



## **Request for information - Railway expansion in the New Port of Luleå**

*Financing, design and implementation of the development of the railway facility in the port of Luleå*

## Introduction letter from Luleå Hamn AB

**Luleå Hamn AB (The Company) invites a Request for Information (RFI) for the construction of the New Port of Luleå. We are requesting information on the construction of the railway expansion required to handle the expanded port operations in the port of Luleå as well as the design, construction, financing, operation and maintenance of these operations.**

In the coming years, Luleå municipality is expected to be at the centre of events for the green industrial transformation in Sweden and Europe. The announced investments in the production, among other things, of fossil-free steel, fertilizer and electro fuels are expected to contribute to a manifold increase in logistics flows and cargo volumes through the port of Luleå. The port of Luleå is therefore to be seen as a key enabler of the transition. To address this, the Company has been implementing the *Port of the Future* project for some time. This project has identified the needs of industry for the port and the infrastructure needed to handle future freight and logistics flows. The Company has identified a significant need for expansion at the Victoria Port, including the establishment of new bulk storage facilities, silos, all-weather terminals (AWT) and coil storage facilities. Furthermore, it has been identified that a major expansion of the port's rail facilities is required to handle the flow of goods to and from the port.

The port of Luleå currently handles almost 600 calls per year, with the equivalent of about 8 million tonnes of cargo consisting mainly of steel scrap, iron ore pellets, bentonite, dolomite and limestone. According to a study carried out, it is expected that by 2030 the port will need to be able to handle both increased volumes of current cargo types and new cargo types, such as significant quantities of coils. By 2030, the port is expected to handle nearly 2,500 calls and around 25-30 million tonnes of cargo. With this volume, the port of Luleå will become Sweden's second largest port in terms of tonnes. In addition, the vision is for the port to host one of the world's largest coil storage facilities.

Through this RFI (RFI 2), the Company wishes to supplement the existing study documentation with in-depth knowledge of railway expansion. However, it should be noted that this RFI is one of two RFIs covering the construction of the New Port of Luleå. This RFI concerns the management, expansion and adaptation of the port of Luleå's rail facility and the other RFI (RFI 1) concerns the management, expansion and adaptation of the port's logistics operations. The market is now being asked to propose implementation solutions and financing models. The aim of the information gathering is to gather new perspectives from the private market and to deepen the knowledge on how the expansion can be realised. The RFIs are therefore not a procurement exercise, but aim to build relationships with market players and tap into their expertise. This is to prepare for a possible future procurement in 2023 and a future construction of the New Port of Luleå.

Large infrastructure projects traditionally have a significant climate impact. It is therefore in the interest of the Company that new innovative and climate-smart options are presented. In addition to the sustainability aspect, the timeframe and flexibility of implementation is critical. The handling of the first fossil-free cargoes and increased volumes is already planned for the fourth quarter of 2025. Innovative approaches are therefore encouraged to ensure both resource and time efficient implementation. In addition, it has been announced that the new establishment of operations by several companies will take place in Luleå in the latter part of the 2020s. This has resulted in further interest in a flexible expansion of the port to handle additional cargo types and volumes without disrupting existing operations.



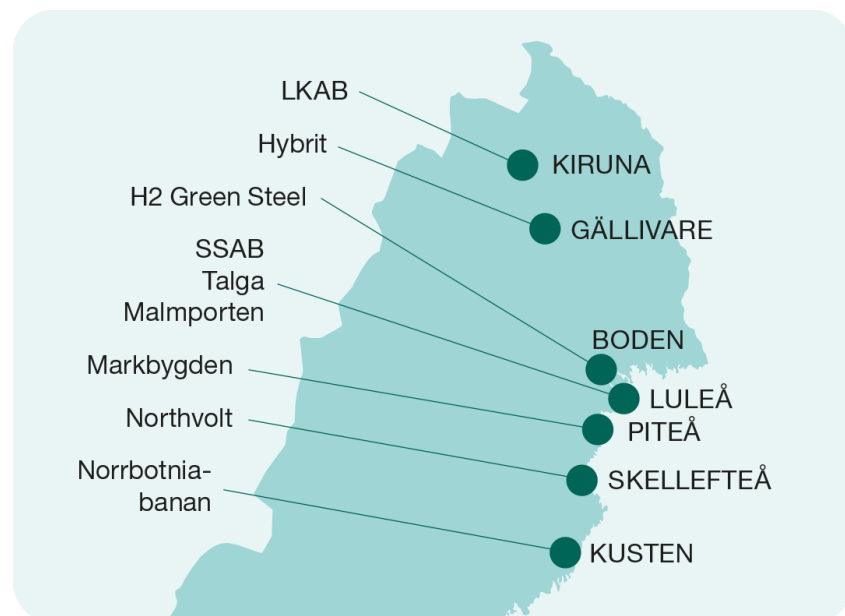
Anders Dahl, CEO Luleå Hamn AB

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## Background

Northern Sweden and the Norrbotten region have a long industrial tradition and account for 65% of Sweden's raw material exports. The region is now at the centre of a wave of green industrialisation, with a number of significant initiatives announced. In total, it is estimated that around SEK 1,100 billion will be invested in northern Sweden over the next 20 years. The significant investments mean that the population of Norrbotten and Västerbotten could increase by around 100,000 people over the next 15 years. The figure below (Figure 1) shows a number of examples of the significant investments that are currently taking place in northern Sweden.



*Figure 1. Examples of significant investments currently taking place in northern Sweden (Luleå Municipality, 2022)*

Luleå municipality is a central city in Region Norrbotten with about 80,000 inhabitants, and is well placed to become the centre of the green transition in Europe. In addition to the good supply of sustainable energy, it is home to one of Sweden's leading technical universities, an international airport, one of Sweden's largest ports, and rail and road connections. In addition, it affords good opportunities for a rich outdoor life, a creative and diversified cultural offer as well as good access to sports both on a general and elite level. The municipality has adopted a vision to be climate neutral by 2040.

To address current global climate challenges, a number of industries have announced several large investments in Luleå and the region. Luleå Municipality has worked proactively with existing and new companies, to create conditions for new green industries. This work has led to the recent announcement of several major investments in Luleå and in the region. For example, Fertiberia, H2 Green Steel, LKAB (ReeMAP), SSAB and Talga have announced planned investments and a letter of intent has been signed between Uniper Sweden, Luleå Energi and the Company for the production of, among other things, environmentally friendly ship fuel. In addition to these major investments, there are some 80 existing and new companies in Luleå working on establishment and expansion linked to green transformation and growth. The establishments in and around Luleå are expected to contribute to the creation of tens of thousands of new jobs, strengthen Sweden's competitiveness in sustainable innovative technology and

generate billions in export earnings. These establishments are therefore significant for the entire labour market region.

To enable the green transition, and for Luleå municipality to achieve its vision of being climate neutral by 2040, extensive investments are required in the coming years. The municipality, including the municipal companies, already has a large investment need and to cope with the population increase of about 20,000 inhabitants needed over the next 17 years, the investment need will increase further. The realisation of the investments, both in terms of infrastructure and business start-ups, is expected to contribute to strengthening the local community and the whole of northern Sweden.

## Port of Luleå

Since a large part of the freight flows to and from Norrbotten pass through the port of Luleå, this port is a priority and strategically important node in today's transport system, partly due to its link to the Malmbanan railway. Its national and European significance is demonstrated by the fact that the port of Luleå is designated as a CORE port in the Trans-European Transport Network TEN-T (EU policy for the establishment and development of a common European transport network). Two of the EU's nine freight corridors will also be linked in the municipality of Luleå: North Sea-Baltic and Scandinavian-Mediterranean. In addition, Luleå is becoming an increasingly important node for The Arctic Gateway, a collaboration and natural resource freight corridor linking the Arctic to the world. Figure 2 below shows an overview of the existing layout of the port followed by a description of the current facility.



Figure 2. Overview of the port of Luleå and its piers

The port of Luleå currently consists of six piers:

- Cement pier - used for unloading cement (out of picture to the west),
- Svartö Pier - pier for the state icebreakers (outside the picture to the west),
- Uddebo Energy Port - handles about 380 thousand tons of liquid energy products annually,
- *Strömören* - pier for the port's service boats, pilot and tug boats, and rescue and coastguard boats. Adjacent to *Strömören* is the Maritime House with offices for the Company and the Swedish Maritime Administration. Nordkalk AB has a storage and production facility with a fixed connection for unloading limestone from *Strömören* Pier,
- Victoria Terminal - the port of Luleå's general bulk cargo pier. It mainly handles bulk goods for Norrbotten's mining and steel industries. The pier currently handles about 2.5 million tonnes annually, of which 2 million tonnes are inbound and 0.5 million tonnes outbound. The main products are coal, coke, limestone and bentonite. There are four loading/unloading cranes in the Victoria Terminal, one of which is specific to the unloading of coal at the easternmost coal pier in the Victoria

Terminal. The total length of the pier is 765 metres including the coal pier and there is a railway track running parallel to the pier. Adjacent to the pier are four storage tents and a warehouse building which is part of a concession agreement with Shorelink AB that runs until 31<sup>st</sup> of March 2026.

- Sandskär - LKAB's ore port for the unloading of iron ore products. The annual volume of goods is about 5 million tonnes. The pier currently handles only outgoing cargo.

### **New Port of Luleå**

The port's location and infrastructure connections mean that the port of Luleå's function is a prerequisite for the region's emerging green industry's transport and logistics needs. This is because a large part of the flow of cargo in the green wave of industrialisation is expected to pass through the port. Furthermore, most of the investments announced in Luleå are located in the Luleå Industrial Park, a business cluster for green industrial transformation, which is adjacent to the port.

In quantitative terms, the additional cargo flows mean that the total annual cargo volume that needs to be handled via the port of Luleå will increase from about 8 million tonnes in 2020 to about 30 million tonnes in 2030. At the same time, the number of vessel calls will increase from just under 600 per year in 2020 to between 2,200 and 2,500 in 2030. The additional cargo flows consist of both an increased volume of existing cargo types (e.g. steel scrap, iron ore pellets, bentonite, dolomite and limestone) and new cargo types (e.g. steel coils, HBI, minerals and fertilisers, gypsum, ammonia, hydrofluoric acid, sulphuric acid, hydrogen and electro fuels).

Overall, the increased demand means that the existing port facilities in the port of Luleå are not sufficient. To cope with the additional cargo flows, the port will need to undergo significant expansion, including the construction of new warehousing and terminal facilities and an expanded rail facility. Some of the additional cargo types are also weather-sensitive and therefore require special storage and terminal solutions, AWTs.

The importance of the port of Luleå and the need for increased volumes was already foreseen in the 2010s, which is why work on widening and deepening the fairways into the port has been underway for a few years now. The project is called *Malmporten* (the Ore Port) and includes not only the widening and deepening of the fairways but also a new deep-water port with new infrastructure in the form of a 1,068-metre-long pier and completely new land areas for the storage and handling of goods. This project will enable the port of Luleå to receive larger and heavier loaded vessels in the future, which will increase the efficiency of maritime transport, reduce environmental impact and strengthen competitiveness. The new deep harbour and pier will be created from recycled dredged material and will create new logistics space of approximately 750,000 square metres adjacent to the pier (see below in Figure 3). The Malmporten project is scheduled for completion and opening in 2028.



Figure 3. Malmporten Project - infill areas and the new deep harbour

In addition to the fact that the port needs to be expanded and requires significant investment, time is a critical factor. The first additional flows are expected to take place as early as the second half of 2025 and some parts of the port expansion will therefore need to be completed by then.

The consensus behind the implementation of the infrastructure investments in the port of Luleå is broad and includes local politicians as well as stakeholders who have expressed interest in the use of logistics and warehousing in the port. The municipality has approved a guarantee commitment on market conditions for infrastructure investments in the port linked to the Malmporten Project and has expressed positive views on the development of the New Port of Luleå.

The short time available until the first additional cargo flows arrive at the port and the competition for the limited public funds, has led the Company to now investigate the position of the market on the implementation and financing of the New Port of Luleå. The Company thus wishes the market to illustrate the options available for designing, building, financing, operating and maintaining the New Port of Luleå. The New Port of Luleå is intended to be procured in 2023 and the Company therefore wishes, through this RFI, to gather the market's perspective to create good conditions for a successful procurement.

This RFI is, as mentioned earlier, one of two RFIs covering the construction of the New Port of Luleå. This RFI concerns the management, expansion and adaptation of the port of Luleå's rail facility and RFI 1 concerns the management, expansion and adaptation of the logistics operations in the port.

## **Project description**

Based on dialogues with existing industry in and around Luleå, together with the establishment of the new industrial operations announced in the area, the amount of cargo to be handled via the port of Luleå is forecast to increase from today's 8 million tonnes per year to 30 million tonnes per year in 2030. The increase is due to both an increase in the volume of existing types of goods (e.g. steel scrap, iron ore pellets, bentonite, dolomite and limestone) and new types of goods (e.g. coils, HBI (sponge iron), mineral and artificial fertilisers, gypsum, ammonia, acids, hydrogen and electrofuels).

To handle the considerable additional volume of cargo, the port will need to be significantly expanded. The expansion covers the entire port operation, from transport infrastructure such as fairways, piers, railways and roads, to the development of logistics facilities and cargo handling equipment. The weather-sensitive nature of some types of cargo also requires AWTs that allow weather-protected reloading from rail to ship.

This RFI includes the extensive measures required to adapt the port of Luleå's railway facility to the new needs. The measures concern new railway tracks, a new railway terminal and expanded operations. In addition to the extension of the railway tracks, this RFI also includes the takeover of the operation and refurbishment of port of Luleå's existing facility.

### ***Description of the existing railway facility***

The existing railway facility in the port of Luleå is owned and managed by the Company. The railway facility comprises about 6,500 meters of track, 13 switches and allows traffic with a maximum axle load of 30 tonnes. The railway facility is currently unelectrified, but the contact line from the Swedish Transport Administration has a termination that is located a bit into the port of Luleå track. The facility is affected by 8 level crossings and connects to connecting railway facilities at the following points: The Swedish Transport Administration at Luleå Malmbangård via switch 320a, Circle K at switch 30 and LKAB at switches 21 and 22. Below, the existing facility is presented schematically in Figure 4 and in overview in Figure 5.

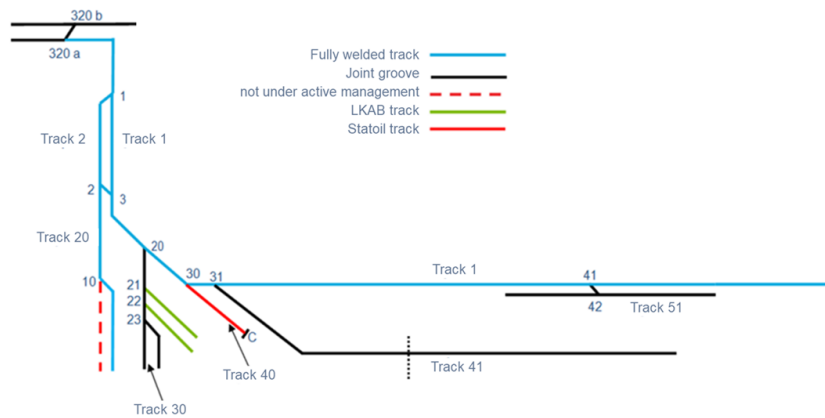


Figure 4. Schematic track plan - existing railway facility

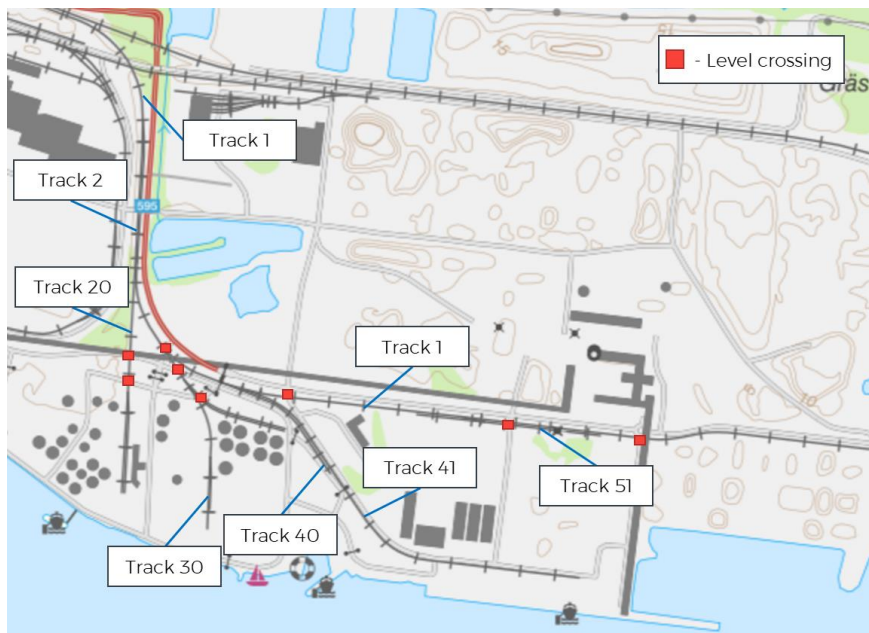


Figure 5. Overview - the existing railway facility

The purpose of Luleå Port's railway facility is the transport of goods and some parking of rail vehicles. The facility is open to railway companies with traffic rights and is governed by traffic agreements with the Company. Traffic management is carried out via the Swedish Transport Administration's traffic management in Luleå. Today, the railway handles about 300,000 tonnes of freight annually, consisting primarily of coal, lime and energy products. The volumes correspond to two to three trains per day.

### **Expansion of the existing railway facility**

The expansion of the railway facility is divided into two stages, with completion dates from the second half of 2025 to 2028 for Stage 1 and 2030 for Stage 2. The measures include both refurbishment and expansion of the existing facility. The stages are presented individually below.

#### **Stage 1, Q4 2025 to 2028:**

During Stage 1, the railway will need to be adapted to handle new and increased volumes of the existing types of freight. Stage 1 involves both refurbishment of the existing facility and additional infrastructure, such as a new rail terminal and switches. The measures will be carried out within the framework of existing

municipal land, where the measures comply or only represent minor deviations from current zoning plans. It is estimated that the operator will need a shunting/hauling locomotive to operate in Stage 1.

In order to allow existing rail traffic to continue and preparatory measures to be completed in time, Stage 1 will be implemented as a phased expansion. The high-priority parts of the track system for the expected traffic growth are to be completed by the second half of 2025, while the remaining parts of Stage 1 will be completed by 2028. An overview of Stage 1 is presented below in Figure 6 followed by a description of high priority actions (to be completed in the second half of 2025) and priority actions (to be completed in 2026–2028) and a specification of expansion and refurbishment measures.

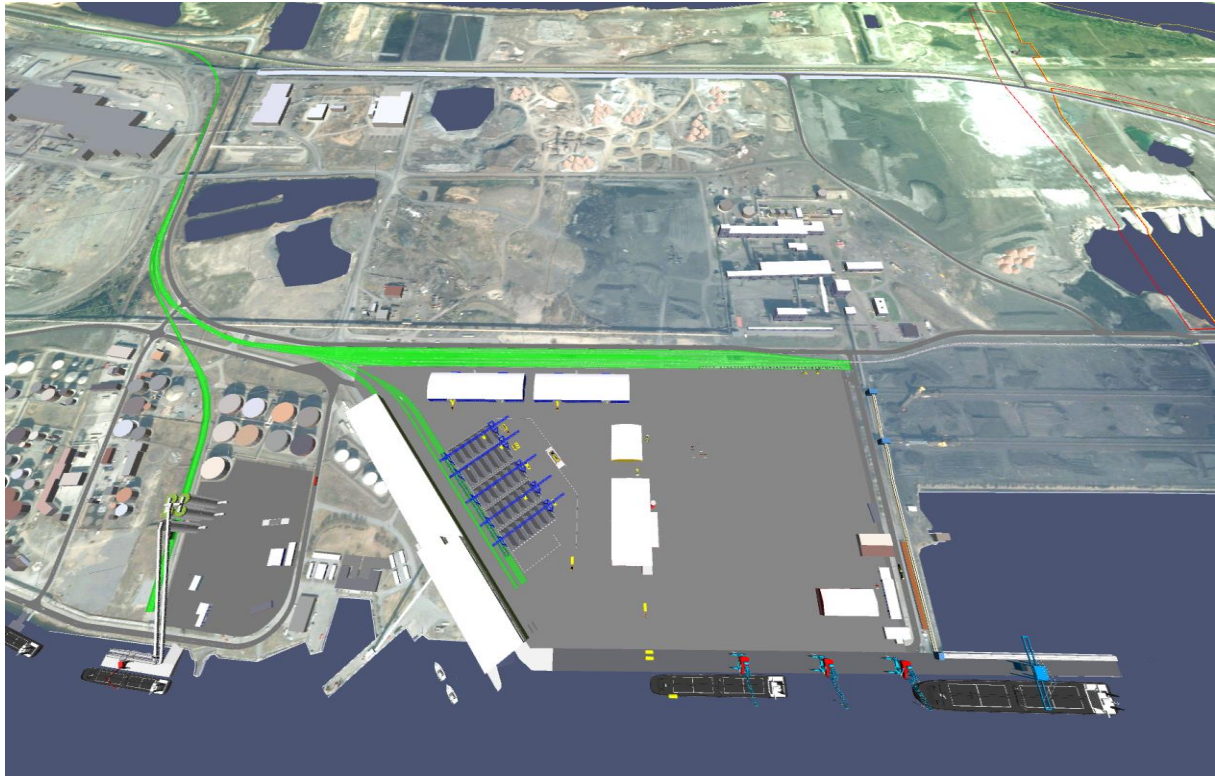


Figure 6. Overview of the railway expansion after Stage 1

High-priority actions that need to be completed by the second half of 2025:

- railway terminal - four new tracks and refurbishment of the existing track "Track 1",
- connection to the Swedish Transport Administration's facility - a new track and refurbishment of the existing track "Track 1",
- connection to AWT - new track with switch connections,
- connection to the scrap yard - two new tracks,
- Uddebo connection - two new tracks with switching connections and upgrading of existing track "Track 30",
- decommissioning of the current tracks 40 and 41, and
- planned preparation for a potential future expansion.

High-priority actions that need to be completed within the period of 2026-2028:

- railway terminal – two additional new tracks,
- electrification, and



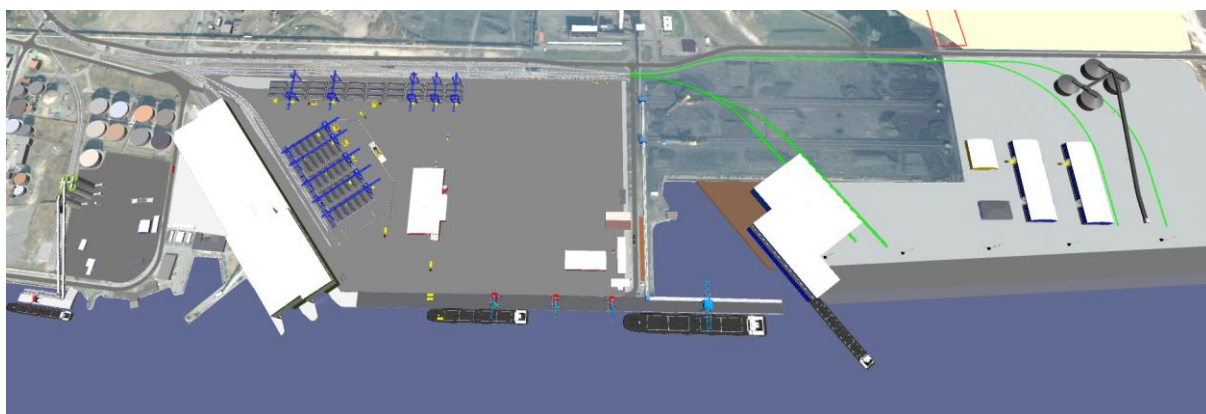
- signalling system.

The tables below provide a breakdown of the actions covered by Stage 1. The specification is based on current estimates and some deviation may occur.

<b>Specification - Expansion and refurbishment measures, Stage 1:</b>	
New tracks including foundation/soil reinforcement measures	6,300 m
Contact lines (electrification), new tracks	3,800 m
New switches	28 units
Signal (local operation of switches)	27 units
Control system - connection to the Swedish Transport Administration's tracks	1 unit
Renovation or replacement of existing tracks including foundation/soil reinforcement measures	4,500 m

### **Stage 2 (2030)**

Stage 2 is scheduled for completion in 2030 and includes further expansion of the railway facility east towards the Skvampen Deep Harbour. The expansion consists of a new track to the deep harbour and a track connecting to the eastern AWT. The stage is planned to be built partly on land currently owned by a party other than the port of Luleå, and partly on land built within the framework of the Malmporten project. Thus, Stage 2 is dependent on the existing landowner accepting the establishment and on the timetable for the Malmporten project being kept. The expansion will also require new zoning plans and possibly new environmental permits. An overview of Stage 2 is presented below in Figure 7 followed by a specification of the expansion that the stage involves.



*Figure 7. Overview of the railway expansion after Stage 2*

<b>Specification - Expansion and refurbishment measures, Stage 2:</b>	
New tracks including foundation/soil reinforcement measures	3,700 m
Contact lines (electrification), new tracks	3,700 m
New switches	9 units
Signal (local operation of switches) - Supplementation	9 units

### **Prerequisites**

The existing port operations and project Malmporten must be able to continue without significant impact during the construction period and current and additional cargo flows (see Cargo volumes and flows) at Luleå Malmgård should be able to continue without significant disruption. This is true for both the Stage 1 and Stage 2 expansions.

As the railway facility has interfaces with the Swedish Transport Administration's railway terminal at Luleå Malmbangård, it is required that the facility is controlled by a signalling system that complies with the Swedish Transport Administration's standards. Train sets with three different types of rail cars are expected to operate at the site: one for scrap, one for coils, and one for other goods (primarily side-tipped railcars).

Incoming and outgoing trains will be longer than what can be handled on the loading/unloading tracks of the AWT and in scrap handling. Therefore, switching movements are required where incoming trainsets are separated in two ways and outgoing trainsets are connected. Large parts of these movements are expected to be carried out at the same time as the loading/unloading of the respective goods. The maximum length of the incoming and outgoing trains is 750 metres and the maximum axle load is 32.5 tonnes, which is the dimension of the installation.

The recognized strategic importance of the port of Luleå as a designated CORE-port in the Trans-European Transport Network means that there may be opportunity of partial financing through EU grants. An investigation is underway regarding the possibility of receiving such funding.

## Cargo volumes and flows

The following sections present the volumes and flows of goods covered by the activities that are the subject of this RFI. The volumes presented are based on the Company's current best estimate and knowledge. The freight volumes are presented per year as annual tonnage for outgoing and incoming freight transported on the railway concerned. Furthermore, a summary of the number of train movements per day is presented to give as clear a picture as possible of the volumes and flows to be handled and the timing of the flows.

<b>Annual tonnage (thousands of tonnes)</b>	Existing volumes	2025	2026	2027	2028	2029	2030	2031	2032
Annual tonnage of outgoing goods	300	500	4,000	5,000	6,000	7,500	8,000	8,000	8,000
Annual tonnage of incoming goods	0	200	2,000	3,000	3,000	4,000	5,000	5,000	5,000
<b>Total annual tonnage</b>	<b>300</b>	<b>700</b>	<b>6,000</b>	<b>8,000</b>	<b>9,000</b>	<b>11,500</b>	<b>13,000</b>	<b>13,000</b>	<b>13,000</b>

<b>Train movements per day</b>	Existing volumes	2025	2026	2027	2028	2029	2030	2031	2032
Number of loaded departing trains/day	2	4	6-7	6-7	7-8	8	7-9	7-9	7-9
Number of arriving trains for unloading/day	0	1-2	2-3	3-4	3-4	4-5	3-4	3-4	3-4
<b>Total number of train movements/day</b>	<b>2</b>	<b>5-6</b>	<b>8-10</b>	<b>9-11</b>	<b>10-12</b>	<b>12-13</b>	<b>10-13</b>	<b>10-13</b>	<b>10-13</b>

## Estimated costs

This section presents total estimated investment costs and operating costs for each stage of the expansion. The figures are based on the Company's current best estimate and knowledge, based on the material flows and the parts of the facilities included in each stage. Costs are expressed in millions of SEK at 2023 prices.

<b>Costs (MSEK)</b>	<b>Stage 1 (2025 - 2028)</b>	<b>Stage 2 (2030)</b>
Capital expenditure (CAPEX)	1,250 (± 250)	750 (± 250)
Operating expenses (OPEX)	40 (± 5)	45 (± 5)

## Business model

The Company expects a business model in which the operator of the business is entitled to charge customers for the use of the railway facility. In their RFI responses, respondents are welcome to suggest

business model(s) that they consider appropriate. The Company also welcomes proposals for appropriate business models that could include the activities of RFI 1. Respondents' suggestions for business model(s) will be taken into account but the business model may be modified at a later stage.

Examples of fees that could be charged include:

- track fee,
- switching fee, and
- parking fee.

## **RFI Description**

In order to prepare the project for a possible future procurement, the Company is seeking the market's views on how the New Port of Luleå can be built, financed and operated. The Company believes that such a project may include different models. These can range from a model that includes all or part of this RFI to a larger structure that includes both RFI 1 and this RFI, or an even larger or smaller structure.

The Company accepts that respondents provide answers according to different scopes depending on the expertise and interests of the respondent. As mentioned above, the Company is supportive of a business model that encompasses both RFI 1 and RFI 2, therefore responses that encompass all or part of the total scope of both RFIs are accepted and welcomed. The Company foresees that future project implementation may include multiple stakeholders and therefore also offers the possibility for respondents to provide joint responses.

For example, the Company wishes to receive information on:

- the layout and design of the railway expansion,
- possible project implementation and management,
- proposed business model(s) and implications of different options for the activities in this RFI, and possible combination with the activities in RFI 1,
- the distribution of risks and the consequences of different options,
- financing arrangements and consequences of different options, and
- recommendations on requirements, process, evaluation models, contractual conditions and the like for the procurement.

In addition to project-specific information, the Company would like the respondent to include in its RFI response:

- general company descriptions,
- relevant knowledge in the areas covered (e.g. financing, construction, contracting, operation, maintenance), and
- relevant experience from similar projects and project designs. The Company also welcomes experience from similar projects involving the management of security-protected objects.

### ***Administrative information***

Following the publication of this RFI, a market day will be held where the RFI will be presented to interested companies who will have the opportunity to ask questions. The market day will be held on 23 March 2023 in Luleå, with a welcome dinner on 22 March 2023. Further information and an agenda will be sent out on 14 March 2023 to those who have expressed an interest in attending. Registration for the market day should be sent to [rfi@portlulea.com](mailto:rfi@portlulea.com) by 28 February 2023.

Questions related to the RFI are to be submitted via the Kommersannons portal by 4 April 2023.

Respondents' written replies to this RFI should be sent to rfi@portlulea.com by 14 April 2023. Responses should be written in Swedish or English and submitted in digital format, preferably in Word, PowerPoint or PDF.

Interested companies may be given the opportunity to present and discuss their proposals and be part of the continued work to realize the development of the New Port of Luleå. More information will be provided during the market day on 23 March 2023.

Following the RFI, the information gathered by the Company during the process will contribute to a basis prior to a possible procurement in 2023.

### **Overall timetable**

<b>Activity</b>	<b>Date</b>
Publication of RFI	2023-02-13
Deadline for registration for market day	2023-02-28
Market Day	2023-03-23
Deadline for questions	2023-04-04
Deadline for responses	2023-04-14
Company presentations	Start week 18 in Stockholm

### **Handling of responses**

Responses received can be used for:

- to demonstrate interest in the implementation and construction of the railway facility in the New Port of Luleå,
- to demonstrate alternative financing and implementation models, and
- the formulation of a basis for a possible procurement.

The responses received, or parts of the responses, may be used in public contexts in connection with the work on the New Port of Luleå.

### **Confidentiality**

The Company is a municipally owned company subject to the Swedish principle of public access to official documents. This means that confidentiality cannot be guaranteed but will be considered on a case-by-case basis. It is possible to request confidentiality for information on specific business or commercial operating conditions if disclosure of this information may result in damage or harm to the respondent.

### **Further information**

Further information on the development of the port of Luleå and its surrounding area:

- <https://portlulea.com/en>
- <https://malmporten.se/en>
- <https://www.luleaindustripark.se/en/home/>