



“Here in Norrbotten, we’ve always been pioneers

Our basic industrial and research sectors have always been world-leaders, and now they’re investing in and driving sustainable change,” confirms Johan Sjökvist, Inward Investment Director with Luleå Business Region. **Page 3**

Luleå INDUSTRIAL PARK

A PUBLICATION FROM
LULEÅ MUNICIPALITY

“A unique opportunity
to develop Luleå”



These investments
mean new opportu-
nities for exciting
careers and innova-
tive development.
Pages 2–3

Anna Lindh Wikblad,
municipal director, Luleå
municipality.



SEK 70 BILLION INVESTMENT IN LULEÅ

Luleå is the centre of the green industrial revolution. The growing Port of Luleå will soon be Sweden’s second largest port, while at the same time, entirely new climate-smart industries are being set up in Luleå Industrial Park. It is thought that 1,500 to 2,000 new jobs will be created in these industries alone, and the knock-on effects are expected to be even greater. **Pages 2–3–4–5**

Mayor Carina Sammeli, (Swedish Social Democratic Party), of Luleå municipality, opening a new information hub in the Smedjan shopping centre in central Luleå.

Homes for 100,000 Luleå residents

Building increases
to provide more
homes. **Page 7**



The green industrial revolution is happening here

Luleå Industrial Park
is growing, with new
developments. **Pages 4–5**



We are dependent on international expertise

Birgitta Bergvall-Kåreborn,
vice-chancellor, Luleå Uni-
versity of Technology. **Page 6**



Hi there...



Photo: Peter Rosen

Robert Eriksson,
project manager,
Luleå Industrial Park
Why are you publishing a special newspaper?

"Because we want to let the residents of Luleå know what is happening with all these new developments. With so much happening at the same time, there's a great need for information and explanation."

What's it like working right at the centre of everything that's happening?

"These are exciting times. If anyone had told me five years ago that SEK 70 billion would be invested in new businesses here, I'd have laughed at them. But the work being done now really is of that order of magnitude."

In Skellefteå it was mostly about setting up Northvolt; here, it's a matter of several different actors in the same limited area.

What challenges are involved?

"The challenges are many and complex. The big thing is that all the actors in question have to agree to some extent on the resources required. We have to find a reasonable power supply solution and resolve all the infrastructure issues as soon as we can, ideally in a way that resolves several issues in one go in order to ensure cost-efficiency for all parties involved. Clearly, it might have been simpler with just one industry."

Some people are sceptical and wonder if this really will "come off". What do you have to say to the doubters?

"All the actors we are currently in dialogue with are serious and have good commercial reasons for wanting to invest here. There may be some changes, but I still think most of the ones we're currently working with will come through."

You're the project manager – when do you think the "Luleå Industrial Park" project will be finished?

"Well, ha-ha, when... No, but we've said that the project of getting everything we're currently working on in place should be completed some time in 2035. But perhaps by then we'll have other new developments – who knows? Perhaps it might never be 'finished.'"

LULEÅ INDUSTRIAL PARK

A publication from Luleå municipality
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"There are few places in the world so well placed for a green transition and with such good access to green electricity"

Ursula von der Leyen, President of the EU Commission, Norra Skog, 15 October 2021.

95%

Talga's natural graphite battery anodes can reduce carbon dioxide emissions by 95 percent compared to modern synthetic graphite.

"Northern Sweden is where things are going to be happening in the coming years"

Erik Hagenrud, business development officer with the Swedish Export Credit Agency, 31 August 2021.

"We can really help s

Luleå will help save the world with a world-leading industrial green transition.

The initiatives in new fossil-free industries in Luleå and in the region will have a dramatic effect on national climate targets.

"If we can use this transition to eliminate close to 80 million tonnes of carbon dioxide per year, it will have a huge significance for Sweden, Europe – in fact, the whole world," confirms Carina Sammeli, (Swedish Social Democratic Party) Mayor in Luleå.

The new ventures by SSAB, H2GS and LKAB in the manufacture of fossil-free steel make these companies world-leaders in a global race to eliminate carbon dioxide emissions. New production processes, new technology and renewable energy are the keys.



The green industrial transition in Luleå is producing enormous effects, and not just in Sweden.

Photo: Henrik Stenberg

"Here in Northern Sweden, we are uniquely placed to succeed – so we have to accept our responsibility and do this here and now"

Carina Sammeli

Carina Sammeli,
Mayor, Luleå:

"Here in Northern Sweden, we are uniquely placed to succeed – so we have to accept our responsibility and do this here and now. We have the renewable energy, we have the technical know-how and we have the unique raw ingredients. We really can help save the world."

One component of this initiative is Luleå Industrial Park, which consists of the already established industrial area on Svartön and a new area in Hertsöfältet, to which it is connected via a bridge. Work is proceeding here at a furious pace to establish a deep-water port with an entirely new capacity to receive large cargo vessels of 55,000 to 160,000 tonnes. The needs of these industries for new facilities will also be met by all-weather terminals and temperature-controlled storage premises, the so-called Coils hotel.

Anders Dahl,
CEO of Port of Luleå:

"Once completed, this expansion will increase our capacity for goods by a factor of four, actually making us the second-biggest port in Sweden after Gothen-

burg. The first stage is dredging the channel to a depth of 15 metres, which started in 2024, the so-called Ore port."

At Luleå Industrial Park, plans are currently being drawn up for LKAB's new venture, LKAB ReeMAP, which will extract rare earth metals and phosphorous. SSAB is planning a new fossil-free steelworks and several new developments, such as Talga, which will manufacture battery anodes, and Grupo Fertiberia, which is investing in the construction of a large artificial fertiliser factory. These investments are equivalent to a total of SEK 70 billion.

The venture will create 1,500–2,000 new jobs directly within the industry, and with knock-on effects expected to create even more:

"Once completed, this expansion will increase our capacity for goods by a factor of four, actually making us the second-biggest port in Sweden after Gothenburg"

Anders Dahl

"Right now, we have a unique opportunity to create a new Luleå for future generations – a Luleå with entirely new opportunities"

Anna Lindh Wikblad

"Right now, we have a unique opportunity to create a new Luleå for future generations – a Luleå with entirely new opportunities for exciting careers and innovative development. It's an opportunity we do not want to miss out on," says **Anna Lindh Wikblad**, municipal director. Anna is directing the social transition work, with work on the needs of the new industries forming just a part of this. It is also a matter of new homes and roads, and the services that go with these.

Just on Hertsön alone there are currently plans for a new school, sports hall and swimming pool, a new residential area of about 2,000 homes and a new industrial area to form part of Luleå Industrial Park.

Robert Eriksson, the project manager for Luleå Indus-



trial Park, thinks Luleå and the county should be proud of what is happening here right now:

"We're actually at the front line of the green transition – we're world leaders. Hundreds of billions are being invested in a green industrial revolution here in Norrbotten and Västerbotten. Luleå Industrial Park is the hub for the huge investments currently being made here in the north. Our port is the logistics hub, and the industrial cluster currently taking shape in close collabora-

tion with Luleå University of Technology is creating a "silicon valley" for green technology and fossil-free industry.

This is something we should be proud of."

Carina Sammeli, Mayor, Luleå:

"The new jobs and the new residents relocating to the municipality mean that we will have higher tax revenues, resulting therefore in an improved municipal economy. So the development is benefiting everyone."

“There is a golden opportunity for northern Sweden to take the lead in the industrial revolution and become a driver of green innovations that can benefit all of Sweden, and ultimately all of Europe”

Ebba Busch (Christian Democrats), Minister for Energy, Business and Industry, Johan Pehrson (The Liberals), Minister for Employment and Integration, and Andreas Carlson (Christian Democrats), Minister for Infrastructure and Housing in Dagens industri.

Save the world”



A bright future ahead for Luleå. The billions being invested in climate-smart industry are boosting Luleå and the Norrbotten region. But there's still a lot to do for Helén Wiklund Wårell, Director City Development, Anders Dahl, CEO, Port of Luleå, Carina Sammeli, (Swedish Social Democratic Party) Mayor, Luleå municipality, Robert Eriksson, project manager, Luleå Industrial Park, and Anna Lindh Wikblad, municipal director, Luleå municipality.

Photo: Ronny Olovsson.

Not making this transition for the world's future is not an option. That's why this is going to happen.

■ **Saying that the future of the world is here in Luleå might be a big claim. I agree. But it depends on how you choose to look at it.**

By international measures, both the future SSAB's and H2 Green Steel's steel production account for a very small share of the world market. Last October I was listening to a panel discussion during a hydrogen conference in Brussels. A panel with European steel companies answered the question of whether there really is a demand for fossil-free steel? One after the other, they all squirmed and mumbled about their premium products as a clear and silent admission that they did not actually have properly fossil-free products, even in the long term. Finally, it was the turn of SSAB's and H2 Green Steel's panel members to answer. They looked at each other and said, almost in unison “We have already manufactured fossil-free steel” and “We have almost filled our order books”.

What is happening in Luleå, Boden and Norrbotten is no surprise. It's big, it's difficult, it's urgent and it's actually known to the entire world. We should be both proud and hopeful, but also thoroughly aware that these changes are occurring over an extremely short time, and they present enormous challenges – both for the companies and especially for society and the municipalities. It will be really hard work.

Some 7-8 years ago we talked about when the world would understand the forces driving climate change – that it's more than just our environmentally friendly actions at any given time. The entire life cycle of products also plays a big role. If steel or batteries are produced using dirty energy, climate awareness at a single moment plays a smaller role overall. This did happen earlier as part of the extreme growth of data and the Internet exploding, which is why Meta/Facebook has a large data centre in Luleå and why we paved the way for the Internet now being run far more sustainably. We then said that it was just a matter of time before the climate's driving forces reached batteries, carbon fibre and much more – like steel. And we're there now. What might come after steel? Green fertiliser's, for example – something in which Sweden really needs to become self-sufficient, instead of depending on imports from Russia and elsewhere.

Here in Norrbotten, we've always been pioneers. Our industries have always had to compete to be at the forefront of technological development and every aspect of sustainability, which is why our basic industries, and our academia has been world-leaders for a long time. They are now showing the way, they dare to invest, they find new ways to do things and they are forcing a sustainable transition.

The other day, a friend asked what would happen if this green transition just won't happen? Well, if the world continues to manufacture steel as it currently does, we'll just keep messing up the planet. SSAB's shift alone can reduce Sweden's total

carbon dioxide emissions by 10%, and Finland's by 7%. That's how important this is. As well as the obvious climate reason, it is fair to assume that if the industry doesn't make this technological shift and doesn't remain at the forefront, they will start to fall behind. It's better to lead the race and control everyone else's needs for development, as that panel discussion in Brussels clearly demonstrated. Those who finish last usually end up having to close shop – and that's clearly not an option.

Not making this transition for the climate, for the future of the world and for our jobs in Norrbotten and here in Luleå is likewise not an option. That's why this is going to happen.



Johan Sjökvist, Inward Investment Director at Luleå Business Region.

New website for public information about the future Luleå



Visit our new website www.lulea.se



New information hub in Smedjan in Luleå city centre:

Luleå municipality welcomes visitors to its newly opened information hub in the Smedjan shopping centre in central Luleå. Visitors are invited to submit their ideas for how Luleå should be developed.

The hub will be a resource for information about home-building, industrial projects and other matters for anyone wanting to find out more about the future of Luleå.

It will be used for information meetings, and it is open on weekdays from 10.00 a.m. to 5.00 p.m. Information meetings can also take place during evenings and at weekends, in which case they will be announced in advance.

New website tells the story of Luleå Industrial Park



If you want to find out more about what is happening at Luleå Industrial Park, visit its new website.

www.luleaindustripark.se



THIS IS WHERE THE GREEN INDUSTRY OF THE FUTURE IS BEING BUILT



■ SEK 70 billion invested in Luleå Industrial Park. 1,500–2,000 new jobs are being created and a green industrial revolution is being made a reality. Sweden's second-biggest port is also being built here.

Port of Luleå. Expansion of the Port of Luleå is a basic requirement for the industrial developments currently taking place. Among other things, AWTs (all-weather terminals) are being constructed – gigantic heated garages that vessels can enter to be loaded and unloaded beneath a roof, and so-called Coils hotels – temperature-controlled storage premises with conditions that can be adjusted for the materials that are to be stored there.

Once completed, this expansion will increase our capacity for goods by a factor of four, actually making us the second-biggest port in Sweden after Gothenburg.

The first stage is dredging the channel to a depth of 15 metres, which started in 2024, the so-called Malmporten (the Ore Port). Dredging will then continue successively up to 2028.

Port of Luleå is a strategically prioritised EU port for ensuring the supply of ore and steel as raw materials. About 90 percent of the EU's own iron ore production is from the ore fields in Norrbotten.

LKAB ReeMAP. LKAB's new industrial project, has been set up to extract rare earth metals and phosphorous. Earth metals are used in the electronics industry. Phosphorous is used in the manufacture of fertiliser. Roughly SEK 10 billion is being invested.

SSAB's new steelworks. In parallel with the current steelworks that are running at full capacity, an entire-

ly new facility is being built for the new production process that will see hydrogen replacing coal in its furnaces. The investments in Luleå and the Finnish Brahestad have a total value of SEK 45 billion. Carbon dioxide emissions are to be reduced by about 90 percent. This change-over by SSAB will be able to eliminate a total of about 10 percent of Sweden's total carbon dioxide emissions.

Uniper. A hydrogen hub is being planned in order to supply the hydrogen that will be required in the new steelworks to be built by SSAB and H2 Green Steel. There are also plans to supply ships with hydrogen as a climate-friendly fuel – an important component in also solving the need for green transport.

Talga. The plans are to excavate the internationally unique natural graphite deposit in Vittangi and use it to manufacture battery anodes in a brand new factory in Luleå. Car batteries currently use synthetic graphite, which is manufactured from crude oil, whereas Talgas graphite can reduce carbon dioxide emissions by about 95 percent if this planned production becomes a reality.

Grupo Fertiberia. This Spanish company is planning to build a large new factory for manufacturing artificial fertiliser. It is the green energy that is enticing them to invest roughly SEK 10 billion in this new facility.

SSAB

uni
per

PORT OF
LULEÅ
HAMN
SWEDEN



“The research must benefit society”

■ We are faced with a unique opportunity – an opportunity to help not just Sweden to achieve the climate targets that have been set up, but also Europe and the entire world. In so doing, we can also create an entirely new Norrbotten. We now have a unique opportunity to re-write the basic prerequisites in the region – an opportunity that might not come around again in our lifetime. It's something we will have to manage properly.

All this is thanks to industry currently investing hundreds of billions in the big green transition in areas including fossil-free processes and fossil-free products. It is industry that is showing the way and actually making the transition, and Norrbotten and Västerbotten are in the spotlight as an example, both nationally and internationally.

Success for these world-leading innovations and changes requires research and development. We are still at the beginning of a journey that requires fine-tuning of our circular material flows and recycling processes, hydrogen production, transportation and storage techniques must be improved and artificial intelligence and robotics need to be integrated into manufacturing processes and maintenance operations – to name just a few examples.

Luleå University of Technology has been working closely with our local basic industries ever since early 1971 and has collaborated with them on the development of new knowledge that will help to achieve the green transition, as well as helping companies and industries to be competitive.

The interdisciplinary research that we have been conducting for a very long time now also allows us to take on social challenges at a more overall level. An example of this is when our researchers in the field of natural resources collaborate with researchers in other fields such as political science, economics and jurisprudence. Together, they are then able to analyse challenges and conflicts of interest relating to natural resources and find ways to quality-assure the licensing processes and make them more efficient.

In order for the knowledge generated by this research to benefit society in a broad sense and to push development forward, education is required. We have therefore developed five new courses that are related to the green transition and the needs created by the industrial change-over.

We have gained international attention for our initiatives in the green transition,

and we are also dependent on international expertise. Sweden is a small country, and if we are to retain and strengthen our position as a nation with a strong reputation as a knowledge nation, we as a university need to recruit students and staff from all over the world. We are now therefore boosting our international recruiting of students onto some of our courses. But we all need support to ensure that both our national and international students stay in the region after they graduate.

I am therefore urging both private and public-sector employees to get in touch with the university so that we can help to establish contacts between employers and

students, because we have to remember that we are faced with a great need for expertise in just about every area. In order for people to choose to relocate to Norrbotten and Västerbotten to live and to work, attractive societies with well-functioning welfare systems are needed.

We also need support in pointing out the unique opportunities that are present in northern Sweden and in stimulating curios-

ity among our young people about the basic industries and the important role they play in the green transition.

Because it is now that we have a unique opportunity to transform Luleå, Norrbotten and Västerbotten and to give the world a nudge in the right direction. Luleå University of Technology will do everything it can to help in this work. Are you with us?

Birgitta Bergvall-Kåreborn,
Vice-Chancellor, Luleå University of Technology

100,000 LULEÅ RESIDENTS!

The city of Luleå is growing. More homes are being built and the goal is one of even more growth. The aim is for the entire city to grow and live, with new areas and more meeting places. A more attractive city must be built to give shape to exciting opportunities for coming generations.



- **100,000 Luleå residents 2040**
- **Variety of dwellings for all**
- **Hertsöheden – focusing on sustainability**
- **More space for events and entertainment in the centre**
- **New school, sports hall and swimming pool**
- **A living and flourishing countryside**

18

million tonnes of carbon dioxide can be saved by the fossil-free steel from SSAB and H2GS.

“We aim to change heavy industries from the ground up. We will have a digitalised and modern industry. We will employ 1,500 workers and produce 5 million tonnes of steel a year, which is more than we currently produce in Sweden”

Othilia Wimyr, H2GreenSteel, Vårt Luleå, 27 September 2022.

100%

Grupo Fertiberia is to build a new artificial fertiliser factory in Luleå that will be powered by 100-percent fossil-free energy.

“New website for Luleå Industrial Park and investments!”



■ SEK 70 billion is being invested in Luleå Industrial Park. New climate-smart industries are creating new jobs and opportunities.

Here you can read more about what is happening in the hub for our green industrial transition – Luleå Industrial Park.

www.luleaindustripark.se/en/home/



**+ TALGA + BASTARD BURGERS + LEOS LEKLAND
+ SSAB + STUDENTCONSULTING + LKAB + MAX
+ FACEBOOK + OZONEAIR + YOU?**

In Luleå we are all growing together. We are collaborating closely to develop tomorrow's products and services. We are getting our ideas out there and delivering at both national and international levels. Luleå is the hub for the green industrial revolution, with a close symbiosis between the university and the business world generating new innovations.

From mine to outer space.

The sky is not the limit. Do you want to be a part of this? Would you also like to invest here?

LULEÅ