

Advanced Manufacturing



Photo: Swedish Institute

Advanced Manufacturing accelerating the green transition

Industrial emissions still account for over 30 per cent of all global emissions. From steel to cement, chemicals to heavy industry, these hard-to-abate industries must be transformed for the goal of 1.5C to be achieved.

Meeting the goals of SDG 9 to develop resilient infrastructure and shift to sustainable industrialisation is possible through a global commitment and collaboration across industry and geographical borders.

Sweden is already revolutionising traditional industries and advancing innovative technologies for industries of the future; carbon-free steel, emission-free cement, renewable energy technologies, and advanced robotics are just part of the story.



Sweden's Advanced Manufacturing sector

Value Proposition

Swedish industry is revolutionising how products are manufactured, distributed, reused, and recycled with collaboration, sustainability, and digitalisation advancing green transition solutions.

Industrial innovation is part of Sweden's DNA; powered by green energy, open collaboration, and cross-sector investment, industry gamechangers are already turning the impossible into the possible.

- Swedish concrete manufacturers have implemented CCS technology producing concrete with around a 40% lower climate impact compared to standard concrete
- Carbon-free steel has been developed by two separate Swedish companies and market-ready steel is expected in 2026
- Sweden has Europe's second highest robot density in the manufacturing sector, with a projected market volume of USD 0.32bn in 2024
- There are nearly 50 test beds focusing on factory connectivity, reconfigurable systems, advanced robotics, recycling and packaging, and remanufacturing
- Sweden has more global manufacturing companies per capita than any other country in the world

Sweden's support agencies

Sweden's support systems provide Swedish and international companies with information and connections to financial support, research and development opportunities, and strategic and practical trade and investment advice.

Financial

Swedish Energy Agency

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Vinnova – Sweden's Innovation Agency,

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Almi Invest

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Tillväxtverket

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Industrifonden

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Research

Research Institute of Sweden (RISE)

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Base Batteries Sweden

[Visit website](#)

Swedish Incubators and Science Parks

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Ignite

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Invest and Export Support

Business Sweden

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Almi Invest

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Swedish Energy Agency

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Advanced Manufacturing sector actors

The complexity of advanced manufacturing brings together cross-industry actors with specific expertise and knowledge in the challenges that need to be addressed, the technology and solutions that need to be applied, and the collaboration and investment needed to deliver change.

Sweden brings together local and global players from across industry, academia, and civil society to develop advanced solutions in some of the world's hardest to abate industries.

Read more about companies operating within Sweden's transport sector in the [Company Directory](#).

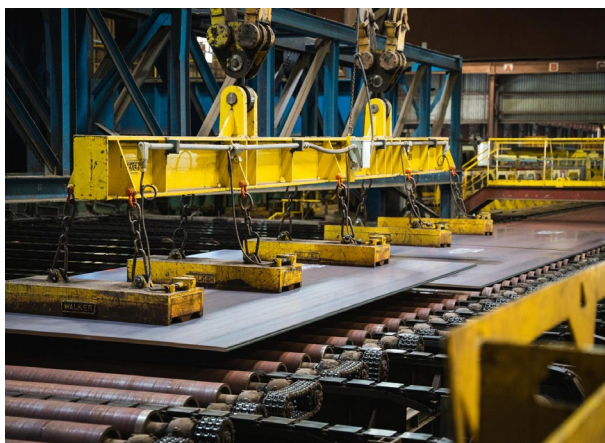


Photo: SSAB

SSAB

SSAB is a global steel company with a leading position in high-strength steels and related services. With production plants in Sweden, Finland, and the US, they have an annual steel production capacity of approximately 8.8 million tonnes. SSAB's breakthrough fossil fuel-free technology is the first true steelmaking transformation for centuries. Their carbon-free steel is produced using HYBRIT® technology, with direct reduction of iron ore using fossil fuel-free hydrogen – emitting water instead of CO₂. It was developed in a joint venture with energy company Vattenfall and iron ore miner LKAB.

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Photo: Unsplash

Inter-IKEA

Inter-IKEA Group is the group of companies that connects IKEA franchisees with range development and suppliers. This global network provides insights and best practices on decarbonising supply chains, transforming materials, and engaging with suppliers. By 2030, Inter-IKEA aims to become a circular business that exclusively utilises renewable or recycled materials in their products. All products will be designed to facilitate reuse, refurbishment, remanufacturing, and recycling – thereby extending their lifespan and minimising waste, while also decreasing the need for extracting and processing new materials.

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Photo: CemVision

CemVision

Founded in 2020, CemVision has fast-tracked the idea of CO₂-free cement into reality. With support from Norrskens Foundation, seed-funding from major backers, and R&D funding through Bill Gates' Breakthrough Energy programme, they piloted the world's first circular, fossil fuel-free decarbonised cement clinker in 2023.

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Milestones in Sweden's transport and automotive industry

→ Sandvik a leader in mining and construction equipment, innovating in drilling, rock excavation, and materials technology is founded

→ Ericsson was founded, it is now a global leader in telecommunications, contributing to the development of mobile networks and communication systems

→ LKAB is founded to explore iron ore deposits in Kiruna, Sweden

→ Gösta Magnusson's invention of the ball bearing revolutionised various mechanical applications



Photo: Saab

→ Saab is founded as an aircraft manufacturer, initially producing military aircraft for the Swedish Air Force

→ The first industrial robot, Unimate, is introduced to Swedish industries, laying the groundwork for future automation The first industrial robot, Unimate, is introduced to Swedish industries, laying the groundwork for future automation

→ Saab merges with Scania, forming Saab-Scania AB

1800s

→ Sweden began industrialising establishing factories primarily in textiles and ironworks

1862

1873

→ Atlas Copco is founded in Stockholm, initially focusing on manufacturing machinery for the mining industry

1876

1883

→ Formation of ASEA (Allmänna Svenska Elektriska Aktiebolaget) in Sweden, it will later become ABB

1890

1891

→ Scania is founded in Malmö, Sweden, initially as a manufacturer of bicycles and later transitioning to motorcycles and then automobiles

1907

→ ABB produces its first transformer and becomes a leader in electrical equipment

1927

→ Volvo Group founded and with focus on heavy machinery including construction equipment such as excavators, loaders, and trucks

1937



Photo: Saab

1955

→ Saab launches the Saab 92, the company's first production car

1974

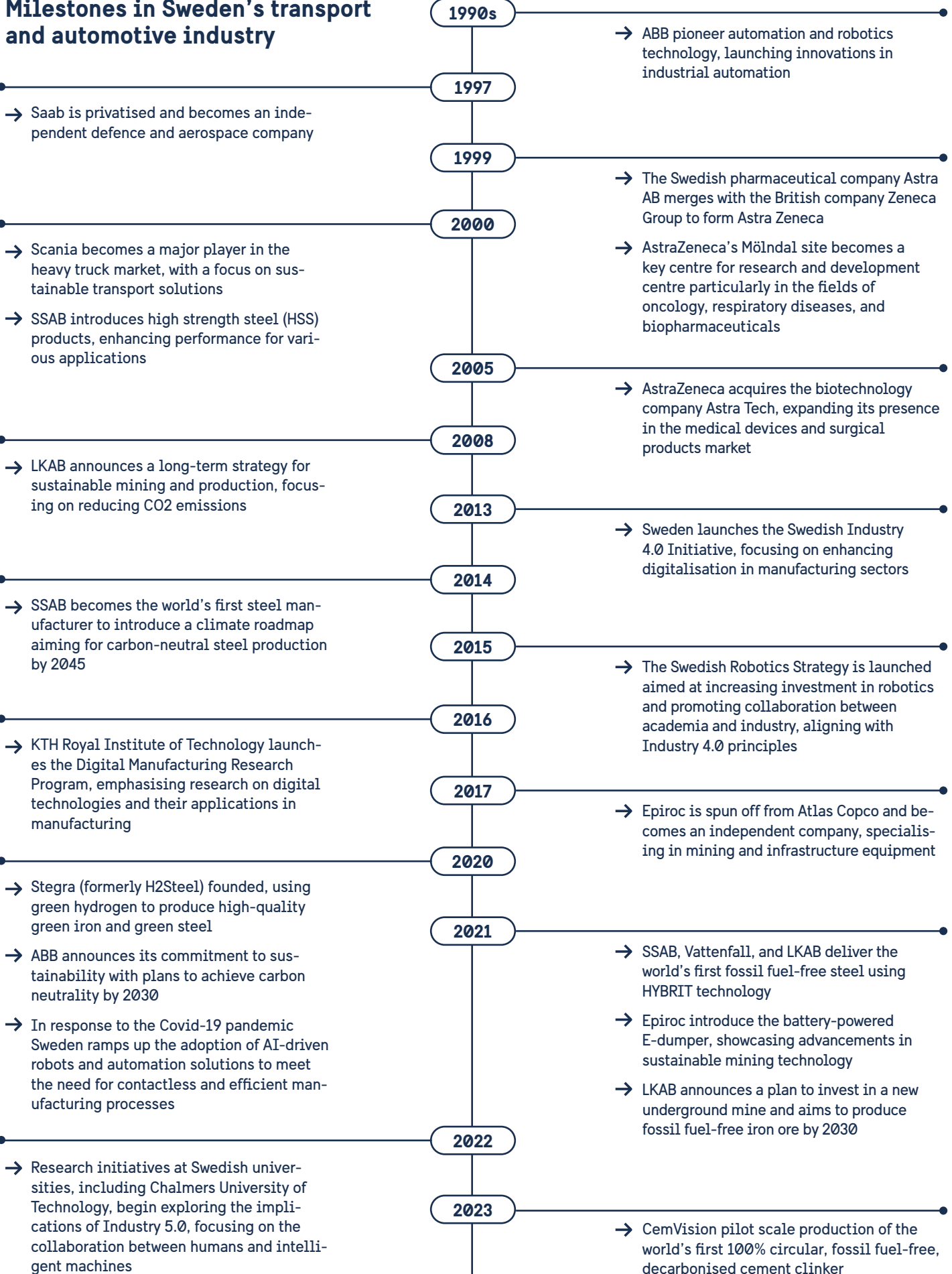
1978

→ Formation of SSAB through the merger of the Swedish steel companies Domnarvets Jernverks AB and Oxelösunds Jernverks AB

1990



Milestones in Sweden's transport and automotive industry





FAQ

What are the key industries in Sweden's manufacturing sector?

Key industries include automotive, machinery and equipment, pharmaceuticals, and steel production.

How is the Sweden's workforce adapting to modern manufacturing?

The workforce is increasingly focusing on skills in digital technologies, data analytics, and robotics, supported by educational programs and vocational training initiatives.

How is Sweden fostering innovation in manufacturing?

Sweden has the unique quadruple helix, a framework for collaboration between industry, government, civil society, research institutions and universities. This facilitates cutting-edge research in manufacturing technologies and processes.

What is the manufacturing sectors contribution to Sweden's GDP?

The manufacturing sector contributes approximately 18-20% of Sweden's GDP. This varies slightly based on the year and economic conditions.

What is the export value of Sweden's manufacturing industry?

In recent years, the total value of manufactured goods exports has been around SEK 1,500 billion. Manufacturing accounts for a significant portion of Sweden's total exports, often exceeding 90% of total export value.

In 2021, exports in manufacturing increased to about SEK 1,600 billion.

The automotive sector (including Volvo and Scania) accounted for about 15% of total manufacturing exports in 2021.

What is the size of the manufacturing workforce in Sweden?

The manufacturing sector employs around 700,000 to 800,000 people in Sweden, representing about 12-13% of the total workforce.

What sustainability goals are there for the manufacturing sector in Sweden?

In 2021 the Swedish government set a target for the manufacturing sector to achieve net-zero emissions by 2045, with interim goals for 2030.

What level of automation does Sweden's manufacturing sector have?

As of 2021, Sweden had approximately 250 robots per 10,000 employees in the manufacturing sector. This is significantly above the global average of around 113 robots per 10,000 employees.

In 2022 approximately 60% of Swedish manufacturing companies reported using some form of automation in their production processes. This includes both traditional industrial robots and collaborative robots (cobots).



About Sweden

In global rankings, Sweden consistently ranks as a sustainability, innovation, and equality leader.

1st

Global sustainability competitiveness index

[View ranking](#)

2nd

Most innovative economy

[View ranking](#)

2nd

Annual glass ceiling index

[View ranking](#)

Innovation and sustainability credentials

- Sweden aims to run 100% fossil fuel-free energy by 2040
- Sweden is supporting industrial decarbonisation and is home to one of the first major projects for hydrogen-based steel production
- The Swedish government has a target to reduce transport emissions by 70% from 2010 to 2030 and is supporting transport decarbonisation through electrification and advanced biofuels
- Two Swedish companies have developed carbon-free steel. Stegra (formerly H2Steel) and Hybrit, a collaboration between mining company LKAB, energy company Vattenfall, and steel company SSAB
- Ultra-low carbon, 100% circular cement has been developed and piloted by Swedish company Cemvision
- Automotive disruptors Einride have created world-leading digital, electric, and autonomous shipping technology
- Stockholm's entire underground system runs on green electricity
- Candela, a Swedish startup, is responsible for developing and launching the world's first electric passenger hydrofoil ferry, cutting route times and emissions

A long history of sustainability leadership and action

- Sweden was the first country to pass an environmental protection act in 1967
- In 1991, Sweden was one of the first countries to introduce a carbon tax
- Sweden hosted the first UN conference on the global environment in 1972
- Sweden has an ambitious goal of becoming the first fossil fuel-free OECD nation by 2045

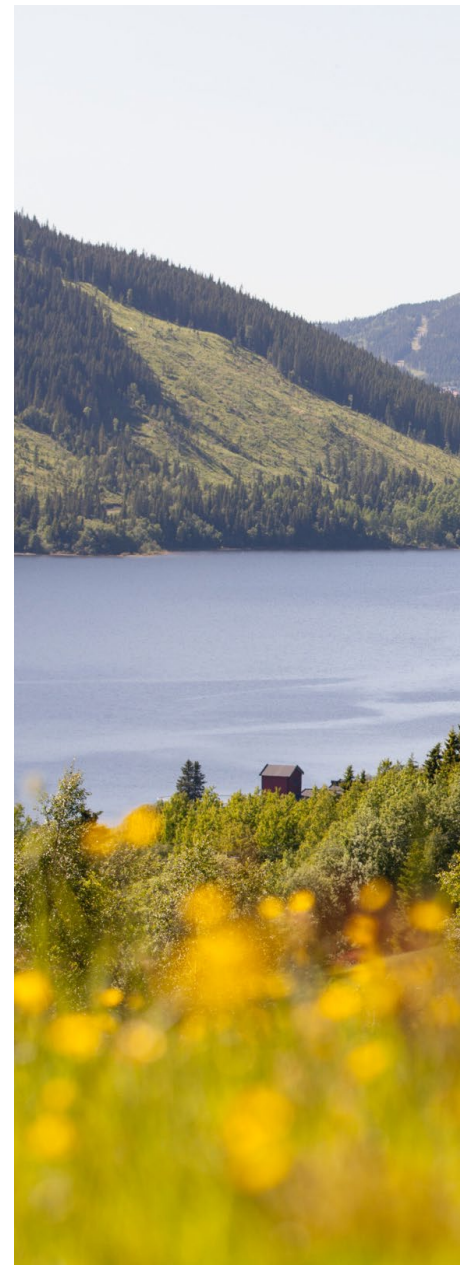


Photo: Niclas Vestefjell / imagebank.sweden.se



Photo: Henrik Trygg / imagebank.sweden.se



Team Sweden

Team Sweden is a network of government agencies and other actors primarily focussed on promoting Swedish exports and investments in Sweden. The aim of Team Sweden is to strengthen collaboration and efficiencies based on each organisation's expertise and resources, through working groups that cross sectors, regions, and countries.

Swedish Institute

The Swedish Institute is a public agency that builds interest and trust in Sweden around the world. They work with Sweden promotion, cooperation in the Baltic Sea region, and global development.

Media Assets

Find all assets related to the Swedish Institute at sharingsweden.se

Sweden on social media





Almi

Almi Invest makes investments in the early stages of a startup. When the entrepreneurs want to raise capital to develop their business, Almi quickly assesses whether venture capital is the best option or if they should be funded directly.

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Business Sweden

Business Sweden is jointly owned by the Swedish state and the Swedish business sector with a mandate and mission to help international companies gain access to the Swedish market and help domestic ones utilise it as a platform for expansion.

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Embassies

Sweden has diplomatic relations with almost all States in the world. It has embassies and consulates in around half of these. Sweden's foreign representation consists of approximately 100 missions abroad and 350 honorary consulates. Embassies provide information about travelling or moving to Sweden, as well as information about doing business with or in Sweden.

Enterprise Europe Network

The Enterprise Europe Network (EEN) helps businesses innovate and grow on an international scale. It is the world's largest support network for small and medium-sized enterprises (SMEs) with international ambitions. The Network is active worldwide, bringing together experts from member organisations that are renowned for their excellence in business support.

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Export Credit Agency (EKN)

EKN (Export Credit Agency) is both a business partner and government authority tasked with promoting Swedish exports and the internationalisation of Swedish companies, by insuring companies and banks against the risk of not getting paid.

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Regional investment promotion partners

Sweden's regional investment promotion partners help international companies invest, establish, and expand in Sweden. They offer services on a local, regional, and national level to identify business opportunities. There are 18 regional partners across Sweden.

Swedish Agency for Economic and Regional Growth (Tillväxtverket)

The Swedish Agency for Economic and Regional Growth (Tillväxtverket) is a government agency under the Ministry of Climate and Enterprise. The agency works across three policy areas: enterprise policy, regional development policy, and rural policy. One of their primary tasks is helping to ensure that EU funds are invested in projects that promote regional growth and employment.

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Swedish Chambers of Commerce

The Swedish Chamber of Commerce has offices in many countries worldwide. They offer guidance for doing business in Sweden, which rules and agreements are in place as well as general information about Swedish business.

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Swedish Energy Agency (Energimyndigheten)

The Swedish Energy Agency (Energimyndigheten) works with the promotion of energy efficiency measures and investments in renewable energy technologies. They are responsible for leading society's transition to a sustainable energy system.

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Swedish Export Credit Corporation (SEK)

The Swedish Export Credit Corporation (SEK) is a state-owned organisation that finances Swedish exporters, their subcontractors, and international customers. They strengthen the competitiveness of Swedish exports, with a vision to make the world more sustainable through increased Swedish exports.

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Swedfund

Swedfund is the development finance institution of the Swedish state, with a mission to combat poverty by investing in and developing sustainable business in the world's most challenging markets. They work in combination with business, organisations, and authorities across the entire investment cycle.

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Vinnova

Vinnova is Sweden's innovation agency, with a goal to open the way for innovation that provides sustainable solutions and strengthens Swedish competitiveness. They support collaborations and provide funding for projects that bring together cross-sector and cross-boundary partners.

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