things: from overseas imports to catalysing growth of enterprises that provide job opportunities).

The future harvest – now

The Port of Norrköping is also part of Logistikia, a cluster gathering various players from the Östergötland region. The initiative is tasked with helping its members venture forth a sustainable and emission-free future. Just after the visit, Logistikia organised a meeting on charging electric vehicles (as an increasing number of heavy-duty e-trucks are hitting Swedish roads).

The port authority also partook in the SHREK project on the circular economy (ended in May 2023), exploring how this transition can influence its business, e.g., whether it will direct new types of goods for handling to its terminals. Sweden becoming more circular can result in new opportunities, a.o., what was burned to generate electricity and heat in the past will perhaps find a 'second life' thanks to some new recycling technology. If so, it might as well put new demands on handling it. Sharing such insights with port users will help better shape future circular logistics.

Meanwhile, another 'waste' that will become a resource in Norrköping will be the roofs of the port warehouses. The authority intends to furnish them with a photovoltaic system for harvesting solar energy.

Portkeeping

During the BTJ Trip 2023 \ Norrköping, I also had the chance to hear from the



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Photo: Susanne Mannerstam/Port of Norrköping

port's representatives (and at the same time, lovely hosts): Magnus Grimhed, Marketing & Sales Manager, and Susanne Mannerstam, Marketing Manager, who supplied the details above as well as insights into the port's overall philosophy and developmental approach. "It is a high and low, nowhere to hide job," the two said smilingly. "We are on the frontline, facing the port customers and their needs directly. For us, this is vital: to be part of the decision-making process, helping others to pinpoint the optimal solution, logistics- and sustainability-wise. No run-of-the-mill customer centre on the other side of the globe will give you that," Grimhed underscored.

He continues, "What we are trying to achieve here rests on the principle of sustainability – in all its forms and shapes. The environmental aspect is paramount, of course, but there are also other facets: quality, safety & security, availability, and productivity. These foundations – this framework – are uncompromisable, and we act on these values when fulfilling customer requirements. Poor handling of containers that would, for instance, neglect workplace health and safety and be carried out when the stevedore 'feels like doing it' (in a sloppy manner for an added insult to injury) would be a surefire way of going down the failure lane. In a port, one always can find an abundance of excuses – harsh weather or ship delays, among others – for our clients to

view us differently from, say, a paper mill or a construction company. 'Ports are so special!' one could exclaim. Yet, from a commercial point of view, there are hardly any 'alibis.' People buy from us certain services and rightly demand us to follow through on our promises. That said, we also must be realistic – clients can significantly help us, too, with timely ship arrivals or properly stowed vessels being two vivid cases. Customer-focused communication is key in connecting the sustainability dots. It is highly beneficial for a port to move outside its fence and then look back – at what it can offer from a client perspective. Really, it isn't about them having, for example, break-bulk, but how we can help them handle it further down the road – along the logistics and value chains."

"The port business is a tricky and risky one," Grimhed went on. "You need to be proactive and, at times, enterprising. This industry isn't pure mathematics – you won't cypher out the risk, so it's entirely gone. It is the older-than-dirt chicken and egg situation, such as should I buy a crane first or should the shipping line start moving more cargo before? We risked the first option and were awarded more goods over our quays. We want to pull the same off with the modernised container terminal and the already improved and soon-to-be even better rail network. Ambitious steps led to developmental opportunities – for our partners and us."