

Stockholm FinTech Guide

Welcome to the city where innovation
and sustainability go hand in hand

Ready to explore the Stockholm FinTech ecosystem?

Stockholm has one of the world's most innovative startup ecosystems and is second only to Silicon Valley in terms of unicorns produced per capita.

The rise of these leading market players has paved the way for Stockholm to become one of the largest FinTech communities in Europe. The city has a long and successful history of technological innovation in financial services. A healthy financial market, a generally robust economy, and a digitally mature society provide a solid foundation for FinTech companies to thrive.

The urgency of climate change highlights the crucial role of the finance sector in directing capital towards solutions and investments with positive environmental and social impact. In recent years, a surge of FinTech ventures focused on advancing the Sustainable Development Goals (SDGs) has emerged.

With its thriving FinTech ecosystem, ambitious city climate goals, and large, dynamic private equity market, Stockholm is the ideal location for FinTech companies to develop green innovations, apps, and solutions. A burgeoning Green FinTech ecosystem is emerging, with more companies targeting the climate challenges and attracting record levels of ESG investments. Sweden's surge of Green FinTech unicorns cannot go unnoticed.

Our vision is for Stockholm to become a prominent hub for Green FinTech.

This guide provides an overview of Sweden's fast-moving financial landscape, focusing particularly on Stockholm and the technological advancements that have fuelled the city's journey towards becoming the world's most cashless society. It then delves into some of the potential growth categories in the Swedish FinTech world such as DeFi, RegTech, InsurTech, and Green FinTech, as well as providing expert insights from key players in the city's FinTech ecosystem.

Stockholm is defined by its spirit of collaboration, openness and innovation, and so we finish by outlining the many resources available for starting up or investing in the Swedish capital. This includes expert guidance from industry insiders to help innovative firms set up in the city, and highlighting initiatives and opportunities for scale-ups hoping to replicate the success of other FinTechs which have already taken advantage of Stockholm's unique climate and hope to expand in the Nordics and beyond.

Contents

Part 1	04-05	WELCOME TO STOCKHOLM
	04	Stockholm: Where innovation and equality go hand in hand
Part 2	06-15	THE SWEDISH FINANCIAL MARKET
	07	Sweden's flourishing financial market in a nutshell
	08	Demand for Green Finance sprouts promising opportunities
	10	Stockholm: the heart of the Nordic financial sector
	11	Banking on success: Sweden road tests digital currency
		Insights and predictions from Sweden's financial regulators
	12	– The Swedish Central Bank (Riksbanken)
	14	– The Swedish Financial Supervisory Authority (Finansinspektionen)
	15	– The Swedish Bankers' Association (Bankföreningen)
Part 3	16-27	THE SWEDISH FINTECH LANDSCAPE
	17	The path to financial innovation starts in Stockholm
	18	A taxonomy of Sweden's FinTech industry
	19	Stockholm: A bustling FinTech playground
	20	Stockholm continues to dominate deal flow in the Nordics
		Tips for success from Stockholm's FinTech experts
	24	– SweFinTech
	25	– Findec
	26	– Sthlm FinTech week
Part 4	28-43	THE NEXT WAVE OF FINTECH
	28	Regulatory technologies: The future of financial services?
	32	A wealth of opportunities in Decentralized Finance
	36	Stockholm embraces its role as the Nordic's InsurTech leader
	40	Green FinTech paves the way to a greener future
Part 5	44-45	OPPORTUNITIES
	44	Opportunities in Stockholm now and in the future
	44	– Digital banking
	45	– The cashless society
	45	– Growth region for SMEs
Part 6	46-59	STARTUPS, SCALEUPS & INVESTORS
	46	Stockholm: A breeding ground for innovative startups
	47	Get to know some key players in tech
	48	Tips of the trade: expert advice for FinTechs
	52	In Stockholm, collaboration is the key to FinTech success
	56	Talent stories
	58	Reasons to invest in Stockholm
	59	Private Equity and Public fundings

Stockholm: where innovation and equality go hand in hand

At a time of rapid global digital acceleration sparked by the COVID-19 pandemic, Swedish capital Stockholm already lies ahead of the race thanks to its long-held position as a global leader in digital transformation¹. Coupled with the Swedish economy's resilience to the economic hardships of the pandemic – GDP growth has bucked the trend and exceeded expectations² while many countries still labour to recover – it's clear that Stockholm presents a unique investment opportunity in 2021's landscape.

Investing in Stockholm means the security of investing in a city with a proven track record of fostering innovation and entrepreneurship, bolstered by factors like social stability,

access to government support and gender equality. The World Economic Forum ranks Sweden as one of the 10 most competitive countries in the world, with top grades for its innovation capacity. That's no surprise with a commitment to innovation proven by investing 3.4% of GDP³ in research and development – one of the world's highest rates.

Government agencies like Vinnova play an important part in Sweden's research by promoting and finding projects across a range of fields. While Tillväxtverket, the Swedish Agency for Economic and Regional Growth, strengthens competitiveness and facilitates entrepreneurship around the country.

Stockholm is among the world's most attractive regions/cities

Rank Top 10 Globally	The World Smart City Award 2021	EU Regional Competitiveness Index 2021	Generation Z City Index 2021	European Regional Economic Growth Index 2021	Top Ten Startup Hubs 2021	European Digital Social Innovation Index 2021	The Regional Innovation Scoreboard 2022
1	Stockholm (winner)	Stockholm	London	London	Silicon Valley	London	Stockholm
2	Bristol (finalist nominee)	London and its commuting zone	Stockholm	Paris	Beijing	Amsterdam	Helsingfors
3	Curitiba (finalist nominee)	Utrecht	Los Angeles	Stockholm	Stockholm	Copenhagen	München
4	Montevideo (finalist nominee)	Berkshire, Buckinghamshire, Oxfordshire	Toronto	Istanbul	Tel Aviv	Stockholm	Copenhagen
5	Seoul (finalist nominee)	Surrey, East and West Sussex	New York	Munich	New York City	Paris	Zürich
6	Tehran (finalist nominee)	Copenhagen	Berlin	Dublin	Shanghai	Madrid	Karlsruhe
7	–	Luxembourg	Munich	Luxembourg	Los Angeles	Brussels	Berlin
8	–	Oberbayern	San Francisco	Stuttgart	Seoul	Utrecht	Lugano
9	–	Flevoland & Noord-Holland	Amsterdam	Oslo	Boston	Barcelona	Malmö
10	–	Helsinki-Uusimaa	Vancouver	Copenhagen-Malmö	London	Edinburgh	Basel

Source: IMD, Euromonitor, Forbes, Transparency International, Cornell, INSEAD, WIPO, European Union.

1. <https://www.thelocal.se/20180523/sweden-among-eus-most-advanced-digital-economies-official-ranking/>

2. <https://www.bloomberg.com/news/articles/2021-04-29/swedish-economic-growth-beats-estimates-as-rebound-gathers-pace>

3. SCB: Intramural R&D expenditure by sector and share of GDP

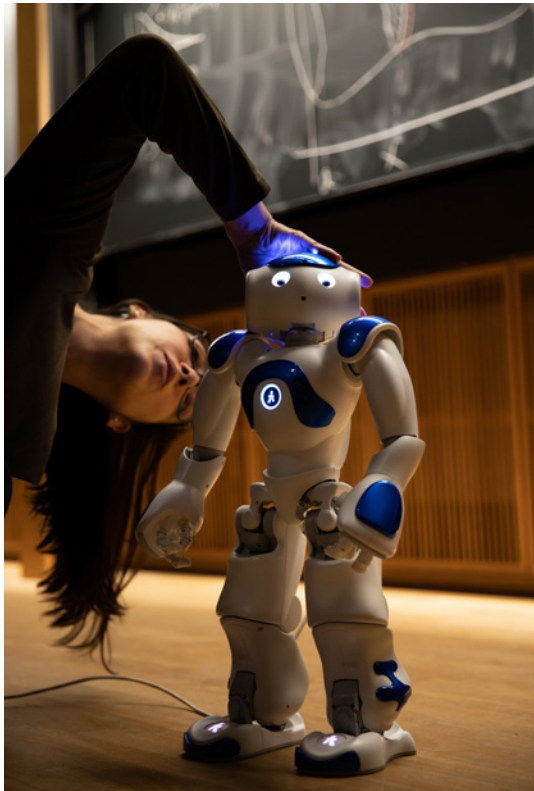


PHOTO: ULF LEIDE

Sweden has for decades been synonymous with its passion for innovation and Stockholm is the jewel in its crown. Second only to Silicon Valley in its generation of billion-dollar venture capital-backed companies per capita, the city is highly respected in tech circles as an entrepreneurial hub. And while many other cities struggle with the post-pandemic landscape, Stockholm's capacity as a startup ecosystem actually improved in 2020, according to the Global Startup Ecosystem Report⁴.

Meanwhile, the Swedish capital's reassuring survival rate for startups is one of the highest in the world, and companies which survive for at least three years in the country typically create five new jobs for every 100 existing jobs in the nation.

Successful entrepreneurs commonly invest financially in the next generation of startups and lead the way in inspiring a new generation of startup founders. Entrepreneurs in Sweden have access to co-working spaces, startup hubs, events, innovation grants, and a growing number of angel investors and venture capital firms.

4. <https://startupgenome.com/reports/gser2020>

Here are some reasons why our startups thrive:

→ We have a great education system

Swedish citizens enjoy free education, with an emphasis placed on interdisciplinary studies where innovation, design and engineering intersect.

→ We are early adopters

Sweden made one of the earliest investments into broadband in the 1990s, has become the world's most cashless society, and has pioneered, for example, digital video consultations with doctors. The country moves fast when adopting new innovations.

→ We love tech

18% of the Swedish capital's citizens are employed in the tech sector, which continues to expand and attract considerable talent from abroad due to a high demand for qualified IT professionals like developers. As much as 82% of Swedish employers have declared an increased demand for programmers in recent years, and the country is an important growth geography for international digital talent.

→ We think globally – from day one

The Swedish economy relies heavily on exports, which encourages entrepreneurs and investors to consider international expansion early on.

→ We are trustworthy and transparent

In Stockholm, the notions of equality, flexibility, and shared responsibility run deep. This is apparent in progressive attitudes to work-life balance and flat hierarchies that aim to give everyone a voice.

→ We focus on gender diversity in tech

The Nordics are often lauded for their commitment to gender equality and Stockholm is at the vanguard. With a uniquely proactive approach to improving gender equality in the workplace, Mayor of Stockholm Anna König Jerlmyr has set the ambitious goal of 50% of Stockholm's unicorns in the next 10 years to be created by women.

→ We care about all forms of sustainability

Swedish companies of all sizes are at the forefront of integrating the UN Sustainable Development Goals into their business models, striving not only for environmental but also economic and social sustainability. Impact-oriented entrepreneurs play an important role in driving this change as they build strong businesses, proving that it is possible to generate profit with low environmental impact all while paying it forward for future generations.



Sweden's flourishing financial market in a nutshell

The financial sector is vital to the Swedish economy and makes a considerable contribution to the country's production, employment and welfare through banks, insurance companies, securities firms, and more. A reliable and advanced system for savings, finance, payment intermediation and risk management provides a foundation for Swedish private and business life to function efficiently.

The Swedish financial system's main functions can be broken down into three broad categories: converting savings into funding, managing risks, and making it possible for payments in the economy to be processed efficiently. A reliable, efficient financial system goes hand in hand with a functioning, prosperous economy, and as of 2021 the financial sector accounted for 4.4 percent of Sweden's total GDP.

Almost 100,000 people – around two percent of the total workforce – work in the financial industry, and the seven largest banks in Sweden alone account for around 10 percent of total corporate tax.

Forms of financial enterprises in Sweden

Banks account for the largest group of companies in Sweden's financial sector according to total assets and liabilities, followed by credit market companies and housing credit institutions in particular. Securities companies who conduct trade of securities as well as commission trading are also a significant player, helping to create an efficient securities market.

Along with insurance companies, mutual funds companies, pension funds, and private equity companies, FinTech also plays an important role in Sweden's financial market, not only in its economic contribution but also its role in developing technology. The rise of FinTech offering new financial services has increased competition within banking, and enabled the development of new services as well as the evolution of existing ones.

A changing market

These technological advances among others mean bank branch offices have become less important for daily

customer services in Sweden, which are instead now largely performed using mobile phones, tablets and computers. Bank services like mobile payment services, Bank e-ID, e-invoices, etc have become the new normal. According to the ECB etc., Swedes uses non-cash payments to a larger extent than most other Europeans. For that reason, the use of cash is declining rapidly.

According to a survey by the Riksbank, the Swedish central bank, 92% of Swedish citizens have used a bank card in the past month and 82% have used the Swish mobile payment service. Swish, which was introduced by banks seven years ago and offers real-time account-to-account transfer, has 8 million users, which corresponds to around 75 percent of the Swedish population.

The transition to a more sustainable economy has also had an impact, with many banks already part of the process by offering sustainable products and making their funding itself more sustainable, and opportunities opening up for new financial companies to establish themselves in the Swedish market.

The number of commercial banks and foreign bank branches in Sweden increased from 66 in 2012 to 77 in 2022, while the number of banks in total is now 123, with savings banks and cooperative banks accounting for the rest.

Commercial banking is the bank form that has grown the most as several credit market institutions transitioned to become commercial entities, and European banks opened branches in Sweden. The three largest commercial banks are Swedbank, Handelsbanken and SEB, who are important actors in most segments of the Swedish financial market, but several more were formed from the mid-1990s onwards. There are also new banks with a background in securities trading, while a number of new banks with a background in the financing business have emerged in recent years.

There are a total of 36 foreign banks operating in the country, the largest of which is Nordea (no longer classed as a Swedish bank after it moved its headquarters to Finland in 2018). Danske Bank is another noteworthy foreign bank operating in the Swedish market.

The Swedish Financial Sector in Numbers

2

percent of the workforce

4.4

percent of GDP

10

percent of total corporate tax.

Demand for Green Finance sprouts promising opportunities

In the area of sustainability the Nordic banks are considered to be at the forefront with several years of traction behind them. Positive developments are seen in many major European banks also, and recently American and Asian banks and investors have become more active.

Looking back at the investment side of Green Finance from just a few years ago, there were a limited number of sustainability focused funds on the market. Those funds predominantly had a portfolio of established and well-known corporates on regional and European level with good sustainability reporting. On the customer side, the funds were usually part of a larger package of different funds, so upon further inspection only a small percentage of all capital was allocated towards sustainability.

That changed around 2018 in the Nordics as interest increased, with funds becoming more specialized and more of them available, and climate-related allocation of investments increasing. That increasing interest from customers generated a push for more information from advisors at banks, who were now expected to provide support in the area in their advisory sessions with customers.

"This led to a shift in the role of advisors, going from a more passive to more active role towards customers in sustainability issues," says Anders Langworth, Sustainability Group Head at Nordea.

By extension, banks or indeed any financial advisor can now play an important part in the area, informing about sustainable finance in general, and describing in much better detail sustainability funds and their positive impact:

"What we found at Nordea was not only our customers were more satisfied with our service but also our advisors became more satisfied with their work situation. They felt more involved by contributing to something good, beyond financial outcomes", continues Langworth.

Today the pace in development of more specialized funds is increasing. Funds consisting of unlisted companies that otherwise aren't accessible for investors are starting to appear.

"As an example, at Nordea we have entered a partnership with Trill Impact, an impact private equity firm which targets businesses with the ambition of creating powerful societal impact. Also, Nordea Life & Pension, has invested in Norrskens VC fund which is 100% focused on investing in impact driven, early stage, and tech companies. I strongly believe this trend will continue where you will find these types of investments within the package of funds presented to investors, both private and institutional," Langworth explains.

In general today institutional investors are required to invest in sustainability funds that represent a rapidly growing segment of investment solutions in Europe. According to the first annual European Sustainable Investment Funds Study by Morningstar the **"net assets in sustainable fund products have more than doubled since 2018, attracting 52% of all**



Anders Langworth, Sustainability Group Head at Nordea.

net new flows and accounting for 11% of total net assets domiciled in Europe at the end of 2020".

In the past, sustainability funds evaluated corporates' sustainability reports but had difficulties in gaining access to all the relevant data. This sometimes raised the issue of greenwashing. Today, banks are allocating more resources towards evaluations featuring more onsite visits, and also engaging professional rating suppliers for better underlying data. On top of that, geographical and industry related risks are evaluated and as a whole, all sources are used as input for their own scoring systems. The scoring systems are today not only used for initial investment, but increasingly used for monitoring corporates within investment portfolios. As such, investor demands are increasing for corporates reducing climate impact.

"The scoring has moved from initial investment evaluation to future predictions and what plans corporates have for reducing their climate impact. What we've experienced is that corporates actually appreciate these demands as a basis for their change work. And in the end, they don't really have a choice because of higher demands from both customers, investors and increased regulatory requirements." Anders Langworth sums up.

Nordea has approximately 400 billion Euro assets under management. In a global context, that's a rather small amount. Investors are increasingly working together however for a stronger united position towards corporates. One example of this is "Climate Action 100+", an investor-led initiative for pushing the world's largest greenhouse gas emitters to take more climate action. Beside the largest greenhouse emitters predominantly in the energy, fossil fuel and manufacturing industries, more pressure is also directed towards industries such as shipping, mining, and agriculture. Not only greenhouse gas emissions are in the scope but also technology processes, water consumption and more.

“Another important part of recent developments is the support of our customers regarding sustainability matters, especially SMEs, when it comes to financing and transition in general. For companies which are unable to pay internal specialists, close cooperation with the bank will be crucial.”

Financing a more climate-friendly future

How can capital make a difference, and in which way can you as a bank have an impact?

Sustainable finance has a key role to play in delivering on the policy objectives under the international commitments on climate and sustainability, by channelling financing and investments into the transition to a climate-neutral, climate-resilient, resource-efficient and fair economy as a complement to public money.

For Handelsbanken, strong and lasting business relationships, low risk-taking and cost-awareness have been cornerstones for decades. We are also part of several banking communities and initiatives where banks take joint actions and provide guidelines for responsible banking and investments. In both contexts there is a focus on increased lending to sustainable activities and on reducing or completely ceasing lending to unsustainable activities (depending on the activity's level of impact). The same considerations apply to our mutual funds when they choose to invest or not to invest in certain assets. Lending to and investments in companies which are in a sustainable transition phase or contribute to sustainability transition is becoming increasingly important.

How has the bank's role in sustainability work changed over time?

There has been an increasing importance for close engagement with customers, stakeholders, investors and authorities to understand the expectations, opinions and regulations involved in making well-founded decisions, and to better prioritize our sustainability efforts in the markets where we operate. Customers require us to offer sustainable loan products and saving opportunities. Stakeholders expect us to be a bank that acts sustainably and responsibly and has a substantial positive impact on society in general. Investors continuously follow the development of our sustainability work to make sure that we meet expectations. We also have to comply with an increasing number of national and international directives and regulations related to sustainability.

We can see positive news in the media, that money is moving to green initiatives and things are developing quickly. What key factors must be in place to ensure that development is going in the right way at the same time as it picks up pace?

Rapid development puts increased pressure on optimal internal governance, efficient training of employees and close cooperation with customers and stakeholders to ensure that for example the offered financing or saving products contain criteria that actually lead to the expected sustainable impact. There are also measures taken by the EU and international organizations to establish uniform frameworks for classification of sustainable activities, such as the EU green taxonomy.



Karin Lagerstrand, Vice President Group Sustainability at Handelsbanken.

Which sectors need to make changes more quickly? And which are already moving fast today (and why)?

Most sectors need to increase their efforts, but in order to reduce mitigation energy production, the steel and cement industries and the transport sector are especially important. A faster growth in solutions connected to climate adaptation is also needed.

The automotive industry is a sector that will probably transform faster in the coming decade since most major car manufacturers have set a clear date for when they will only produce net zero or low-carbon vehicles.

The construction sector has also been relatively quick in terms of conversion towards increased energy efficiency, partly due to an increased customer demand for certified and energy efficient buildings, but also due to increased requirements regarding energy efficiency in building regulations.

How does this process impact companies?

All companies need to evaluate the risk and opportunities of the transition and climate change – companies that understand their risks and opportunities of course have a greater chance for success. Banks will pay increasing attention to a company's risks related to climate change and sustainability in their credit and investment analysis, which may affect the company's creditworthiness and ability to attract investors.

For a lot of companies it might initially result in higher investment costs for new technology and solutions, and some companies may need to completely restructure their business model. But it will likely also lead to new revenue streams and business opportunities, creating new and fast growing companies.

Stockholm: the heart of the Nordic financial sector

The majority of Sweden's financial sector is concentrated in the Stockholm region – around 1,100 financial companies are registered in the capital city, compared to around 220 in Sweden's second-biggest city Gothenburg. The Swedish capital's financial sector is characterised by a significant number of financial businesses who have relatively few employees, but a high turnover.

There is a high concentration of foreign players who have offices in Stockholm, and the city is considered a major financial centre, ranking 31st in the world in the latest Global Financial Centres Index (GFCI)⁵. The index is based on more than 29,000 assessments from financial professionals combined with over 100 indices from organisations like the World Bank and OECD.

Characteristics

High competitiveness is a key characteristic of Stockholm's financial market, which provides a strong platform for conducting business. The stable operating environment makes it suitable for IPOs and financing potential is promising due to the strong presence of solid banks. As a global player, Stockholm is the most international of the financial markets in the Nordics, with the largest concentration of foreign banks in the region. The City's slogan "Capital of Scandinavia" rings true in that regard, as well as its financial reputation and strength.

In summary, the characteristics of the Stockholm financial market are as follows:

- **Strong IPO Market:** A stable operating environment for companies who aim for an initial public offering (IPO) on the stock exchange. Nasdaq Nordic's First North Growth Market is based in Stockholm, and provides a platform with relatively relaxed rules for small- and medium-sized companies looking for a listing.
- **Solid Banks:** Banks in Stockholm are highly capitalized with strong liquidity compared to other European regions. There is a high integration between the banks and business activities in other industries.
- **Nordic Financial Capital:** Sweden's position as the Nordics' most industrialized nation creates opportunities in the financial sector, and Stockholm has the largest concentration of foreign banks among the Nordic nations. The city has a high degree of innovation, research, and process development.

Stockholm ranks number one in the Nordics

No.1

Stockholm consistently ranks as the number one financial centre in the Nordics, thanks to its combination of a highly competitive market with a strong financial infrastructure.

Other strengths not exclusive to but helpful for Stockholm's role as a modern global financial market include:

- **High degree of digitalisation:** A large degree of financial services are provided through digital platforms compared to other regions in Europe. Recent market research shows 97 percent of Swedes use the internet for banking activities. That level of digital maturity is reflected in the labour market, with a high concentration of software developers based in the Stockholm region compared to the rest of the Nordics.
- **Strong talent Supply:** World-class educational institutions are based in the city, such as the major business school Stockholm School of Economics. As a reflection of that, the work force in the Stockholm financial sector is highly sophisticated. The Swedish House of Finance at the Stockholm School of Economics hosts internationally distinguished researchers in finance. The research center is an independent platform where the academic world, policymakers and financial sectors can exchange knowledge.
- **High level of industry cooperation:** Sweden's open business culture allows easy access to decision makers among different players. There is a strong history of collaboration not only between different actors but also competitors. E-authentication system Mobilt BankID and instant payment app Swish are examples of innovations resulting from cooperation between banks that are used by a large section of the Swedish population on a daily basis.

Banking on success: Sweden road tests digital currency

All Nordic countries are making considerable headway in the transition towards becoming cashless societies but Sweden tops the list. According to the Swedish National Bank (Riksbanken), cash transactions in commerce constitute as little as 1% of the total volume of transactions, 66% of the population has not used cash within a month and more than one out of five shops have stopped accepting cash as a means of payment. Cash volume to GDP has been more than ten times lower in Sweden (1%) than the Eurozone (11%). Such a high level of penetration of digital payments represents a fertile ground for the incorporation and growth of FinTech ventures.

Instant payments, when bank customers move money from one bank to another in just seconds, are becoming increasingly common. Sweden is already one of the world's most advanced countries when it comes to digital payment. On average, 2.5 million such payments occur each day via the mobile Swish app.

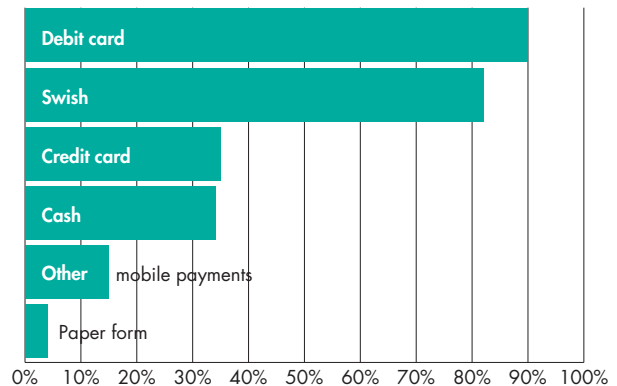
E-krona

The Riksbank is the central bank of Sweden and is entrusted with three main business areas: payments, monetary policy and financial stability. In 2017 Sweden's Riksbank took the groundbreaking decision to investigate whether issuing a central bank digital currency (the 'e-krona') would be feasible, and developments since have only strengthened the need for consideration. Swedish cash usage is now at an all-time low, with less than one-tenth of payments made with cash. Card payments, as well as the payment app Swish, dominate in its place.

The COVID-19 pandemic accelerated the pace of change: older demographics are now using Swish more often, and contactless payments in shops have increased as the limit for such transactions was raised from 200 to 400 kronor in April 2020 – a change particularly welcomed in light of the increased need for social distancing.

The Riksbank's payments report published in December 2022 shows that cash continues to lose ground. The proportion of the population using cash as a payment method for their last purchase in a shop fell from around 40 to under 10 percent between 2010 and 2022. The Riksbank sees an e-krona as a potential option to ensure that the general public has secure access to state-guaranteed money, even if cash becomes further marginalized.

The Swedish people's answer to the survey 2020
question: What means of payment have you used in the last 30 days?



Source: Riksbanken Payments in Sweden 2022 report

The main objective of the e-krona project is to increase the knowledge of how an e-krona could work as a complement to cash. The Riksbank is carrying out the e-krona pilot and has completed the third phase. The e-krona pilot is a test solution based on Distributed Ledger Technology (DLT). In this solution, the e-krona takes the form of tokens containing information on value and origins.

The areas for phase three are programmable payments, collaboration model and cross-border payments. The Riksbank has, together with the Bank for International Settlements (BIS), Norges Bank and the bank of Israel, jointly set up project Icebreaker, testing how Central Bank Digital Currencies (CBDCs) can be used for international retail and remittance payments.

The Riksbank is also due to start preparations for a possible procurement of an issuable e-krona. No decision has been made on whether to issue an e-krona, and the decision will ultimately be a political one. The proposal for the payment's inquiry is expected to be submitted to the government on 31 March 2023 regarding the state's role in the payment market. The inquiry will also take a position on the need for the Riksbank to issue e-krona.

Insights and predictions from Sweden's financial regulators

BIS Innovation Hub Nordic Centre

The BIS Innovation Hub was established in 2019 by the BIS (Bank for International Settlements) to identify and develop in-depth insights into critical trends in financial technology of relevance to central banks, to explore the development of public goods to enhance the functioning of the global financial system, and to serve as a focal point for a network of central bank experts on innovation.

In 2021, BIS and four Nordic central banks including the Riksbank launched the BIS Innovation Hub Nordic Centre. The expansion marks the fifth BIS Innovation Hub Centre to be opened in the past two years.

The Nordic Centre will function as a hub for a network of innovation experts, for research on important trends in financial technology of significance for central banks and for promoting international collaboration aimed at improving the functioning of the global financial system.

What drove the BIS to set up an Innovation Hub Centre in the Nordics?

Technological change is disrupting financial services and changing the way economies work across the globe. The financial sector is evolving at a very fast pace and nowhere is this more true than in the Nordic region. Therefore, the Nordic countries' vibrant and innovative FinTech environment will serve as a catalyst for key experimentation to help central banks meet the challenges of the digital future.

What areas will the Nordic Centre work on?

The BIS Innovation Hub Nordic Centre based in Stockholm will work in areas related to central bank digital currencies, next generation financial market infrastructure, cyber security and green finance. The process of recruiting the team to initiate the projects has started and the idea is for the Centre to collaborate with the private sector, which will be an important part of the innovation work.

In practice, what implications could the Centre have for Sweden's current FinTech ecosystem?

The BIS Innovation Hub will build on collaborative efforts among central banks, and cooperate with academia, financial services providers and the broader private sector in order to develop public goods for the benefit of the global financial system. The Swedish FinTech ecosystem, through its expertise, innovative and collaborative spirit, will be able to contribute to this joint effort in shaping the future of the global financial system.

“The financial sector is evolving at a very fast pace and nowhere is this more true than in the Nordic region.”

SWEDISH FINANCIAL MARKET EXPERT INSIGHTS



NAME:	Mithra Sundberg
TITLE:	Head of e-krona division
ORGANIZATION:	Riksbanken (The Swedish Central Bank)

SWEDISH FINANCIAL MARKET EXPERT INSIGHTS



NAME:	Dilan Ölcer
TITLE:	Adviser and Head of project
ORGANIZATION:	Riksbanken (The Swedish Central Bank)

“A key factor is that the central banks work for global cooperation. We want to encourage competition in the market by offering a platform where others can create innovative services.”

The Riksbank is the central bank of Sweden and is entrusted with three main business areas: payments, monetary policy and financial stability.

What role does the Riksbank play in the FinTech domain?

The Riksbank tries to listen and adapt to what society needs: so dialogue with the private sector is welcomed and we encourage private actors to come up with proposals for solutions to challenges in the financial sphere. Our remit demands a strong understanding of financial actors' different functions and needs, in order to be able to contribute to creating a secure system going forward. And any updates must of course be carefully examined by the Riksbank before they are launched.

An example of Riksbank initiatives and updates linked to a cashless society is the decision to connect the new RIX-INST service to the Eurosystem's TIPS payment platform. The current RIX system is designed for large-scale payments but has limited opening times, so it had to evolve for a future where payment flows move increasingly quickly. RIX-INST is the result, a new service developed for instant payments, where the ECB's TIPS platform is the technical solution.

In practice, connecting RIX-INST to TIPS means it will be possible for payments between banks to be made instantly, 24 hours a day, 365 days a year, in central bank currency. That ensures the Riksbank can offer banks a neutral, safe and cost-effective payment system that will provide the scope for Swedish companies to develop new and innovative payment services.

With regard to the ongoing e-krona project, what implications could that have for the FinTech ecosystem? Are there business opportunities emerging for both incumbents and innovative new entrants in the Swedish FinTech industry?

It's worth clarifying that the e-krona is part of the Riksbank's clear mission to safeguard the Swedish economy, and it should not be confused with cryptocurrency. The e-krona would be a state-guaranteed currency.

The project includes Riksbank contributing an e-krona infrastructure where other players could connect their own services – we want to encourage competition in the market by offering a platform where others can create innovative services. Work on reviewing the technical and legal possibilities is ongoing, and the results of the inquiry into the e-krona will be presented in November 2022, which will be decisive for the future of the project.

Are there any competitive advantages that make Sweden's FinTech ecosystem in particular stand out to attracting new players?

Sweden has a high digital maturity, strong infrastructure and high accessibility. There is great interest among the public and good established collaborations between the private sector and the public sector within Sweden and the Nordic countries. A key factor is that the central banks work for global cooperation.



“The high level of trust in our authorities in Sweden leads to increased security and clear conditions for both new and existing players in the financial sector.”

SWEDISH FINANCIAL MARKET EXPERT INSIGHTS	
	
NAME:	Klas Malmén
TITLE:	Innovation coordinator
ORGANIZATION:	Finansinspektionen (The Swedish Financial Supervisory Authority)
ESTABLISHED:	1991
EMPLOYEES:	~600

The Swedish Financial Supervisory Authority (FI) Innovation Centre provides a first point of contact for companies unsure about the regulations, processes and principles that are relevant to financial innovations in Sweden – an important initial resource for those considering investing within the world of financial technology in Sweden.

Companies with a financial innovation who seek to introduce their service to the Swedish market can turn to the Innovation Centre for help accessing the initial information they need to understand the specific financial regulations relevant to their type of business activity in Sweden. If the firm decides it wants to offer financial services to the public, it must then apply for authorization from FI to conduct operations in the market.

Knowledge and understanding of innovations in the financial sphere is important as FI must keep pace with industry developments in order to minimize risks and fulfill its duty of protecting the consumer. The Centre contributes to that by participating in FI's internal discussions on financial innovations, ensuring knowledge of new innovative services is up-to-date and thereby aiding the authority's supervision activities.

What kind of services can you provide for international startups, scaleups and other relevant players looking to tap into the Swedish FinTech ecosystem?

As FI is involved in assessing permit applications our role is not as an advisory service, but we can provide guidance on how a company can navigate the different permits available to apply for in Sweden, and help them with information about the permit process in general.

What are the competitive advantages that make our FinTech ecosystem stand out to attract new players?

The Swedish USP in our point of view is the strong knowledge within the field of digital technology combined with broad know-how in finance. We have a lot of large, well established actors in the sphere and also a good level of digital infrastructure that's a plus point. There's a well-developed community and network, and more generally Sweden has a high level of education, digital awareness, and trust in authorities who are strong when it comes to review and oversight.

What types of new players within FinTech do you think would be beneficial to attract?

While it's not our job to take a position on that, we're positive about any innovation that contributes to our main goals as a supervisory authority. We welcome impact firms and innovations that prevent money laundering and terrorist financing for example.

What key takeaways would you give to international startups and scaleups entering the Swedish market?

Make sure you have access to legal competence. Due to security reasons the financial market in Sweden is highly regulated. So find out in advance what kind of authorization you need and what's needed for your application. Processing times can differ depending on the kind of permits you need but also upon the quality regarding the application. An application that is complete requires less time to process.

“In Sweden, there’s a large number of actors with a high level of competencies, strong level of drive, and great potential to collaborate successfully.”

SWEDISH FINANCIAL MARKET EXPERT INSIGHTS



NAME:	Henrik Bergman
TITLE:	Director Financial Infrastructure
ORGANIZATION:	The Swedish Banker's Association
ESTABLISHED:	1879
MEMBERS:	42
MAIN OPERATIONS:	Industry organisation

The Swedish Bankers' Association is a trade association representing more than 30 banks and financial institutions active in Sweden. With a long history dating back to 1879, the organisation aims to contribute to a sound and efficient regulatory framework that facilitates banks in creating economic wealth for customers and society.

Lobbying for important issues in the banking sector and highlighting the impact regulation has on the Swedish financial market and economic landscape, the Swedish Bankers' Association has regular meetings with decision makers in Sweden's parliament, government, the Riksbank, Financial Supervisory Authority and other relevant authorities. As a member of the European Banking Federation (EBF), the Swedish Bankers' Association also works closely with regulators and policymakers at European level, and represents member companies both nationally and internationally.

The organisation's most important tasks include analysing and raising any concerns related to draft legislation that would impact its members (such as financial or taxation legislation), as well as helping in the evolution of banking regulation and standardisation within areas like payments, clearing, security and IT infrastructure.

What are some of the key themes the Swedish Bankers' Association is dealing with at present?

Right now some emerging key trends we can see from the needs of our member banks include sustainability, digitalisation, security, anti-financial crime collaborations and new EU financial regulation.

Which initiatives are you pushing for and prioritising right now?

Our main mission is always to maintain high trust in the banking system, ensure there's well functioning and competition-neutral regulation that strengthens the Swedish economy in the long term, and a high level of banking security with a smooth infrastructure for key services like payments.

With regards to financial infrastructure in particular some key initiatives include the transition towards the new Nordic payment rulebooks and infrastructure, broad collaboration for increasing cybersecurity as well as combating money laundering and fraud, and projects on digital innovation that benefit our members and their customers.

What opportunities are there for your members to partner with FinTechs?

Digitalisation, regulation and changing consumer demands mean we can see an increased need for broad collaboration to create innovative solutions to infrastructure and security challenges that operate at a highly accessible, highly secure level. Together with the Swedish FinTech Association for example we run an API-forum for collaborations around solutions to PSD2 demands and Open Banking. Additionally, we have a number of other ongoing initiatives alongside agencies regarding secure access to and the transfer of digital data.

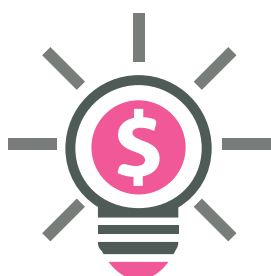
What would you say makes the Swedish FinTech ecosystem stand out, according to your experience?

In Sweden, there is a large number of actors with a high level of competencies, strong level of drive, and great potential to collaborate successfully.



The path to financial innovation starts in Stockholm

Sweden has always been one of the first countries to embrace new technologies. This is noticeable throughout our country's history, and our financial system is no exception. From the first banknotes to modern currency, with around five percent of young people in Sweden now owning some form of cryptocurrency⁶, we have forged an impressive history within financial and technological innovation over the past 350 years:



- | | |
|--|--|
| <p>1661 Stockholms Banco, a predecessor of Sweden's central bank, made history by issuing banknotes.</p> <p>1863 Stockholm Securities Exchange (Stockholms Fondbörs) is founded.</p> <p>1959 Bankgirot, Sweden's proprietary clearing system owned by the banks, is founded.</p> <p>1967 The first offline ATMs appeared from different companies within a week of each other — each without knowledge of the other's plans. One was from De La Rue/Barclays Bank and the other was the Bankomat from Swedish company Metior.</p> <p>1991 World's first integrated derivatives trading and clearing system appears at Stockholm Stock Exchange.</p> <p>2003 The first BankID is issued. BankID is the leading electronic identification solution in Sweden. Today around eight million people use BankID on a regular basis for a wide variety of private and public services.</p> | <p>2022 Riksbank launches a cross-border payments project, Icebreaker, together with the Bank for International Settlements (BIS), Bank of Israel, and Norges Bank.</p> <p>2021 Klarna launches carbon footprint insights for 90 million consumers and joins The Climate Pledge and Race to Zero campaign.</p> <p>2020 Bank for International Settlements (BIS) decides to establish an Innovation Centre in Stockholm.</p> <p>RIKSBANK decides to offer settlement of cross-currency payments via TIPS platform</p> <p>Klarna becoming Europe's most valuable private FinTech start-up.</p> <p>2019 Swish celebrates one billion transactions.</p> <p>2018 Sweden's financial regulatory body, Finansinspektionen, launches its innovation centre.</p> <p>iZettle is acquired by Paypal for US\$ 2.2 billion.</p> <p>Sweden's central bank, Sveriges Riksbank, announces it is investigating if the Swedish krona can be made available in electronic form: the e-krona.</p> <p>2017 Klarna receives a banking license.</p> <p>2014-16 Deal activity in Swedish FinTech rises consistently YoY at a CAGR of 40.8%</p> <p>2012 Mobile payment system Swish is launched by six large Swedish banks.</p> <p>2011 iZettle (founded 2010) launches its first card reader for iPhone.</p> <p>2007 American stock exchange NASDAQ acquires OMX.</p> <p>2005 Klarna is founded by Niklas Adalberth, Sebastian Siemiatkowski and Victor Jacobsson as an e-commerce payment company.</p> |
|--|--|

6. According to the Riksbank's Payments in Sweden 2020 report

A taxonomy of Sweden's FinTech industry

According to Invest Stockholm's stringent criteria the Swedish FinTech industry includes the following categories and subcategories.

Capital Debt and Equity

- Broker, Consumer Lending
- Crowdfunding
- Mortgage Lending Real Estate

Decentralized Finance

- Cryptocurrency
- Custodial Services
- Smart Contracts in Finance
- Wallets, Escrow
- Private Markets
- Stable Tokens
- Initial Coin Offering Ventures (ICO)
- Security Token Offering (STO)
- Equity Token Offering (ETO)
- Payments Services Providers
- Stablecoins
- Prediction Markets
- Derivatives

Green FinTech

- Climate FinTech
- ESG FinTech

Innovation in Accounting

- Invoice Trading
- Invoice Management
- Payment Monitoring
- Payment Reminder
- Brokers
- Online
- Debt Management

InsurTech

- Claims Management and Processing
- Risk Detection & Prevention (Internet of Things, Big Data Analysis in Insurance, Risk Screening, Proactive insurance)
- Underwriting and Reinsurance (Policy Administration)
- On-Demand Insurance (Componentization, Episodic Insurance)
- Product Insurance
- Consumer Communities in Insurance
- Customer Engagement (preference-based, customer communication)
- Distribution (digital brokers, comparison portals for digital insurers)
- Personalization (insurance wallets, financial partners)

Payment and Transfer

- Bill Payments
- Domestic Transfers
- Neobanks
- Transaction Accounts
- International Transfers

RegTech

- Financial Crime
- Actor Management
- Transaction Reporting Market Integrity
- Monitor and Detect
- Data Management and Technologies
- E-identification
- RPA
- Legal Tech

Trade and Exchange

- Backend
- Clearing Technology
- Hedging
- Trading System

Wealth and Cash Management

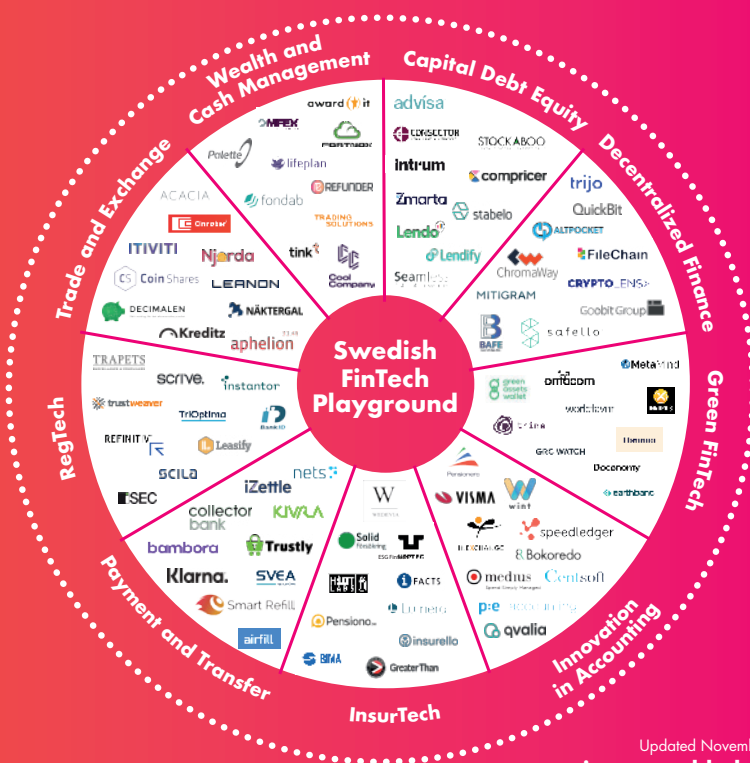
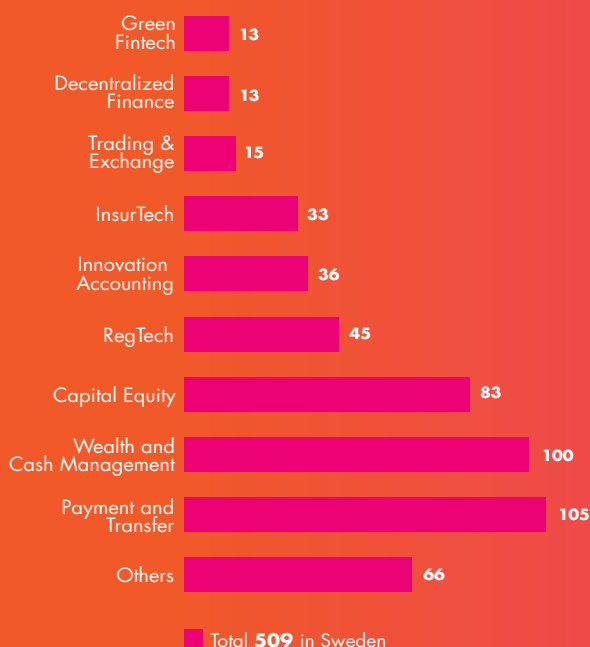
- Crowdfunding Equity
- Debt Investment
- Execution Only
- Investment Advisory
- Robo-advisory
- Marketplace
- Private Equity
- Savings Accounts

Others (some examples below)

- Consulting companies in the area of FinTech
- Software providers
- Hardware producers
- Investment management services

Stockholm: a bustling FinTech playground

Stockholm
The Capital of Scandinavia



Updated November 2021
investstockholm.com

The Swedish FinTech Playground where 80% of FinTech companies in Sweden are incorporated in the Stockholm region. Please note that the FinTech playground showcases the 10 biggest FinTech companies in each category (selection based on last available operating revenue). Please contact Invest Stockholm for more details.

Stockholm is home to one of the largest and best-known FinTech scenes in Europe. It comprises banks, startups, scaleups, investors, legal advisors, management consultants, and many others.

The Financial Supervisory Authority (Finansinspektionen) supervises nearly 2000 entities in Sweden that hold permits to offer financial services; companies that have registered other financial operations and also foreign companies that have registered cross-border transactions to Sweden.

No. 7 | No. 14

In 2021, Findexable ranked Sweden's FinTech scene seventh best in the world, while Stockholm was ranked the 14th best city in the world for FinTech.

Source: https://findexable.com/wp-content/uploads/2021/06/Global-FinTech-Rankings-2021-v1.2_30_June.pdf

Stockholm continues to dominate deal flow in the Nordics

FinTech funding 2019 – 2022 (Jan–Nov)

	Funding M EUR				Funding rounds			
	2019	2020	2021	2022*	2019	2020	2021	2022*
Nordics	1.3	4.4	3.4	2	177	146	161	126
Sweden	1.1	1.2	1.955	1.271	95	62	59	47
Stockholm	1.1	1.2	1.835	1.171	38	49	50	43

* Jan – Nov

Stockholm ranks fourth in Europe for allocated venture capital⁷, and broad access to innovation and growth platforms like Nasdaq First North helps entrepreneurs to effectively utilize growth capital to expand their businesses.

Sweden's financial landscape offers a particularly fertile ground for testing, developing and integrating technology, and Stockholm's overwhelming share of all FinTech funding in the Nordics, year after year, reflects this.

The FinTech industry in the Nordics has shown strong and steady growth in terms of investments between 2015 and 2020. The level of investment increased from 180 MEUR in 2015 to over €1 bn for both 2019 and 2020. The total amount of announced investments for the first two quarters of 2021 has already reached an unprecedented high level of over € 1.7 bn.

The Nordic deal activity has seen a declining trend during the past years since the record year of 2019, with 177 funding rounds. However, the deal activity in Stockholm has been relatively stable throughout the years. The decline in the number of investment deals could largely be accounted for by the overall negative economic impact caused by COVID-19, which is considered to have a more significant impact on early-stage investment rounds. Most investment deals made during the COVID-19 period could be found in the growth stage phase, where expansion and consolidation were mainly required.

Over half of FinTech deals in the Nordics since 2015 have been completed by Swedish companies. Though there has been a slight decline in deal activities, Sweden's share of deal flow in the Nordics was at a stable level reaching 50–60% until 2019 before a slight decline. Nevertheless, in terms of total investment values, Sweden accounts for approximately over 90% of all FinTech investments in the Nordics.

90% | 65%

Stockholm-based companies account for over 90% of all FinTech investment deals in Sweden and about 65 % of the investment value in the Nordics, respectively.

Stockholm continues to lead the way, accounting for over 90% of all FinTech deal activities in Sweden, on average a third of all FinTech deal flows to the Nordics.

It should be noted that a number of funding rounds for Swedish digital payments and e-commerce unicorn Klarna drove a large share of the deals during and before 2020.

Top 10 Nordics FinTech deals 2022

Company	Location	FinTech category*	Investment round
Klarna	Stockholm	Payments and Transfer	752 mn €
IHM Finans AB	Stockholm	Capital Debt & equity	141 mn €
Juni	Gothenburg	Payments and Transfer (Open banking)	94 mn €
Moralis	Stockholm	Infrastructure & transfers	37,6 mn €
Lysa	Stockholm	Wealth & Cash Management	33,6 mn €
Majority	Stockholm	Wealth & Cash Management	28,2 mn €
Baseload Capital	Stockholm	Capital Debt & equity	22,6 mn €
Opti	Stockholm	Wealth & Cash Management	19,2 mn €
Insurely	Stockholm	Insuretech	18,3 mn €
SAVR	Stockholm	Wealth & Cash Management	15,6 mn €

*Classification in accordance with Invest Stockholm's FinTech Taxonomy

Source: Dealroom

Looking further into the breakdowns of investments in the Nordics and Sweden, some interesting insights can be found:

- The top 10 FinTech deals in the Nordics collectively raised **1,353 MEUR in funding**, which accounts for **over 70% of the total capital** raised by FinTech companies in the Nordics during 2022.
- The FinTech category **“Payment and transfer” continued to dominate** the Nordic FinTech investment scene throughout the past year.
- The top 10 FinTech deals in Sweden raised a combined **1,162 MEUR in funding**, which accounts for nearly **92% of total capital** raised by FinTech companies in Sweden during 2022.
- **Klarna alone raised roughly € 750 million** in one round in 2022. Even if this investment round is smaller than the two rounds during 2021, it accounts for **around 40% of the total investment value** in the Nordics.
- Statistics throughout the Nordics show that Neobanks and companies that provide **open banking platforms are the next investment trend**.
- Competitive **lending platforms** such as Lendify and AnyFin **continue to win ground from investors**, while there also appears to be a steady rise for investments within InsurTech.
- Despite the COVID-19 pandemic and an incipient recession, the Swedish and Stockholm FinTech investments **still show strength**. 2021 set a record high level with **almost € 2 billion invested capital**. Although 2022 did not set a new record, it was a year with many large investment rounds to a value of over € 1 billion in a broader range of FinTech categories. **This positions Stockholm as a top FinTech Hub**.

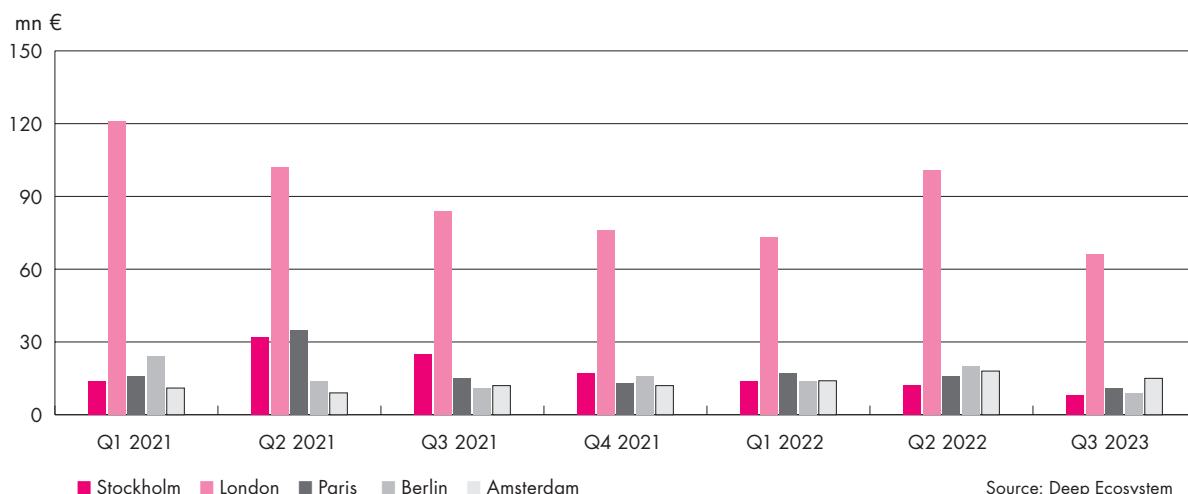
Top 10 FinTech investments in Sweden 2022

Company	Location	FinTech category*	Investment round
Klarna	Stockholm	Payments and Transfer	752 mn €
IHM Finans AB	Stockholm	Capital Debt & equity	141 mn €
Juni	Gothenburg	Payments and Transfer (Open banking)	94 mn €
Lunar way	Aarhus	Payments and Transfer (Open banking)	70 mn €
Dune Analytics	Oslo	Infrastructure & transfers	69,4 mn €
ViaBill	Copenhagen	Payments and Transfer	56,4 mn €
Vic.ai	Fornebu	Infrastructure & transfers	52 mn €
Reltime	Baerum	Infrastructure & transfers	47 mn €
Moralis	Stockholm	Infrastructure & transfers	37,6 mn €
Lysa	Stockholm	Wealth & Cash Management	33,6 mn €

*Classification in accordance with Invest Stockholm's FinTech Taxonomy

Source: Dealroom

Stockholm, on rise to become one of the top FinTech hubs in Europe



While the large rounds raised by Klarna position Stockholm as a top FinTech Hub in comparison with the vast majority of other major European cities, Stockholm still has a long way to go to compete with London and Berlin, where there are steadily dozens of FinTech rounds per quarter.

Nonetheless, Stockholm's significantly lower number of inhabitants makes it noteworthy that the Swedish capital ranks third behind London and Berlin based on the three-year average from 2018-2020. An extremely tech-savvy population with well-developed digital infrastructure forces businesses to be present in all digital channels with a more

engaging customer experience than before. Such trends can in particular be spotted in the categories where many startups develop products to help financial providers access digital channels.

According to our investment review, categories like Payments & Transfer, Wealth & Cash Management and Capital Debt & Equity have dominated the FinTech scene since 2015. In 2020 and for the first two quarters of 2021, they were responsible for the majority of all FinTech deals in the country.

Comparison three-year averages in FinTech Investments

City	Investment Avg. 2015-2017, bn €	Investment Avg. 2018-2020, bn €	Growth, %	Rank 3-year Average	Rank Growth
London	1.39	3.43	147.66	1	5
Berlin	0.18	0.78	324.95	2	3
Stockholm	0.08	0.67	759.22	3	1
Paris	0.14	0.39	182.18	4	4
Zurich	0.16	0.11	-29.11	6	8
Dublin	0.17	0.10	-38.19	7	9
Amsterdam	0.10	0.14	39.48	5	6
Hamburg	0.07	0.09	25.55	8	7
Munich	0.01	0.08	570.94	9	2

Source: Deep Ecosystem



Sebastian Siemiatkowski, CEO of Klarna

Tips for success from Stockholm's FinTech experts

SWEDISH FINTECH EXPERT INSIGHTS



NAME:	Louise Grabo
TITLE:	Secretary General
ORGANIZATION:	The Swedish FinTech Association (SweFinTech)
ESTABLISHED:	2017
MEMBERS:	+80
MAIN OPERATIONS:	A collective voice for the FinTech industry in Sweden in dialogue with authorities and regulators

Founded in 2017 and comprising 83 member companies from the FinTech sector, **THE SWEDISH FINTECH ASSOCIATION** (SweFinTech) works to ensure the industry has a collective voice in its dialogue with authorities and regulators. The association's aim is to strengthen Sweden's FinTech ecosystem, creating a common meeting place and platform for FinTech companies that encourages growth and the creation of newcomers in the sector.

What makes the Stockholm FinTech ecosystem stand out and attract so many newcomers?

We're at the forefront of research. Sweden is a FinTech pioneer, so there's a solid, structured dialogue between decision makers, the industry, and even civil society thanks to the big interest in the sector.

At an EU-wide level we're leaders when it comes to collaboration between different actors, and you already have

long established infrastructure in place like digital payment service Swish, a household name that's used by the vast majority of the population. That makes life easier for other players in the market or those preparing to enter it.

Has the pandemic had a significant impact on the Swedish FinTech industry?

In May 2020 93% of SweFinTech members said they were affected, but when asked again in the fall, it emerged that just over half felt they had been negatively affected. And over one in five of the companies reported positive change.

In fact, several SweFinTech members have reported an increased interest in personal finance among consumers during the crisis, likely the result of the population adapting to restrictions on freedom of movement. The interest in FinTech services increased as it became clear that remote delivery of financial services was essential: that's reflected in how a number of our members have experienced a boost in positive consumer attitudes towards FinTech services.

So what are the key factors to keep in mind when starting up in Sweden's FinTech sector?

First, get familiar with the Swedish Financial Supervisory Authority (FI) who can help guide you with applying for the necessary permits and authorisation. Make sure to take advantage of the FinTech network that already exists here to learn more about the market, and increase your visibility by taking part in e.g. Sthlm FinTech Week. And research the different accelerator programs available like Bonfire PWC, Lighthouse program by Mastercard or Sting to help you start cooperating and building your network as soon as possible.

How does SweFinTech help international startups, scale-ups or other players tap into Sweden's FinTech ecosystem?

Participating in our platform is a great way to establish new contacts. We often organise open events to encourage companies to become part of the ecosystem, for example. Although it's not part of official assignments to help international companies entering the market, we do our best to provide referrals to the best players in the FinTech ecosystem who can help with those essential queries.

Is there any essential advice you'd give to international startups and scale-ups who want to enter the Swedish market?

Take time to really learn about the Nordic and Swedish markets where the population is uniquely tech-savvy. Strong marketing is essential, so don't forget to focus on that, and once again, be active in the ecosystem and take advantage of great opportunities like joining us, FinDec or Sthlm FinTech Week to build a network. We'd particularly love to see more Green FinTech in the near future, which could be the next big wave here.

SWEDISH FINTECH EXPERT INSIGHTS



NAME:	Mats Holmfeldt
TITLE:	Founder
ORGANIZATION:	Findec
ESTABLISHED:	2018
MEMBERS:	185
MAIN OPERATIONS:	Swedens Hub for Fintechs

FINDEC is Sweden's hub and member organization for FinTechs, with the mission of boosting the FinTech ecosystem through knowledge, networking and collaboration. The community currently has over 185 members, from early stage to fast growing scale-ups.

What makes the Stockholm FinTech ecosystem stand out and attract so many newcomers?

Stockholm is a thriving city known for being one of the most innovative and start-up friendly places in the world with short distance and easy access to many interesting people and relevant organisations in the ecosystem.

Stockholm caters a lot of interesting players from the financial sector both domestic ones as well as from the international scene co-operating with a number of innovative Fintechs. With a high level of connectivity and digitalisation that started earlier than most other countries, we have become one of the most cashless societies in the world. This success has enabled a vast amount of entrepreneurs to start even more innovative FinTech ventures.

Has the pandemic had a significant impact on the Swedish FinTech industry based on your knowledge and input from your members?

Both yes and no, some of the Fintechs experienced a major increase in business due to the need of and thereby increased focus on digitalization. Some have lost a couple of years while some have leapfrogged into the future. In general I would say that we all have grown due to this experience and that we will come out even stronger. We have seen a similar pattern with regard to funding related to the above. During the end of 2021 and early 2022 the number

of transactions were high with a peak in valuation during the same period.

What are the key factors to keep in mind when starting up in Sweden's FinTech sector?

There are some critical questions one should ask: Is the intention to build a FinTech for the Swedish market or are you looking for an entry point to Europe? Are you looking for creative and innovative team members in the Fintech hotspot of Stockholm to cross innovate with? Of course you need to get the knowledge needed about the banking infrastructure, cross the different verticals, digital ID solutions, KYC/AML and other regulations and business formalities. Last but not the least get to know the competitive landscape.

How does Findec help international startups, scale-ups or other players tap into Sweden's FinTech ecosystem?

We have a vast experience from visiting delegations from a number of countries since many years, even before we first launched the Findec brand in Singapore, October 2018. We have met hundreds of FinTech entrepreneurs, representatives from the banking and financial sector as well as from other industries looking for cross innovation opportunities in Stockholm including representatives for government and authorities.

We can quickly advise international FinTechs on more business-oriented issues. For example, relevant organizations to contact for business, partnerships, recruitment and so on. We can also tailor-make different offerings, depending on our capacity of course, a more extensive evaluation and market study.

What types of new players within the FinTech space would you like us to attract to strengthen our ecosystem?

Sweden and especially Stockholm has a good reputation of being a good test market and entry point to Europe, with that said fast-growing FinTechs coming from regions as North America and Asia.

Besides Fintechs, we are also looking for companies representing other industries looking for cross innovation opportunities together with FinTechs based on that more and more industries faces new challenges where the experience from the FinTech environment will make a difference for the future.

What are the key takeaways that you'd like to give to international startups and scaleups to enter the Swedish market?

Sweden and Stockholm is a great greenhouse for start-ups where you think global from day one which we have seen many successful examples of. With high ambitions for diversity and inclusion we clearly drive innovation and we are used to see a great mix of people already in the early initiatives as well as for more mature scale-ups.

Due to the fact that we have a very high level of innovation, a start-up friendly environment and not the least a number of successful Unicorns, we have seen increasing interest from international investors and VC's.

Any particular advice for investors that are keen on exploring the next FinTech unicorns in our ecosystem?

Due to the fact that we have experience from all the phases; Incubation, Scale-up and Expansion through our own programs we can easily arrange interesting meetings in a more personal setting. Together with our initiatives regarding cross innovation we sometimes find completely new innovative ideas for the future of tomorrow.

SWEDISH FINTECH EXPERT INSIGHTS



NAME:	Anna Blyablina, Love Dager & Lana Brandorne
TITLE:	Co-founders
ORGANIZATION:	Sthlm Fintech Week

Sthlm Fintech Week is an annual, community-driven initiative focusing on knowledge sharing and strengthening the Swedish Fintech community through new connections and collaboration.

The fifth edition will take place in person in February 2023, with ten tracks focused on different verticals of Fintech. There will be nearly 100 world-class experts on stage and 1000+ participants joining forces.

What are the key things to consider when starting up a venture in Sweden's FinTech domain?

As Fintech markets mature, the sector is getting more organised and focused, leaving limited space to innovate. The Swedish landscape is competitive: with 500+ Fintechs in a small market, competition is high. Fintechs also face new challenges with funding growth and expansion, which defines the path for Fintechs to focus on internalizing growth from the start of the venture.

What are the competitive advantages/strongholds that make our FinTech ecosystem stand out to attract new players?

Sweden's FinTech ecosystem is a blossoming environment in terms of funding availability and other resources for start-ups. Innovators, established players, investors, the government, banks and regulators all play their part and interact, invest, build networks and learn from each other. This ecosystem breeds the spirit of sharing that makes it possible to accelerate its own success. Many success stories like Klarna, Bambora and iZettle foster and develop talent and provide inspirational examples of success. Talent tends to stay in the country, circulate between different actors in the financial industry, and become the next generation of entrepreneurs. Swedish customers are easily engaged

too and eager to try out new providers to gain the benefits of emerging technology. As a result, many B2C FinTech start-ups have great potential to gain traction in the market.

What other specific services can you provide for international startups, scaleups and other relevant players to tap into the Swedish FinTech ecosystem?

Sthlm Fintech Week aims to be the best way to meet the Swedish and Nordic fintech ecosystem, both if you are a local or international player. We provide the platform to share industry knowledge and experience and meet the community. Our main tool for this is our annual conference but we are also looking into supporting the community with other programs.

What types of new players within the FinTech space would you like us to attract to strengthen our ecosystem?

We hope the ecosystem will become more curious and explore new opportunities. Swedish FinTech is dominated by the payments segment: unicorns like Klarna, Trustly, iZettle and joint bank initiatives within the space such as Swish and P27. There is a range of other financial service types that could be optimized, like mortgages and pensions. Outdated banking infrastructure meanwhile calls for digital transformation players that leverage cloud technology.

Any advice for investors keen on exploring the next FinTech unicorns in our ecosystem?

We have seen a lot of successful exits in Swedish FinTech with astronomical evaluations, the recent acquisition of Tink for example. With an internalization vision of FinTechs from day one, investors could look for global potential in the products created. The human capital recycling within our ecosystem means there is a large wave of second generation unicorns where founders come from leading positions in previous successful FinTech start-ups, bringing their knowledge to new ventures with promising futures.



Highlights from Sthlm Fintech Week 2023

The opening track of **Regulatory – How policymakers are shaping the future of Fintech** discussed the importance of Sweden having the EU presidency, and the impact this could have on the role of Fintech in the upcoming regulation and policy initiative on national and European level.

The **RegTech track** focused on the question “What can RegTech do for ESG?” It is such an important question for banks and large financial institutions to consider, and this means it is especially important to question whether more can be done by RegTech to support ESG goals.

Next up was the **Combating the Dark Side of Fintech track**, which looked at the new MICA (Markets in Crypto-Assets) regulation, and the capabilities the industry now has to visualise and fight blockchain based crime. As ever, more cooperation is needed within the industry, and the panels focused on how this can be achieved.

Ecosystem banking models were discussed in their track, echoing the accelerating pace of change within the industry. Panel conversations looked at whether there is now a need to develop your own ecosystem model.

The popular **Paytech track** had a focus on cross border and real time payments. International payments have been instrumental in the emergence of today’s global economy. Countless real-time rails are coming to light, including the likes of TIPS in Europe, Pix in Brazil, and FedNow in the US, but issues still remain. The track looked at the possibilities of central banks issuing digital currencies, and whether this could be the solution to the problems.

The second day of the main conference began with the **Lending and Embedded Finance track**. Panels looked into how to succeed in building payments or entirely new financial services into products, and into the future possibilities within the field of peer-to-peer lending.

One of the most rapidly evolving fields is **open banking**, with many challenges, opportunities and implications from this disruptive technology. Panellists discussed the challenges of data sharing in the open banking space and how to overcome them, including real-life examples of how companies are leveraging open banking to create new opportunities.

Web3 is one of the “coolest” buzzwords out there, but its hype is far from over. Incorporating technologies like peer-to-peer networks, blockchains, cryptocurrencies, and NFTs, Web3 has the capability to create huge changes in the Fintech landscape, innovating traditional institutions like banks and corporations. To discuss all opportunities, the track had panels focusing on the metaverse, NFTs and the future of work, and money within Web3.

Not quite a normal track, but definitely a fun one to watch, on Thursday **the pitch battle** was held! Everyone watched 8 of the best Fintech startups do battle on stage as they showcased what their company does in front of our main crowd and a panel of Fintech investors.

The final track was **Impact**. The most important question the new generation will have to answer is how can we change current systems to fight climate change. This is the UN sustainable development goal that the track focused on, number 13: **Climate action**. The track looks at changing behaviours, new possibilities and local climate action.

Sthlm Fintech Week in Numbers

2

days

10

tracks

35

countries represented

1000+

attendees

100

speakers, 33% female

Regulatory Technologies: the future of financial services?

What is RegTech?

RegTech is often perceived as a sub-sector of FinTech focused on making regulatory compliance processes more efficient for financial institutions and regulators. In recent years however, many products and services provided by these firms have gone beyond the financial sector, with other heavily regulated and data-rich industries benefiting from the solutions. With that in mind, in this insights report compiled by Invest Stockholm and the Nordic RegTech Association it was decided to adhere to the comprehensive definition of RegTech summarized in the Global RegTech Industry Benchmark Report by the Cambridge Center for Alternative Finance. According to the Benchmark report, RegTech includes any use of technology to match structured and unstructured data to information taxonomies or decision rules that are meaningful to both regulation and the firms they regulate, in order to automate compliance or oversight processes.

While the technology used to deliver offerings by Swedish RegTech varies, the most common forms are Cloud computing, Application Programming Interface (API) and Business process automation. Most of the companies use varying combinations of these technologies as well as AI, Data science, Distributed Ledger Technology, Data Engineering and RegOps. The breadth of use, accessibility and level of integration of these technologies underpins

Sweden's leading position in the European Innovation Scoreboard 2021, ranking first among EU Member States.

Interest in RegTech has been growing steadily, with industry forecasts cited in the Global RegTech Industry Benchmark Report pointing to year-on-year revenue growth of between 23% and 25% up to 2023. The growing global demand is driven by multiple factors. The pace of regulatory change in the financial sector has accelerated substantially since the global financial crisis, driving demand for rapid realignment of compliance processes, and greater visibility of core compliance decisions as well as efficient strategies for complying to multiple, divergent regulatory regimes simultaneously. This trend was combined with surging fees for non-compliance with detrimental consequences to the reputational capital of financial businesses. At the same time, regulatory bodies have faced challenges controlling the evolving industry, as the volume of reporting data and forms submitted by firms requires careful analysis and calculated responses.

The combination of regulatory pressure on the industry and regulators is likely to drive a strong demand for technology-enabled compliance and oversight solutions going forward. In contrast to the other areas of FinTech, the RegTech companies tended to perceive the changes in regulation within their areas as one of the main demand catalysts.

Nordic RegTech Association

A non-profit organisation striving to create and maintain a network for its members, and to become the voice of the Nordic RegTech communities to the Financial Services Authorities.

Content contributors:



Zaliia Gindullina



Emil Karlsson



Joar Langeland

RegTech: A subset of fintech that focuses on technologies that may facilitate the delivery of regulatory requirements more efficiently and effectively than existing capabilities.

Source: UK's Financial Conduct Authority (FCA)

Impact of the global pandemic on Swedish RegTech companies

The Nordic RegTech Association closely followed the underlying changes in the Swedish and Nordic RegTech sectors after the outbreak of COVID-19. These trends include:

- Accelerated digitalization, prompting RegTech buyers to look into digital risk and compliance solutions
- Changes to the investment scene sparked by a surge in interest from companies seeking efficient ways to manage their regulatory requirements in a remote working business environment
- Emergency EU regulation designed to protect continuity and markets which may prove a turning point for businesses reassessing their attitude to compliance and sustainability efforts, with companies raising the bar in response to regulatory challenges.

Most Swedish RegTechs had an advantageous position thanks to their digital-native operational models, allowing them to continue with business as usual in an era of social distancing and remote work, and presenting an opportunity for RegTechs to ensure safety and security of information workflows. Since it is likely the investor space may be more reluctant to support early stage businesses this year, RegTechs may focus on building improved products and looking for business models supporting more rapid organic growth. And as the regulatory landscape expands by imposing more rules to follow and report on, the growth in demand for quality cost-efficient, tech-driven solutions to help businesses comply is likely to continue.

Swedish RegTech industry composition

In order to create a functional overview of the industry, Invest Stockholm in partnership with the Nordic RegTech Association analyzed the 40 Swedish firms currently operating in the RegTech sector and categorised them by the products they provide. A full breakdown of the categorisation is found in the “Stockholm FinTech Taxonomy” session.

Though the aim is to define a firm’s key product area of focus, most ultimately cater to more than one RegTech category. While unlike the global RegTech sector there is no representation of pure Regulatory Change (RC) management solutions in the Swedish RegTech space, most of the companies provide these solutions within the scope of their specialization, such as in the case of automatically updating KYC-platforms and insider databases, which were classified as FinCrime prevention and Market Integrity and Transparency (MIT) products respectively.

RegTech Overview in Sweden, 2021

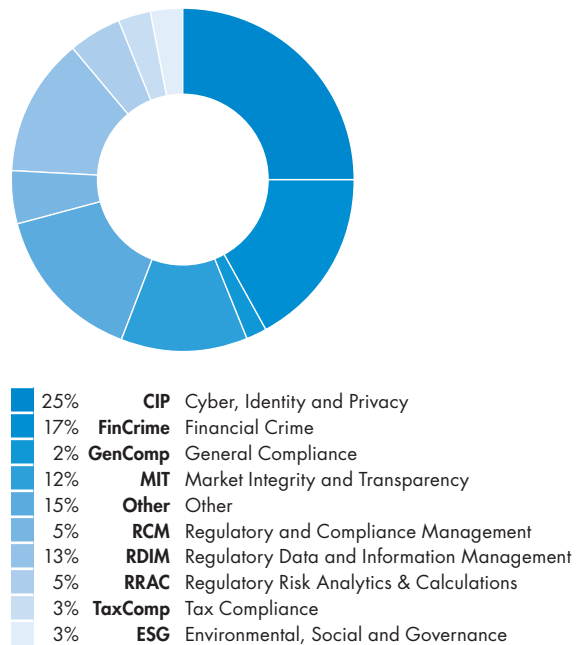


Figure 1. Classification of the Swedish RegTech Sector by product, 2021

The emerging Swedish RegTech sector is fairly diverse. The largest sub-sectors are represented by Cyber Identity and Privacy (CIP) solution providers (25%), FinCrime prevention products (17%) and Other (15%), with the latter largely comprising electronic signature products extending beyond the financial industry and indicating a vibrant emerging LegalTech space. Regulatory Data and Information Management (RDIM) providers (13%) and MIT products (12%) follow.

According to the European Commission’s 2020 Digital Economy and Society Index, Sweden ranks second among Europe’s most advanced digital economies based on its combination of connectivity, human capital, use of internet services, integration of digital technology and the availability of digital public services. The infrastructural support for a digitally advanced economy dictates higher demand for cyber security, privacy and identification solutions, which may explain the higher proportion of these products in the Swedish RegTech space.



PHOTO: FONDA FONDA

Swedish RegTech Sector Revenue Profile

According to the latest available financial reporting data from Allabolag, Sweden's RegTech sector is represented by 40 companies employing 717 people, with a total asset size of 2.45 billion EUR and total revenue of 1.05 billion EUR. It is likely that the Swedish RegTech Sector is one of the largest in the Nordics, according to the report by Howart Compliance.

The Swedish sector employs 13 times more people compared to the global average as defined by the CCAF in the Global RegTech Industry Benchmark Report (which estimates 44,000 people employed in RegTech globally), and the prospects for the Swedish industry in general are positive. While projected global revenue for the industry was 4.05 billion according to the 2019 CCAF report, this research calculates the Swedish RegTech sector to have earned roughly 1.07 billion EUR in the same time period. The latest Juniper Research for instance estimates 2020 global RegTech solution spending at 27.25 billion EUR, projected to increase to 107.35 billion EUR by 2025.

Sweden, a perfect testbed for new innovations

Sweden's profile as one of the world's most advanced and long-established digital economies makes it an excellent testing ground for innovative new solutions, and in the RegTech space that's particularly true given the untapped

opportunities to leverage. For instance, expanding offerings to other highly regulated sectors beyond the financial industry could be an excellent strategy.

Sweden's leading position in the 2021 European Innovation Scoreboard allows for accessible testing and application of a wide range of emerging technologies like AI or Distributed Ledger Technology. There is also an ever-increasing demand for personal data security and transparency, driven by the advanced level of development of the overall digital economy, and likely further evolution of the regulatory landscape within this space.

Though the awareness of the RegTech landscape is fairly low among regulators, regulated entities and investors, there is an emerging community of industry-level organizations such as the Nordic RegTech Association, the Swedish FinTech Association and Findec aimed at raising awareness of emerging players within the sector. The Nordic RegTech Association, for example, provides RegTech firms from the Nordics with a platform to showcase their solutions and gain more visibility among potential customers, regulators, investors and other relevant stakeholders.

Fostering collaboration: Strengthening the RegTech ecosystem and beyond

One of the biggest challenges to the RegTech ecosystem in Sweden, as in other economies, is a lack of awareness of the solutions within the financial sector, the investment

space and the government. The Howart Compliance report underlines that even within the Nordic region, there is a parallel development of competing solutions which, in some cases, would bring most value as integrated systems. A good example of this phenomena is the development of local identification systems, such as the Swedish Bank ID, the Norwegian Bank ID, the Danish Nem ID and the Finnish Bank eID, which would add value if they were to be harmonised, integrated and consolidated. Therefore, the ecosystem would highly benefit from increased levels of collaboration within the sector – both in educating stakeholders about available technology, sharing international best practices of implementing it, and co-creating and complementing RegTech solutions within value chains.

The legacy tech stacks common to the Swedish and the Nordic financial industries present both a challenge and an opportunity for infrastructural innovation offered by RegTechs. In some cases, RegTechs may help incumbent financial institutions to update their infrastructure and foster future innovation, while in others legacy technology may serve as a barrier to integrating advanced technology into a firm's operations. Regardless, regulated entities are likely to update their infrastructure in the coming years which may present a strong opportunity for international RegTechs offering solutions facilitating those processes.

Swedish governing bodies are historically characterized by data-driven decision making and a rigorous approach to statistical record keeping. This cultural trait has been more pronounced in recent years, as financial regulators struggle to efficiently systematize and process ever-increasing reporting data on how the industry works. This presents a major opportunity for European RegTechs focusing on supervisory technology (SupTechs) which could further raise awareness about RegTech among the regulatory authorities, as well as improve the internal processes of supervisory bodies, strengthening an overall responsiveness and resilience of the Swedish financial system.

Though the Howart Compliance report notes there is still room for more structured and conscious frameworks for private-public partnerships in the Nordics, the digital national infrastructure in the region is continuously developing, and RegTechs are increasingly playing a role in its expansion. For instance, BearingPoint RegTech, an international provider of innovative supervisory, regulatory and risk technology solutions, won Sweden's Finansinspektionen (FI) as a new customer in May 2020. Finansinspektionen will be using the BearingPoint RegTech's Abacus Regulator software to fulfill both a comprehensive range of data collection and analysis for EBA, EIOPA, and ESMA reports as well as different national reports.

Sweden's RegTech industry for investors: Emerging business opportunities

Though represented by highly digital, lean and resilient business models, regulatory technology firms tend to struggle to attract a broad investment interest due in part to the lack of domain knowledge on complex aspects of financial regulations among venture capitalists and long sales cycles that are typical for large institutions that these firms target. Despite that and in spite of the pandemic, KPMG reports (Pulse of FinTech H2'20, KPMG, 2021) that global invest-

ments in the RegTech space have grown from 1.24 billion EUR in 2017 to 9,02 bln EUR in 2020.

Sweden's financial landscape offers a particularly fertile ground for testing, developing and integrating technology. According to Karin Sancho, head of Financial Services KPMG Sweden, quoted in the aforementioned report, RegTech will be the area likely to see increasing investment in the Nordic Region. She notes that there is already an increasing number of RegTechs applying advanced analytics and AI to help financial services players manage their regulatory burden in the current and future environment.

In the case of RegTech firms it pays to investigate demand for certain regulatory solutions, assessing the scope, impact on the potential customer operations and potential changes to the regulatory landscape. An increasing demand for transparency and personal data security ensures a robust evolution of the regulatory landscape going forward.

As discussed above, expansion to highly regulated sectors beyond the financial sector is one investment opportunity, as is unlocking the potential of emerging technologies like Natural Language Processing or Distributed Ledger Technology to help the generally tech-savvy Swedish infrastructure move on from the constraints imposed by legacy technology in the sector.

Key takeaways for international entrants to Swedish RegTech:

- ➔ An ecosystem characterised by digital, flexible and lean business models
- ➔ Resilience to the effects of the pandemic and high suitability for remote working could ease international expansion in the Nordic market
- ➔ Demand for RegTech solutions robust from both regulated entities and regulators seeking to improve data management and reporting processes, as well as their ability to analyse vast quantities of reported data
- ➔ EU membership means much of the Swedish regulation is driven by European Directives, facilitating demand across Member States and the Nordics
- ➔ RegTechs offering solutions simplifying EU Directive compliance could find favourable ground for growth in Sweden as a result.

A wealth of opportunities in Decentralized Finance

Decentralised finance (DeFi) is one of the big opportunities of the next decade, and Sweden is well positioned to capture a lot of value created in this area. The infrastructure and building blocks of DeFi have huge potential to improve finance across the monetary stack, some ways in which are detailed below. And while Sweden is largely still in the early adopter stage with DeFi, there is a clear opportunity to bridge the gap between the already existing strong startup ecosystem there and the emerging world of decentralized finance to build up a Swedish DeFi ecosystem in its own right.

Introduction to decentralized finance

DeFi is a developing market sector within the intersection of blockchain technologies, digital assets, and financial services and is enabling a fundamentally different approach to financial infrastructure compared to the centralised systems of today.

Historically, intermediaries have played essential roles within financial markets, serving as agents and brokers of trust, liquidity, settlement, and security. The importance of intermediaries and the underlying financial infrastructure has grown over time to meet the needs of an increasingly complex financial system.

While traditional finance relies on intermediaries to manage and process financial services, DeFi operates in a decentralized environment with public and permissionless blockchains. Services are generally encoded in open-source software with a high degree of automation.

Since the global financial crisis in 2008, there has been increased attention on inefficiencies, structural inequalities, and hidden risks in the intermediated financial system. More recent events show other issues with legacy financial infrastructure such as slow settlement cycles, inefficient price discovery, security vulnerabilities, limited transparency, liquidity challenges, and the lack of assurance around underlying assets.

DeFi aims to address some of these challenges and enhance the efficient digitization of financial instruments, with promises of increased liquidity, lower cost of capital, and reduced counterparty risk. It's important to note that DeFi in its current phase of evolution is replicating the fundamental building blocks of the existing financial system which on the surface might not seem exciting. But the disruptive capabilities of DeFi come from the fact it is built on a completely different and open infrastructure which enables and invites exponential innovation. To understand this in more detail, let's explore the building blocks of DeFi.

The building blocks of DeFi

DeFi is a general term for decentralized applications providing financial services on a blockchain settlement layer, including payments, lending, trading, investments, insurance, and asset management. Services typically operate without centralized intermediaries or institutions, and use open protocols that allow services to be programmatically combined in flexible ways.

DeFi takes advantage of various technologies developed in the blockchain sphere, such as blockchains serving as the settlement layer for transactions, tokens representing value that can be traded or transferred within a blockchain network, smart contracts that perform rule-based actions, wallets acting as the user interface to DeFi services and Decentralized Applications (Dapps), stablecoins that seek to maintain a constant value of a token relative to some asset, oracles that allow information from sources off the blockchain to be integrated into DeFi services, and different ways to organise and coordinate DeFi projects.

Beyond the fundamental infrastructure and building blocks enabling DeFi described above, a growing list of important primitives and design patterns have emerged to describe the financial actions that developers can use and combine into sophisticated Dapps and behaviours.

Benefits of DeFi

DeFi's main improvement compared to existing financial markets and FinTech is it brings the concept of composability. Various technologies and financial primitives enable the ability to restructure and reconnect different applications built on blockchains. As a result, it is fairly easy to build upon existing open infrastructure and applications to extend functionality or develop completely new financial primitives. Composability enables DeFi to innovate and evolve very quickly creating a wide range of use-cases where it outperforms its traditional counterparts.

Decentralised finance (DeFi):

Decentralised finance (DeFi) is one of the big opportunities of the next decade, and Sweden is well positioned to capture a lot of value created in this area.

Content contributor:



Jens Frid

Vertical Lead for DeFi at Sthlm FinTech Week

“Decentralized finance emerges to disrupt the digital economy.”

DeFi emerged in 2018 and only gained traction as recently as 2020, but already presents concrete solutions to several of the challenges of traditional finance.

Some of these challenges include:

- **Inefficiency:** DeFi can accomplish financial transactions with high volumes of assets and low friction that would generally be difficult to achieve in traditional finance. The reusable smart contracts in the form of Dapps are designed to execute a specific financial operation and are available to any user who is looking for that particular type of service. A user can largely self-serve within the rules of the smart contract and of the blockchain the application lives on.
- **Limited access:** Because DeFi is permissionless (applications can serve anyone in the world with an internet connection and anyone can build applications on DeFi platforms) it gives large underserved groups, such as the global population of the unbanked, estimated to be almost 2 billion people, as well as small businesses that employ substantial portions of the workforce, direct access to financial services. It allows any user access to the entirety of its financial infrastructure, regardless of economic status or geographic location. The resulting impact of allowing the unbanked to have access to financial services should be strongly positive for the entire global economy.
- **Transparency:** DeFi solves this problem through the open, secure and immutable blockchain networks where all interactions are recorded with full traceability. The open-source ethos of blockchain assures that flaws and inefficiencies in a DeFi project can be readily identified and acted upon. The decentralized approach leads to strong robust protocols that can become trusted financial infrastructure for a global user base.
- **Interoperability:** Because DeFi relies on shared infrastructures and interfaces, applications can directly plug into one another's assets, repackaging, and subdivide positions as needed. A further important way for DeFi platforms to integrate with each other is through tokenization. For example, a user can lock up liquidity on a platform and that position can be tokenized, or wrapped, to make it portable and deployed elsewhere. Tokenization unlocks not only liquidity therefore but also new revenue models for Dapps because they can plug asset holdings across networks.

Industry landscape

One reference point and unique metric for measuring traction in DeFi is the amount of value secured in smart contracts. The value of digital assets locked into DeFi applications grew to over \$80 billion at its peak so far in 2021. Another point of reference is settlement where Ethereum settled around \$1.5 trillion in transactions in Q1 2021, or 50% of Visa's payment volume. And 80% of total value locked generated across all blockchain belongs to Ethereum's DeFi ecosystem.

Other developing DeFi ecosystems include Terra Finance, Cosmos, Binance Smart Chain, Polkadot, and Solana.

DeFi embodies a variety of activities meeting the criteria of trust-minimized, non-custodial, open, composable, and programmable financial services.

There are five major DeFi service categories or use cases: exchanges, credit, derivatives, insurance, and asset management as well as several auxiliary services. The line between categories is not always clear but it reflects a general way to segment the market.

- **Exchanges** allow users to trade one digital asset for another. They avoid taking custody of user assets, either through a decentralized order book or by matching orders and setting prices algorithmically through automated market maker protocols.
- **Credit** involves the creation of time-limited interest-bearing instruments, which must be repaid at maturity, and the matching of lenders and borrowers to issue those instruments.
- **Derivatives** are synthetic financial instruments whose value is based on a function of an underlying asset or group of assets. Common examples are futures and options, which reference the value of an asset at some time in the future.
- **Insurance** provides protection against risks by trading the payment of a guaranteed small premium for the possibility of collecting a large payout in the event of a covered scenario.
- **Asset management** seeks to maximize the value of an asset portfolio based on risk preferences, time horizons, diversification, or other conditions.

Many of these decentralized financial applications (Dapps) already exist today. There are DeFi Dapps that allow you to create stablecoins (cryptocurrency whose value is pegged to the US dollar or other currency), lend out money and earn interest on your crypto, take out a loan, exchange one asset for another, go long or short assets, and implement automated, advanced investment strategies.

DeFi in Europe and the Nordics

Europe is emerging as a strong blockchain ecosystem on the global playing field. Europe's blockchain ecosystem may not be as big as the US or Asia's, but it comes with the potential to collaborate due to greater sharing between countries. And as each country has unique strengths and cooperation continues to grow, it is a strong environment that promises to push forward even more innovation.

In many ways, interest in blockchain has been a grassroots movement, and continues to be largely driven forward by those on the ground who are fostering these communities. This is evident in the more thriving ecosystems across Europe. But successful ecosystems need to have access to

what you would expect in a supportive and healthy startup ecosystem such as funding providers, incubators and accelerators, coworking spaces, talent, informed media and news outlets, advisory organisation and service providers, events and meetup opportunities, supportive government agencies, and education programmes and coding schools.

The more notable ecosystems for blockchain and DeFi include Germany with a very active startup community in Berlin, Switzerland and in particular the Zug region hosting several DeFi and blockchain unicorns in an environment with favourable conditions, France and Paris have a strong grassroots blockchain network, and the United Kingdom and especially London has secured its place as one of the most prominent blockchain ecosystems.

Beyond the more mature ecosystems described above there are several other developing communities across Europe such as in the Netherlands, Estonia, Ukraine, Lithuania, and Malta, to name a few. However, an important difference between DeFi specific startups and other types of technology startups is the fact that DeFi is digitally native and builds on open and borderless technologies. The communities and ecosystems have therefore evolved to be distributed-first and not bound to a geographical location. This changes the conditions and dynamics of DeFi startups and ecosystems.

The Nordics

Sweden is one of the most digitally advanced countries in the world and recognized as a global leader in innovation. It already has some of the most sophisticated digital ecosystems and infrastructure with widespread access to high-speed internet access. This is clear when looking at its payments infrastructure, where Sweden may move to become the first cashless society as barely 1% of the value of all payments is made using coins or notes. In this context, the government has taken an open approach to blockchain technology and has been testing its use in many different aspects of society.

There is no cryptocurrency-specific regulation in Sweden. But in order to ensure continuous harmony between the latest technological developments in the financial sector and regulatory requirements, the Financial Supervisory Authority launched an Innovation Centre. This is the first point of contact for businesses that are uncertain about the rules and principles that govern innovations. The centre has no explicit goal in promoting innovations such as blockchain

technology, it is based on the principle that regulation and supervision should not constitute an obstacle to developments in the financial sector, provided that consumers and investors alike are protected.

Sweden can best be described as being in the early adopter stage regarding decentralized finance. The few startups in the space are in the early stage with a few exceptions. Sweden and the Stockholm region are however positioned very well because of a well developed and healthy startup ecosystem, especially in FinTech. There's a clear opportunity to bridge the gap between the existing ecosystem and decentralized finance and support building up a DeFi ecosystem from the ground up. Both in terms of education but also access to knowledgeable funding providers.

The biggest decentralised platform project coming from Sweden is Chromia, built by Chromaway. A general purpose blockchain platform, it makes it easy for people to build decentralized apps. My Neighbor Alice, an innovative DeFi game built on Chromia, reached a valuation of \$348M when launched earlier in 2021. Hedget, a DeFi application for decentralized options, is launching on Chromia.

In the Nordics two other countries have emerged as important participants in DeFi. Finland has a few initiatives working to develop the country into an internationally recognized expert in the field of Blockchain and Distributed Ledger Technology. The biggest DeFi project there is Aave, a front runner in decentralised lending. And Denmark has a few strong blockchain university programmes and some startup presence. This has been somewhat restricted by the lack of up-to-date regulation, making it difficult for startups to comply. By far the biggest player is MakerDAO, a leading decentralised lending platform. Both Aave and MakerDAO are in the top 50 in the global crypto market capitalisation list.

Market outlook

DeFi is the result of three waves of blockchain innovation over the years. Each wave started with skepticism that later turned into wider acceptance and adoption. The first wave introduced the Bitcoin blockchain and cryptocurrency peer-to-peer transactions. The second wave was defined by Ethereum and the smart contract concept. And then the wave of initial coin offerings of 2017 led to a boom in project launches. Some of the projects from that period have

Emerging DeFi ecosystem in Sweden

Key players	
Funds/Organisations	Swedish FinTech Association, Decentralized Camp Meetup, Swedish Blockchain Association, Swedish Bitcoin Association, Sweblocks
Events	Sihlm FinTech Week, World FinTech Festival
Spaces/Other	Epicenter, No 18, Sting, FinDec, Hyper Island, Konsensus Podden
Startups	Chromia, Safello, Scaleout Systems, Vinter Capital, Centiglobe, BTCx, Capapult, Bitrefill, Trijo, Galiot, Altpocket, Filechain, Paymobil, Quickbit, Enigio, Solarcoin, Coinpanda, Blocksettle, Goobit, Plingpay, Strawpay
Funding	Vinnova, Cryptowell



PHOTO: JOHNER BILDERRA

laid the foundation of the decentralized financial ecosystem. DeFi is the fourth wave, and it builds on a combination of these innovations.

A few themes worth highlighting are beginning to emerge:

- **Institutional adoption of crypto** is becoming more evident in the past year, with major companies and banks showing signs of interest in Bitcoin. Corporates, like publicly traded Microstrategy, are turning to Bitcoin as a treasury asset. PayPal, with over 360 million active users, is now offering cryptocurrency in their payment solution.
- Ethereum has recently attracted more institutional interest. This is likely linked to upgrades (EIP-1559, Proof-of-Stake) to the Ethereum protocol. Also, **DeFi platforms in the Ethereum ecosystem** are rolling out solutions for institutions and enterprises. Cofe Staking enables institutions to stake ETH to generate yield without the complexities of maintaining the necessary infrastructure. Compound Labs, the company behind the Compound DeFi protocol, launched Treasury, a new DeFi service designed for institutions, allowing corporate and institutional users to generate 4% interest on USD capital allocated to the service. MetaMask, the largest wallet provider with five million monthly active users, has launched a service for institutional investors supporting interaction with DeFi protocols and applications with enterprise-grade security, and compliance features.
- Another growing part of the crypto ecosystem is related to non-fungible tokens (NFTs) and the creator economy. NFTs are unique digital tokens stored on a blockchain. This type of token has many use cases because of its characteristics, and can help creators improve how they monetize. As an example, Christie's was the first major auction house to offer a unique digital artwork by the creator Beeple called EVERYDAYS: THE FIRST 5000 DAYS, and the NFT sold online for \$69,346,250.

Even with its scale and potential significance, DeFi is still early in its maturation. There are several open questions regarding DeFi. For example, the synergies between the traditional financial market and DeFi are being explored now, but it is still unclear how they work together and where DeFi fits into current regulations and compliance demands. Also, even if there are huge efforts being put into finding solutions to different technical challenges in DeFi, the roadmap is dynamic and put under a lot of pressure because of user demand and growth.

Despite the challenges, DeFi is on the path to becoming a central piece of the financial infrastructure not only for cryptocurrencies, but also potentially for other markets. The Nordic region and Europe in general stands to benefit a great deal by supporting the maturing DeFi sector and ecosystems, as it could power a new generation of FinTech platforms.

Stockholm embraces its role as the Nordic's InsurTech leader

Stockholm's archipelago comprises more than 10,000 islands, yet just a couple of years ago it would have been impossible to rent out a sailboat or motorboat from a private individual for the weekend due to lack of adequate on-demand insurance between the insurers and insured.

The increasing shift of consumer behaviour towards being online-only customers and the trend of using comparison websites is slowly increasing pressure on the industry. This pressure is starting to open up micro-level isolation within incumbents, leading to the provision of more service-oriented platforms combining technology, product and services, and the establishment of new value-added services for customers.

Services now identified as InsurTech have historically been considered part of FinTech – that is to say services, products and technology served by banks to both corporate and retail customers. But due to its unique position separate from

banks and connected exclusively to insurance companies, InsurTech is now treated as a new category in its own right.

InsurTech refers to the use of technology innovations and digitalised processes to generate new business opportunities, increase quality, savings, and efficiency at various value-added steps in the insurance industry (Stockholm School of Economics, 2018).

Notably, InsurTech is having an increasing impact on the life and health segment. Reported investment amounts have historically shown significantly higher rates of investment in the property and casualty (P&C) insurance segment, compared to slow progress in the life and health segment. However, according to a recent CBInsight report, the amount of investment into life and health segment ventures has grown rapidly since 2019, and that trend is very likely to spill over to the Nordics in coming years.



“We know how insurance companies are run and what their opportunities and challenges are in assessment of risks and pricing. Our key design principle is: Carbon footprint as an insured risk. We're big fans of software that thrives on massive amounts of data that can help the insurance industry reach net zero emissions before 2050.”

Markko Waas, co-founder of Claims Carbon Institute

The Nordic InsurTech landscape

InsurTech refers to the use of technology innovations and digitalised processes to generate new business opportunities, increase quality, savings, and efficiency at various value-added steps in the insurance industry.

Co-authored by:



Fredrik Andrén
Partner, Insurance Nordics Leader
(EY)



Angelica Norhagen
Manager Financial Services
Business Transformation (EY)



Michal Gromek
Vertical Lead for InsurTech track at
Sthlm FinTech Week

Some trends seen among new InsurTech startups in Europe are:

- **Open Insurance:** Set to introduce new ways for insurers to interact with customers. The winners will be the customers as well as the companies embracing the change. The European Commission's desire to have an open finance framework by 2024 is key, as is the recent end of the public consultation period for the "Open Insurance: accessing and sharing insurance-related data project", led by the European Insurance and Occupational Pension Authority (EIOPA). Though there is no universal definition of Open Insurance, the end result could incorporate extensive data between European insurance providers and InsurTechs, fueling the enhancement of the InsurTech ecosystem. Such standardisation of APIs and launching of new privacy regulations might impact the insurance industry to the same extent that PSD2 and open banking has impacted data sharing within FinTechs and Banks in the EU.
- **Partnerships with investment firms:** Key industry leaders in non-life insurance, such as Söderberg & Partners, are partnering with investment firms (KKR) where contributions in terms of both investments and intellectual capital help build better products and services.
- **Digital transformation – core insurance platform transformation:** One of the most established InsurTechs in Stockholm, Lumera, is dedicated to advancing the digitalization of the life and pensions industry. Lumera offers products and services that support digital customer interaction.
- **New technology, automation / AI:** Hedvig helps to settle claims quickly and efficiently by using automation. Results in faster claims and removes human bias.
- **Pay as you go:** Paydrive is an InsurTech in Sweden providing car insurance where you pay for the miles you actually drive.
- **Digital insurer:** Hedvig Home Insurance provides a 100 % digital insurance and customer experience.
- **Sustainability:** An emerging trend is the integration of the sustainability aspect in the insurance industry. Swedish "Claims Carbon Institute" is combining Climate and Insure Tech to enable a broad set of solutions which tackle the challenge of decarbonising the insurance industry, with the goal of reaching net zero emissions before 2050.
- **Telematics:** Increasing availability of telematics hardware within IOT means more devices are monitoring, supervising and supporting activities. Providers are allowing drivers, for example, to install monitoring devices in vehicles to track their driving habits in order to reduce insurance premiums. What started with automobiles will be applicable more widely to e-scooters, drones, and a growing number of home appliances.



The Swedish InsurTech scene

In Sweden, InsurTech is a fairly new development that has tremendous potential to reinvent traditional insurance. Similar to banking, customer demands and expectations are shifting where they are less loyal to their traditional providers and demanding more real-time access to data as well as a general expectation of streamlined, personalized, digital experiences. These factors put pressure on insurance companies to reimagine their distribution models and partner with InsurTechs to develop product offerings that propel the business forward.

InsurTech companies emerging in Sweden generally do not take on the whole insurance process. New players typically hone in on specific steps of the insurance lifecycle to create an enhanced experience. Partnerships in InsurTech are therefore likely to continue multiplying as key players carve out their own expertise in the insurance life cycle then partner with one or several other players to supplement and enhance the end-to-end experience.

Stockholm InsurTech remains on a steady development path

The continued growth of the platform economy, combined with increased harmonisation of e-identification solutions, availability of online payments, and continuous digitalisation within insurance providers means, Stockholm InsurTech is on the rise.

With more than 30 InsurTech companies established in Stockholm is embracing its role as the leader of the Nordic region's InsurTech industry. The continuous growth of the InsurTech system means any attempt at creating a taxonomy might be outdated the moment it's released.

The continuous growth of the InsurTech system means any attempt of creating a taxonomy might be outdated as soon as it is released.

In the Nordic InsurTech Report¹, companies are divided into the following subsegments:

- **Consumer communities peer-2-peer (P2P):** InsurTech companies are used, for example, to insure one another's cars – which is a reinvention of 'mutual insurance'
- **Customer engagement:** preference-based customer interaction using smart technology and customer data
- **Personalization:** using customer data to personalize the interaction and tailor offerings to end customers
- **Claims, management, and processing:** InsurTech companies take market share by providing automated claims process and an enhanced customer experience
- **Distribution:** InsurTech provides new distribution models compared to the traditional agent models, i.e. digital brokers, comparison portals, and digital insurers

- **On-demand insurance:** InsurTechs providing on-demand offerings for a specific product or short time frame – increases flexibility for the customer, especially customers with periods of cash shortage
- **Risk detection and prevention:** Big Data analytics and Artificial Intelligence software allow InsurTech to use real-time data for proactive insurance and risk detection and prevention
- **Underwriting and reinsurance:** digital solutions and automation to increase the efficiency of business administration and control⁸.

Here are some of the players in the Swedish InsurTech landscape mapped to their area of expertise

Subsegments	Key players
Consumer communities peer-2-peer (P2P)	Teambrella SplitEx
Customer engagement	Compricer Insurino Metaforce Wiraya
Distribution	BIMA Compricer Fullmaktskollen Insplanet Greater Than Hedvig Lifeplan Pensionskraft Pensure Preventic Svenska fribrevsbolaget Nowo Wedevia/Insuroguide.se
Personalization	Insurance simplified Zlantar
Risk detection and prevention	Algorithmica Digitise Enerfy InsureMyTrans Instantor Lumera Nore Paydrive Svenska försäkringsfabriken TietoEVERY Vitec Webcap Wise:talk
Claims management and processing	Hedvig Insurello Omocom Upptec
Underwriting and insurance	Hedvig Insurely Lumera
Consumer communities	SplitEx Teambrella

8) NORDIC INSURTECH REPORT By:
Michał Gromek Henrik Allert Matt Broniarek (2019)

SWEDISH FINTECH EXPERT INSIGHTS



NAME:	Fredrik Andrén
TITLE:	Partner
ORGANIZATION:	Insurance Nordics Leader (EY)

What are the key things one should consider when starting up a venture within the InsurTech domain in Sweden?

The main barriers to entry for InsurTech are extensive knowledge in payment systems, data protection, financial regulation, user experience, cybersecurity as well as insights from the underwriting, insurance, reinsurance, claim management, and regulatory environment connected to the Insurance industry¹.

At the current stage it is unlikely for InsurTechs in Sweden to competitively operate independently and offer a full suite of insurance products, so there is a mutually beneficial opportunity for new entrants to partner with traditional insurers. The benefits incumbents will see from embracing and partnering with new entrants will be in addressing their customers' evolving insurance demands for proactive advice, personalized products, digital tools, and transparency. The newcomers will benefit from this brand of partnering with experienced, trusted insurers.

Any tips for best practice or pitfalls to avoid based on the cases you have seen so far?

There are already some great examples of innovative partnerships in Sweden. Insurely's partnership with ICA Försäkring is one of them, which the latter's CEO Caroline Farberger describes as a perfect example of how the product offerings of an insurance company combined with the user-friendly technology of an InsurTech can deliver the ultimate client experience.

As for pitfalls in the Swedish InsurTech industry, we see delayed release dates as a result of ambitious visions for reinvented models. We see that most traditional insurance companies are aware of new trends and players that are reshaping the industry, resulting in many brainstorming sessions with ambitious targets to re-invent operating models. The recognition of the overwhelming amount of work to be done often prevents companies from doing anything at all.

Then there's the many legacy insurance companies who have not fully understood the benefits of partnering with InsurTechs as they are stuck in the mindset that InsurTech companies primarily support the distribution piece of the insurance lifecycle.

When it comes to best practice from the Swedish InsurTech sector, the firms who are most successful when starting up ventures with InsurTechs here are the ones who document and prioritize their ambitions into a concise roadmap and use an agile methodology to launch MVPs.

And it's clear from experience too that a deep dive analysis of the insurance company's needs beyond just distribution, to include claims management and processing, underwriting and reinsurance, and customer engagement through digital tools should be explored. A comprehensive understanding of the insurer's strengths and weaknesses will help find the right fit for a partnership to help them excel in more domains than just distribution.

What specific services can you provide for international startups, scaleups and other relevant players to tap into the Swedish FinTech/InsurTech ecosystem?

EY has extensive experience supporting insurance firms with both exploration and execution phases of change management. Some of our exploratory services are current state assessment, where we identify strengths, weaknesses, opportunities and threats, market analysis including key trends and dominant players, and design of future state target operating models (which includes prioritized roadmaps, proposed partnerships and implementation plans).

As for the execution phase we can support M&A and/or operational partnerships and provide business and technical support to implement IT-systems and set up open APIs to allow integration across players.

Green FinTech paves the way to a greener future

With the consequences of climate change and environmental decline becoming increasingly tangible, the financial sector has a key role to play in creating efficient and functioning solutions that contribute to a more sustainable economy. As highlighted this year by the European Parliament Think Tank⁹⁾, the private sector must be a major part of that transformation to a more sustainable EU economy through Green Finance initiatives, as the public sector alone cannot cover the significant need.

Green and sustainable Finance is already finding a home in Stockholm and Sweden, but there is still room in the region for much more innovation in the world of Green FinTech, and the right conditions in place in order to succeed in doing so.

“Sustainable finance has a key role to play in delivering on the policy objectives under the international commitments on climate and sustainability by channeling financing and investments into the transition to a climate-neutral, climate-resilient, resource-efficient and fair economy, as a complement to public money”



Karin Lagerstrand Vice President
Group Sustainability, Handelsbanken

What is Green Finance?

Green Finance involves several different aspects of the financial industry such as banking, investment, and insurance.

The banking sector has increased its action in the area in terms of improving environmental aspects in internal operations and governance, and in allocating capital towards greener classified loans, credit, savings and capital markets, including green bonds. In Sweden, all major banks, as well as some of the niche and regional operating banks, have adopted the Principles for Responsible Banking (UNEP Finance Initiative).

ESG (Environmental, Social and Governance) factors are increasingly important in the investment processes for asset owners and investment managers. A strategic change is accelerating, from the companies performing worst on ESG measures, towards low-carbon, carbon neutral, or even decarbonizing portfolios. Additionally, global initiatives support investors, such as the Principles for Responsible

Investment (UNEP Finance Initiative) and the Climate Action +100 initiative.

For the insurance industry meanwhile climate change is an existential threat and as a consequence risk management considering ESG issues are integrated into Green Finance. More and more insurance companies act for positive change and carbon reduction efforts by risk and price modelling.

Green Finance from a bank's perspective

In financing decisions, sustainability evaluations of borrowers is now an area that is developing fast. In brief, borrowers' plans for carbon reduction and other climate actions will be evaluated, and scored. More and more, banks and lenders will study borrowers' plans for reaching the 2030 Agenda for Sustainable Development.

“This implies a very important role that banks have and will have. From an active relationship with our customers, we support and work more closely with a societal perspective. We play a vital role for steering towards a positive transition, and I believe that customers will more actively seek advice from their banks going forward,” Anders Langworth, Group Head Sustainability notes. “It can, for example, be dialogues regarding what type of data is needed or how corporate customers can compare within their industry. Looking forward we will have that data with analysis from different industries and sectors and even on specific companies.”

A lot of positive actions have been taken on the investment side, and more initiatives are underway with more solutions being used. The pace of development within financing is today very high with continuous development and implementation of more efficient tools. Financing can be a strong driver for change in operations in many industries. It will be more closely connected to sustainability goals and how corporates work towards reaching those. If corporates fail to deliver on their goals, the conditions, and pricing can be adjusted accordingly.

Green funds and bonds are considered to be great instruments but they are sometimes limited in reach and may not always be directly connected to corporates' operations. Financing, however, can be directly connected to change in corporates' operations, and thereby contribute to reaching climate goals.

The more active role from banks implies that the competence within climate, climate data, and climate issues needs to be built within a bank's operations. As an example, Nordea has actively recruited people with this competence, quite often with no banking experience at all. People from the WWF and other environmental organizations have been recruited, for example, for their climate-specific knowledge.

⁹⁾ [www.europarl.europa.eu/thinktank/en/document.html?reference=EPRS_BRI\(2021\)679081](http://www.europarl.europa.eu/thinktank/en/document.html?reference=EPRS_BRI(2021)679081)

"We as a bank need to understand climate data, how to decipher that data, and how to transform the information to action points. Furthermore, EU regulations and how they should be implemented in practice must be fully understood. From this understanding and interpretation, tools are developed to be used in our organization for credit evaluations," Anders Langworth points out.

The interest in solutions for a greener society has increased considerably in recent years. As a consequence, within the financial sector more solutions are being developed, quite often with input from young FinTechs. The areas of Green FinTech and Climate FinTech are today established and have increasing interest from banks, investors and society as a whole.

As banks have important roles in society, and want to contribute to the transition and change related to climate issues, they have an inherent interest in evaluating solutions developed by Green FinTechs. Banks need tools to cope with the urgency related to climate issues, and the need for increased pace of transition, so Green FinTechs play an important role in this capacity.

Tackling climate change with Green FinTech

The financial industry covers all sectors of society and consequently plays a vital role in fighting climate change. With the increasing focus on Green Finance, and with implemented EU regulations, the need for solutions to solidify the path towards a more sustainable society is increasingly urgent. This is the driving force behind the development of a growing Green FinTech sector, which also includes Climate FinTechs, ESG FinTechs, and other terms under its umbrella.

Examples of noteworthy Stockholm-based green FinTechs

Normative is a leading player in the area of corporates' sustainability reporting having created the world's first carbon accounting engine. Their SaaS automatically calculates a company's CO₂ emissions based on their financial transactions. Normative is currently growing quickly, with increasing international attention.

Kristian Rönn, co-founder and CEO recalls that previously carbon accounting was more about 'checking the box', whereas now it's about having correct risk assessments affecting a company's profit to be proactive for coming legislation and, in particular, attracting talent and being competitive in the longterm.

"There is a lack of clear standards for carbon accounting and a big knowledge gap on how to calculate a company's climate footprint. That's where Normative comes into the picture. I quit my assignment as a researcher at Oxford University in order to create solutions for reducing climate risks. And to do that, we need to start measuring in a reliable way. We have only just started our journey."

Kristian Rönn Co-founder and CEO



Earthbanc's services are primarily focused on auditing and reporting of carbon offsets. Existing systems use very old and therefore unreliable data, resulting in a risk of greenwashing. Earthbanc solves this issue by using satellite data and AI calculation models.

"A huge amount of Green Finance is flowing into carbon removal and offsetting projects, which Earthbanc enables with our proprietary rating system for carbon offsets similar to S&P. We provide ratings of AAA through to E, enabling buyers to know the true carbon volume in a carbon offset," co-founder and CEO Tom Duncan explains.

In 2020, when Earthbanc's operations began to take off, it started recruiting in pursuit of a truly international team.

"I'm Australian and love being based in Stockholm. It's a melting pot of international talent, many of them here for academic studies and eager to join startups with a mission to make an impact on the world. And that fits perfectly with our vision."

Tom Duncan Co-founder and CEO



Green Assets Wallet (GAW) is a global trust platform supporting capital markets to finance a credible sustainability transition. On the platform, issuers of sustainable and green bonds communicate their transition targets and impact achievements, while investors get access to trusted and quantifiable impact data.

"Investor interest in sustainable assets, and their expectations for transparency and impact from their investments, continues to rise. This together with an urgency by issuers to demonstrate their sustainability credentials is what we at GAW address. Today we host a variety of investors and bond issuers from all over the world, highlighting their shared impact journey", says Cecilia Repinski, CEO and founder Green Assets Wallet.

Cecilia has vast experience in the area of Green Finance and has played a vital role in pushing innovation in capital markets.

"By combining two of the defining forces of finance – sustainability and financial technology – we can fully unlock the potential of finance to deliver on the SDGs."



Through GAW we facilitate high-impact asset allocation and provide the necessary solutions for issuers and investors to thrive and scale in the sustainable bond market."

Cecilia Repinski CEO and Founder

Datia works with fund managers and their portfolio companies to automate sustainability reporting and data collection. The exponential increase of demand from both customers and regulators is creating a need for a whole new suite of tools for investors.

"We help investors to both comply with regulations and increase their positive impact including the EU Taxonomy, SDGs, ESG and SFDR," says Juan Manuel Serruya, co-founder and CEO. "Our system provides an additional layer of interaction to the typical data that's available to managers, actively engaging fund managers and portfolio companies through easy-to-use reporting interfaces. This allows them to access the specific data they need straight from the source, enabling more sustainable investment decisions and accurately reporting to customers and regulators."

Datia started in 2019 with the mission of accelerating the world's transition to sustainable finance, and while headquartered in Stockholm, it is already an international team operating in three different time zones.



"After my years at Spotify, I fell in love with Stockholm, in several ways. Sweden offers a unique combination of benefits, its parental leave policy, and all of this combined with startup soft funding, a thriving investment community and a high density of unicorn alumni make for a very favorable environment for entrepreneurship and living."

Juan Manuel Serruya Co-founder and CEO

Doconomy's portfolio of services cater to the accelerating need of making climate impact understood as well as actionable. They provide a consistent language for measuring the CO₂ as well as H₂O impact where comparability earlier has been lost. The data put to work for both individuals as well as corporates is market leading and based on the most precise methodology, enabling robust, up-to-date and reliable impact calculations for both products, payments, and lifestyle. Among their clients, you will find Nordea, Klarna, BNP Paribas and Standard Chartered.

"Most people and companies understand that we need to act on the climate crisis but there is a giant gap in understanding your impact, reducing it consistently over time, and measuring the effects. We create a language for the planet in CO₂ impact measures for products, payments and your lifestyle."

Doconomy makes impact visible as well as actionable by using best-in-class financial market data and the leading methodologies."



Mathias Wikström
CEO and co-founder of Doconomy

The global relevance of Doconomy's services is reflected in the very diverse team working out of Stockholm. "We aim to future proof the planet by enabling a sustainable lifestyle for all, providing actionable transparency. This attracts top talent from around the world, understanding both the urgency and the need for a greater responsibility."

Outlooks

The EU taxonomy is a classification system with definitions of economic activities that can be considered sustainable in line with the objectives of the European Green Deal. It is intended to create more security for investors in the shift towards more sustainable investments, and to support companies becoming more climate-friendly in their operations. The Taxonomy Regulations set the general conditions that economic activities must meet to be classified as environmentally sustainable.

Ongoing initiatives

At government level, beyond the European and global frameworks, bilateral partnerships are occurring. As an example, the French-Swedish partnership was launched in 2017 and recently updated. In this case, the countries agree on the urgent need for a full implementation of the Paris agreement, and green innovation development. Green finance will play a key role here in speeding up the shift of financial flows towards a low-carbon economy.

The Swedish Central Bank (Sveriges Riksbank) is active and contributing to international standards that will facilitate uniform, comparable, and reliable financial information. For all actors within the financial system, climate risks can create financial risks. If climate risks cannot be addressed properly, the risks for the financial system increase with consequences for the financial stability. Consequently, as part of its mission, Sveriges Riksbank is working to maintain the financial system's capability to handle climate risks. One important area is the standardization and transparency in climate-related information, such as the recommendations from the Task Force for Climate-related Financial Disclosures (TCFD). Furthermore, Sveriges Riksbank buys corporate bonds for purposes of monetary policy, and is actively considering sustainability, and climate, issues in their risk assessments — this will be fully implemented from 2021. This means that Riksbanken only buys corporate bonds issued by corporates evaluated to comply international standards for sustainability.

Finansinspektionen (The Swedish Financial Supervisory Authority) FI is active in development of regulations and standards, including sustainability. The main focus today is the climate issue that demands major investments in infrastructure and technology. The financial sector plays a vital role for those investments by pricing risks and possibilities, and channeling capital towards more sustainable operations. Access to reliable data and information is fundamental and FI is active in its work within the EU's three supervisory authorities — EBA (European Banking Authority), Eiopa (The European Insurance and Occupational Pensions Authority) and Esma (The European Securities and Markets Authority) as well as within the Joint Committee of the European Supervisory Authorities.

Swedish Bankers' Association For many years, Swedish banks have been working with green finance and striving to reach ambitious sustainability targets, as well as being active in many other related areas. During 2021, they announced a common climate plan to tackle the climate crisis, where banks committed to adjust their operations in order to contribute to Sweden's goal of reaching net zero CO₂ levels by 2045. This plan has been developed by the Swedish Bankers' association in close collaboration with its members.

Stockholm Green FinTech (SGF) is a non-profit organisation tasked with accelerating green finance and investments through stimulating new, and promote existing, FinTech solutions and innovations. SGF collaborates with major stakeholders in different ecosystems and acts as driving force. Originally launched in 2017 at the G20 Green Invest Meeting in Berlin, SGF continues the pioneering work of Cecilia Repinski and serves as an independent platform to stimulate, create and promote solutions and innovation, for green transformation of the finance industry.

The plan is intended to have financing actively contributing to all Swedish business sectors in their climate transition. By that, financing and risk assessment will include climate aspects with input from international framework.

Examples on research initiatives

Sustainable finance is now an important part of financial research. Today, researchers look at financial markets through a sustainable lense in a variety of ways, with some noteworthy Swedish examples detailed below.

The Swedish House of Finance at the Stockholm School of Economics (SHoF) is Sweden's national research center for financial economics. The center serves as an independent platform where academia, the private and the public financial sectors can exchange knowledge, foster new ideas and gain access to a global network of the most prominent researchers in finance.

SHoF plays an active and consequential role in the international sustainable finance research community. Some examples of new publications on sustainable finance:

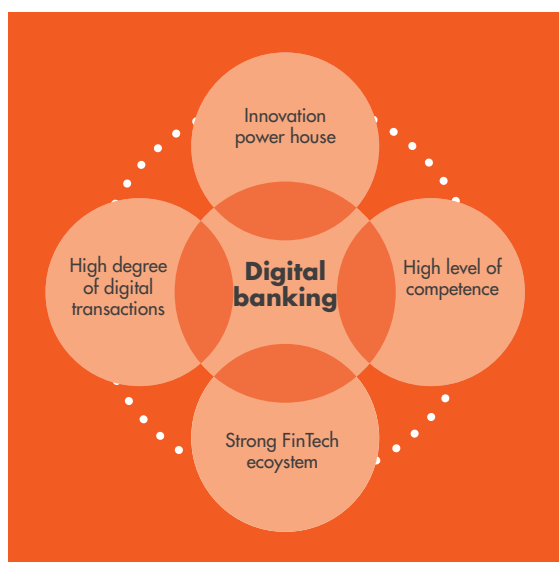
- Financial Literacy in the Age of Green Investment
- From Saving Comes Having? Disentangling the Impact of Saving on Wealth Inequality
- Does Money Talk? Market Discipline through Selloffs and Boycotts
- A Theory of Socially Responsible Investment
- The Pace of Change: Socially Responsible Investing in Private Markets

The Sustainable Finance Lab Sweden was launched in early 2021 as a transdisciplinary research center to transform financial markets and to enhance the sustainable development of society. A consortium of leading universities and research units will, in co-creation with financial industry partners, aim for:

- developing sustainability standards in investment practices
- evaluating and adjusting risk assessment approaches
- identifying innovations that support a more sustainable society, and
- contributing to re-shaping of norms and policies for more sustainable financial markets.

The Sustainable Finance Lab Sweden is funded by Vinnova during 2021–2025.

Opportunities in Stockholm now and in the future



Digital Banking

There are opportunities to take advantage of Sweden's highly digitalised society, and Stockholm is a leading force globally in this regard. The Swedish financial sector is no exception, and is also being shaped by technological development.

Digital banking activity has grown significantly in the city, for example in the form of mortgage brokers and the purchasing of financial securities.

There is therefore significant potential for Stockholm to become a hub for financial actors seeking to further digitalise their activities, or to use the region as their tech hub.

An innovation powerhouse

Sweden has long been known for innovation and Stockholm is its powerhouse. Second only to Silicon Valley in its generation of billion-dollar venture capital-backed companies per capita, the city is highly respected in tech circles as an entrepreneurial hub. And while many other cities struggle with the post-pandemic landscape, Stockholm's capacity as a startup ecosystem actually improved in 2020, according to the Global Startup Ecosystem Report.

High degree of digital transactions

Stockholm is one of the most intense markets in Europe for digital transactions; according to Swedish Radio, the country already processes 99% of all commercial transactions electronically. This has triggered a need to review how such transactions could be managed, supervised, issued and kept track of.

This in turn leads to a heightened demand for and possibility to conduct business in a more sustainable way.

Strong FinTech ecosystem

As a strong FinTech hub with a high level of industry cooperation, opportunities are created for foreign players keen to take advantage of possible synergies.

The highly competent workforce with extensive knowledge in data analysis creates great potential for banks to set up IT hubs in the city to further develop their digital banking. It can also be a cost effective measure as it is cheaper to employ software engineers in Stockholm than in London, for example.

Swedish Private Equity in a nutshell

- Sweden has one of **Europe's largest, most vibrant and flourishing** private equity markets.
- Sweden has the **second largest market** when measuring capital raised by private equity funds to 2021 GDP.
- Close to **€100 billion in total funding** has been provided to private equity-backed Swedish companies since 2007.
- Sweden has **the largest private equity market in the Nordics** when comparing total investments to GDP with an average of 1.43% per year compared to Denmark (1.16%), Finland (1.06%) and Norway (1.05%).
- There are **1,100 private equity-backed companies** in Sweden with more than **243,000 employees**.
- Copenhagen Economics has estimated that **4,300 highly qualified jobs** in the Stockholm region depend on the presence of the local private equity industry.
- Job creation rates among portfolio companies backed by Swedish PE are among the highest in Europe at **7% against an average of 2%**.
- **Private equity-backed companies are more efficient** and grow at a faster pace than the economy as a whole, permanently increasing Swedish GDP by 3.5-4.7% per year.



The cashless society

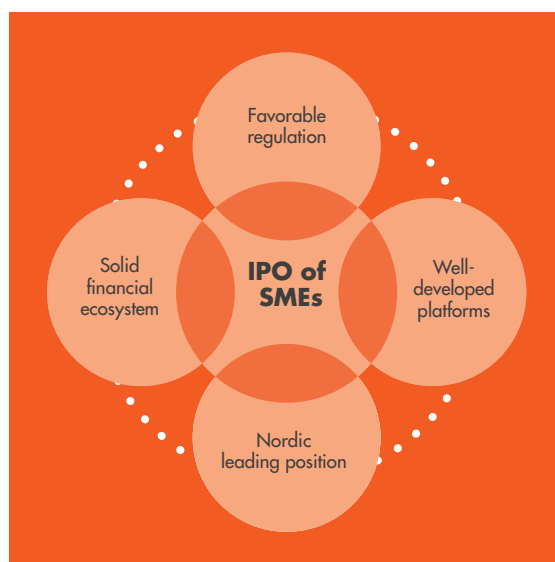
With only around one percent of payments made in cash compared to seven percent in the EU and US, Sweden is arguably the most cashless society in the world, creating unique opportunities.

Based on this, and combined with Sweden being the largest economy in the Nordics with the largest industrial base, this creates opportunities for cash management services. A large volume of transactions conducted meanwhile further strengthens the need for efficient cash management.

The Swedish payment infrastructure is strong and advanced, with proprietary clearing system Bankgiro functioning as a common platform for the flow of payments. Bankgiro's instant payment system BiR was launched in 2012, and is considered the new global standard for such payments, paving the way for Sweden's widely used instant payment app Swish, for example.

A new initiative, P27, is set to create an effective and flexible Nordic payment infrastructure for both national and international payments in the Nordic currencies and the Euro. Sweden will be the first country to implement it, providing a further opportunity for new players to use Stockholm as a hub for cash management services in both the Nordics and the EU.

P27 will have a widespread impact and involve many players in the Swedish financial ecosystem, including the Swedish Bankers' Association and the Riksbank. Examples of consequences include the moving of Swish in 2022 from Bankgiro's BiR platform to the Riksbank RIX-INST instant payment service, which is connected to Eurosystem's TIPS payment platform.



Growth region for SMEs

Small and Medium Enterprises (SME) could take advantage of the city's unique offering to seek growth through an IPO and further capital via a listing. This is helped by a solid financial ecosystem, where the stock exchange, banks, private equity firms and other players actively work together, and strengthened further by an open business culture with easy access to potential partners and investors. That openness makes it much easier to make contact with decision makers than in other more hierarchical markets like the UK.

Regulation meanwhile is favourable, thanks to the Nasdaq Nordic First North Growth Market having more relaxed rules and easier processes for small and medium-sized companies looking for a stock exchange listing. It also offers a variety of platforms for listings, with a higher possibility for a customised IPO, and in general Nasdaq Stockholm actively works to make Stockholm a suitable place for smaller and medium companies looking for a listing and further capital.

This favourable ecosystem and ease of regulation is reflected in the fact that the majority of IPOs in the Nordics are conducted in Stockholm, making it a clear leader in the Nordic region. Considering the combined Nordic economy as a whole would be the 12th largest globally, there are clear investment opportunities beyond the Nordics for companies working in Stockholm.

In general, Stockholm's stock exchange is unique compared to other cities in Europe in that there are a larger amount and variety of financiers.

Stockholm – a breeding ground for innovative startups

Stockholm
The Capital of Scandinavia



Updated September 2021
investstockholm.com

Please note that this image is designed to provide an overview of the current tech ecosystem in Stockholm and is not a comprehensive list of companies. Please contact Invest Stockholm for more details.

If you're a startup searching the globe for the best place to set up shop, Stockholm should top your list. Stockholm offers startups, scaleups and investors many things they won't find in large cities like London, Beijing or New York.

Access to the tech ecosystem is unparalleled in Stockholm. Networking is made simple through a wide range of events,

conferences and meetups, which are typically found in the city centre and accessible by public transport. A truly international atmosphere, combined with a distinct lack of hierarchies, open up a wealth of career and financing opportunities. What's more, our famous work-life balance and popular international schools make the city a great place to raise a family.

“ Nasdaq's First North has become a leading growth market for European SMEs and our markets in Stockholm attract almost 1/3 of the SME listings in Europe.

Adam Kostyál Nasdaq Head of European Listings



Get to know some key players in tech:

Antler

www.antler.co

With hubs in Europe, Asia-Pacific, North America and Africa, Antler offers guidance and funding for individuals interested in becoming a startup. Antler breaks the barriers to entrepreneurship by providing funding from day one and building strong teams from the ground up, while enabling founders to rapidly launch and scale their ideas.

Epicenter

<https://weareepicenter.com>

Epicenter runs innovation labs, hackathons, ideathons and offers flexible workplaces, studios, meetings rooms as well as world-class workshops and international lectures all year long. It is famous for its voluntary radio-frequency identification (RFID) implants that enable members to unlock doors, access printers, and pay cashless at vending machines.

Findec

<https://findec.co>

Findec is the Swedish hub for FinTech, including RegTech and InsurTech, with the mission to boost the ecosystem. The community currently has over 150 members – from early stage to fast-growing scaleups. Findec is a private initiative and a non-profit organization funded mainly by business partners and supporting organizations. Among all its activities, in partnership with PwC Findec runs a growth program – “The Bonfire”.

Impact Hub

<https://stockholm.impacthub.net>

Impact Hub is the world's largest community and accelerator for positive change. With 10+ locations in more than 50 countries spread across five continents, Impact Hub focuses on building communities for impact at scale.

NFT Ventures

www.nftventures.com

NFT Ventures primarily focuses on FinTech and works with established startups with strong, scalable concepts and dedicated teams. With offices in Stockholm, Helsinki and London, NFT is active across Northern European markets. Through its partnership network, they also help entrepreneurs to grow locally and expand further.

Mastercard Lighthouse Program

www.mclighthouse.com

A joint effort between Mastercard and NFT Ventures to put their partnership values into practice. Lighthouse Program is a collaboration platform that fosters symbiotic growth between banks, FinTechs and Mastercard. The program takes place over three workshops that exist to bring partnership projects to life. The partnerships that make the most progress will be invited to continue the program and the company that makes the greatest improvement overall will be declared the program winner.

Norrskén House

www.norrskénhouse.org

Norrskén House is Europe's biggest tech hub dedicated to social impact and houses people with the vision to change the world. Norrskén is an ecosystem consisting of Norrskén House, a co-working space for over 350 impact entrepre-

neurs in Stockholm, and seed fund Norrskén Founders Fund which invests in companies with the potential to radically improve the world.

Startup Sweden

www.startupsweden.com

Startup Sweden is a boot camp arranged by the Swedish Agency for Economic and Regional Growth (Tillväxtverket). It offers digital startups across all industries the opportunity to work on their business development skills and get tailored business and legal coaching as well as unique access to the Stockholm startup community and network.

Sting

<https://sting.co>

Sting has been around since 2002, supporting hundreds of promising Stockholm-based startups. Named the Best Accelerator in the Nordics, and the Main Runway for Startups in Stockholm, Sting offers coaching from top entrepreneurs and ex-venture capital investors, support from Sweden's largest startup recruitment service, free office space and a world-wide network of early-stage investors and partners.

SUP46

<http://sup46.com>

Startup hub SUP46 was founded in 2013 to gather the startup community. Located in the heart of Stockholm, it is home to more than 60 startups and a natural meeting place for the startup community. Members are cherry-picked and offered funding, mentorship and co-working space.

Swedish FinTech Association

www.sweFinTech.se

Swedish FinTech Association aims to develop a well-functioning FinTech market by initiating meetings and cooperation with relevant officials, authorities, agencies, politicians and other business organizations.

Wellstreet

www.wellstreet.se

Wellstreet builds sustainable and profitable tech companies for a better tomorrow. The Factory, a 14,000+ sqm glass building in Sollentuna, is another endeavor by Wellstreet striving to become the biggest innovation and tech hub in the Nordics. Wellstreet has strategic partnerships with Google for startups as well as with AWS to build the next generation of FinTech.

WeWork

www.wework.com

In 2019, the American community platform WeWork, the leading provider of shared office space around the globe opened its doors at the newly renovated property Urban Escape in Stockholm, offering office, education, mentorship and community space for 1,000 future members.

Sthlm Fintech Week

<https://sthlmFintechweek.com>

Sthlm Fintech Week is an independent initiative and the largest annual FinTech event in Sweden, which gathers the community and serves the purpose of sharing knowledge and experience. It acts as an umbrella that collects the fragmented initiatives within the FinTech community.

Tips of the trade: expert advice for FinTechs

SWEDISH STARTUP EXPERT INSIGHTS



NAME:	Johan Ragnar
TITLE:	Legal Futurist / Advokat
ORGANIZATION:	Synch Advokat AB
ESTABLISHED:	2014
SPECIALTIES:	Full service business law firm specialised in the tech and innovation industry

Curiosity about technology is at the heart of innovative business law firm Synch's philosophy, with their business model based on combining technology and high quality legal services to provide running advice for their clients in all phases from incorporation to exit and beyond. Having even established a separate company Maigon which offers AI-based legal tech solutions like automated privacy policy screening and NDA review, Synch takes a hands-on approach to their involvement in the tech world.

What are the key things one should consider when starting up a venture within the FinTech domain in Sweden?

Do your homework when it comes to licenses and registrations! Are you "merely" a technology supplier or are you actually delivering financial services that are subject to registration or the granting of a license from the Swedish Financial Supervisory Authority (FI)? Visit the authority's web page where some sections are available in English, and if you struggle, please consult a lawyer or financial services consultant for advice.

When you register your business you should do so as a limited liability company ("aktiebolag") and we recommend you purchase an off-the-shelf company which can be completed within hours for a reasonable amount of money. The lowest possible share capital required is SEK 25,000.

And don't assume that the FinTech ecosystem is the same as that of your home country when it comes to product/service needs, competition, technical maturity and so on. Do your research!

What are the competitive advantages and strongholds that make Stockholm's FinTech system stand out and attract new players?

Sweden is a very early adopter when it comes to developing FinTech. Ever since the first Bankomat (ATM) in the late 1960s we have been at the forefront of developing excellent FinTech products and companies, such as deposit machines, Swish, TINK and Klarna to name a few. Having a strong track record of FinTech, we have very high competence and skill, both technical, managerial and regulatory, which are required in order to build the next unicorn, whereas the people skill is the strongest key.

Any tips for best practice and avoiding common pitfalls based on the cases you have seen from your practices at Synch Law?

When it comes to licensing and registration, you must read and learn the legal framework surrounding your business. Even though a lawyer will be familiar with the relevant regulations and can guide you through it, you are the one driving the business and your board is ultimately responsible for the company's compliance with that regulations. In our experience the most successful applications are those in which the client has performed the majority of the ground work.

What does Synch offer newcomers to Sweden's FinTech sphere?

We aim to simplify the management of legal matters, both by providing packaged solutions and by making the best use of technology. As a result we are able to work more closely with our clients than traditional firms, taking part in their daily business. Our view is that legal obligations should be used as opportunities for business development.

What other specific services can you provide for international startups, scaleups and other relevant players to tap into the Swedish FinTech ecosystem?

We are a full-service business law firm following you from "start to exit" and we advise within all areas except tax law. Depending on the need and desire for the specific legal advisory services, some examples would be execution of board minutes, option programs, share issues, drafting and negotiation of commercial agreements or review of privacy terms.

Synch will offer a team with its experts in the specific legal area and deliver services by request. The fee is estimated for each individual advisory service. We are especially proud of our fixed fee product Enroll Sweden which is a tailor-made package for foreign companies wishing to enter the Swedish market.

What types of new players within the FinTech space would you like us to attract to strengthen our FinTech ecosystem?

I would like to see more players within the AISP and PISP product/service field. Those types of companies have existed in the regulatory framework since the implementation of PSD2 (or even before) but there are not many new players evolving. At least not visible ones.

An AISP is an excellent entity for utilising big data since it may collect financial information from a lot of financial service providers, converting that information into useful and readable data in one single platform. And PISP enables the execution of payments directly from bank accounts without using cards – all you need is a bank account. That's a very attractive alternative that removes the risk of losing your card, and a further step towards making online payments seamless.

Any particular advice for investors who are keen to explore the next FinTech unicorns in our ecosystem?

Network! Go to pitch events – there are many! And hire an excellent lawyer for the legal due diligence and the production of the investment documentation, such as the investment agreement, the shareholders' agreement and the option agreements!



Thinking of starting up in Stockholm?

Agencies and resources you should know about when you begin your adventure in Stockholm:

Almi

www.almi.se

Owned by the Swedish government, Almi offers loan and advisory services.

Bolagsverket

www.bolagsverket.se

The Swedish Companies Registration Office can help register your company name, in case you seek to protect it.

Business Sweden

www.business-sweden.se

Business Sweden is jointly owned by the Swedish Government and Swedish industry. It helps Swedish companies grow global sales and international companies to invest and expand in Sweden.

The Entrepreneur's Guide to Stockholm

www.investstockholm.com/move-to-stockholm/The-Entrepreneurs-Guide/

This guide offers step-by-step help for starting a business, getting funding, finding a home or an office, attracting and recruiting talent, and networking opportunities.

Finansinspektionen

www.fi.se/en/fis-innovation-center

A point of contact for FinTech companies intending to provide innovative financial services in Sweden. The centre provides seminars, events and participates in innovation activities across the Financial Sector. Furthermore, the centre can provide initial guidance on cooperation with Swedish and foreign government authorities.

Invest Stockholm

www.investstockholm.com

Invest Stockholm is the official investment promotion agency of Stockholm, owned by the City of Stockholm. We provide information and advice for companies wanting to establish a new business in the region, as well as for companies wanting to expand an existing business. We assist investors to identify relevant investment opportunities within the region.

Skatteverket

www.skatteverket.se

One of the most important agencies is the Swedish Tax Agency. Skatteverket would also be the first point of contact in registering your entity.

Verksam

www.verksamt.se

A collaboration among several Swedish government agencies, this one-stop-shop aims to provide information across most of the practicalities in setting up a business here.



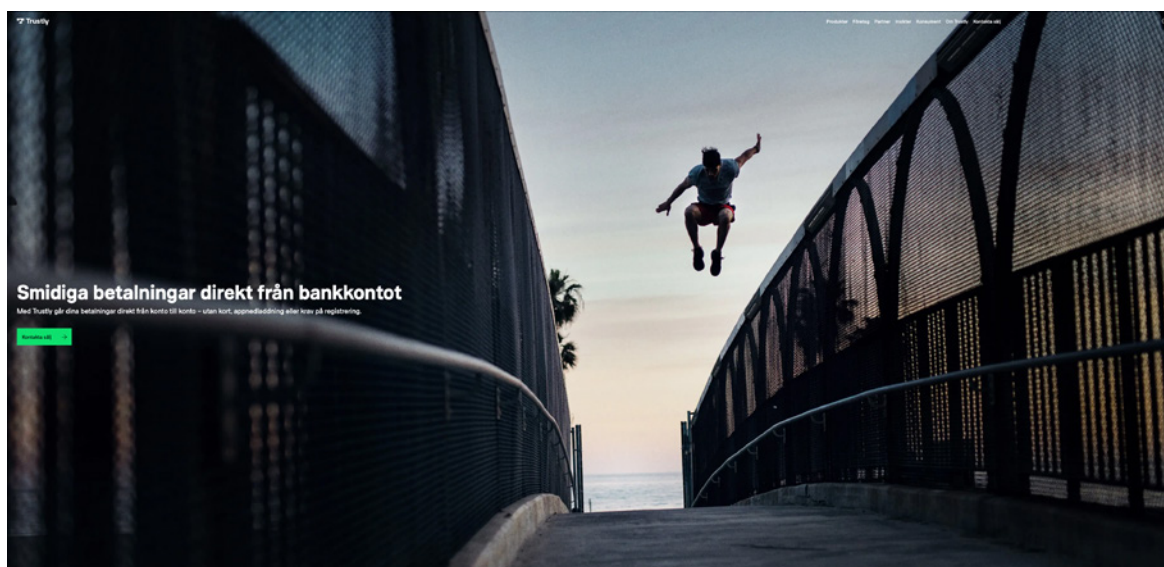
In Stockholm, collaboration is the key to FinTech success

For the past 40 years, there has been strong, consistent Swedish governmental support for banks to collaborate on, for example, debit cards, electronic identification, and payment infrastructure. This support has paved the way for an early digital transformation of society that allowed banks to drive innovation. In addition, Sweden's level of trust in government and authorities is higher compared to many countries and sharing of information is therefore more likely. This combination of trust and collaboration created a strong foundation for today's financial industry.

There is a long tradition of cooperation and collaboration between the vibrant competitive landscape of financial players, specialists, and start-up challengers in Sweden. The relatively small domestic market size drives FinTechs working across ecosystems and borders to provide world-class FinTech services that deliver customer, business and societal value.

An increasingly popular route towards growth for FinTech companies is to seek partnerships with incumbent banks and other FinTechs. Many of the FinTechs collaborate with traditional banking services and rely on partnerships while still competing in other areas. New and traditional financial services models are evolving as companies begin to collaborate rather than compete for market share.

Research recent carried out among financial executives across 17 European companies found that 22% of banks were already in a bank and FinTech partnership, with a further 54% planning to be in a partnership in the next 12 months. And for those banks already in a partnership, their number of FinTech partners has increased significantly in the last year, with nearly half having five or more partners.



Some selected examples of collaboration in action:

Meniga continues its collaboration with **Nordea Sweden** to bolster its digital banking offering.

Trustly announced a new partnership with Swedish insurance company **Folksam**. The partnership is expected to enable students to pay for insurance quickly and receive claim payouts directly to and from their online bank account.

Danske Bank prolonged its collaboration with **Minna Technologies** to integrate a subscription management platform from Minna into its mobile app.

Swedish Open Banking Startup **Juni** partners with **TruNarrative**.

Swedish regulator **Finansinspektionen** goes live with **BearingPoint RegTech**.

Mastercard partners with Swedish FinTech **Doconomy** to launch carbon calculator tool for banks globally.

FIRESIDE CHAT ON COLLABORATION



NAME: Oskar Kihlmark

TITLE: Head of Startup and Growth, Nordea Sweden



NAME: Pontus Tham

TITLE: Senior Relationship Manager, Large Corporate Tech companies, Nordea Sweden

InS: What specific services can you provide for startups, scaleups and other relevant players to tap into the Swedish FinTech ecosystem?

Oskar: Nordea has a special unit within Business Banking called Startup and Growth which works with startup companies that are moving into their scaleup phase. This unit was created because many startup companies face a number of specific challenges and needs, and there are a lot of synergies in serving these companies within a dedicated part of the bank. The Startup and Growth team is handpicked for their specific competencies from different industries, FinTech being one, where we provide a team of specialists with experience from working with the largest FinTech companies in the Nordics. Nordea strives to be an innovator and leader in creating this type of setup with our focus on attracting the next generation of growth companies by building a relationship with them from the start of their journey.

Pontus: We still maintain our sectoral focus at Nordea when the growth companies have scaled up their operations and grown into more mature companies. At Business Banking Large Corporates, our tech team has an ongoing dialogue with the Startup and Growth bankers on where their clients are in their journey to ensure we have a chance to follow them early on.

When a company is mature enough to be transferred to our team we can add more investment banking services like helping companies to become listed on the stock exchange, issuing more equity and advising. We can also open up debt capital markets by issuing bonds, and offer advice and financing solutions connected to both small and larger acquisitions. A few years ago these services were exclusively offered for the largest companies of the bank, now we are very focused on also offering this full range of investment banking services to SMEs and small and midcap companies.

What are the key things one should consider when starting up a venture within the FinTech domain in Sweden?

Pontus: Sweden is a vibrant place for starting up a FinTech. The number of successful tech companies and unicorns means a lot of competence and ideas trickle down to be harnessed by FinTechs, and we see many entrepreneurial initiatives being started by people who have held leading positions in these firms. Compared with ten years ago, there is a lot more capital available ranging from Venture Capital firms to successful entrepreneurs who are looking for new projects to support. Sweden is a great place for testing new ideas too – it's a relatively small but mature market and full of early adopters. If an idea works here it likely works elsewhere. But be prepared for a high level of competition both for capital and talent.

What are the competitive advantages and strongholds that make Stockholm's FinTech system stand out and attract new players?

Oskar: Sweden's heritage of establishing, developing and achieving global growth from large FinTech companies like Klarna, iZettle and Trustly means there's a unique knowledge in the FinTech industry which not many other countries have. The achievements of these companies and other similar companies also means that the spotlight is already on Sweden's FinTech industry, which makes it easier to attract competence, capital and carry out strong marketing.

What types of new players within the space would you like us to attract to strengthen our FinTech ecosystem?

Pontus: Inspiration could come from the larger focus we see on ESG (Environmental, Social and Governance) investments for larger companies, ranging from green to sustainability-linked bonds and loans. It would be very interesting to see other environmental initiatives driven by new FinTech players. Klarna, for example, has recently launched its Give One initiative, which states that it will commit 1% of all funding rounds to planet health initiatives. Given the size of its funding rounds, that's a very large commitment! We hope this inspires new ESG initiatives and perhaps we'll even see more new FinTech players with ESG values built into their business plans already from startup level.



Initiatives and opportunities for scaleups

Capgemini – ScaleUp Qualification Program

www.capgemini.com

Capgemini offers innovation-as-a-service to traditional firms who are looking for FinTech partners. Supported by a ScaleUp Qualification program, Capgemini helps orchestrate the right partner ecosystem, enabling effective collaboration.

Deloitte – Scouting Services

www.deloitte.com

Deloitte has an international network within the FinTech ecosystem, including scouting services where they match needs and potential solutions between FinTechs and incumbent financial service providers.

PWC – Future of Shopping

www.pwc.se/future-of-shopping

PwC has launched a program to boost innovation and partnerships to build relevant ecosystems to solve challenges that the market is facing. The first two programs in Sweden – Future of Homes and Future of Health will be followed by Future of Shopping. This industry-wide program aims to attract interesting scaleups with sharp technologies to work together with corporates.

SEB – Greenhouse

<https://seb.se/foretag/greenhouse>

Greenhouse is SEB's solution for entrepreneurs with ambitions to grow and develop their business (prerequisite is SEK 10M in turnover and upwards). Greenhouse and bank advisors have set together with other cooperation partners a palette of events and scale-up programs to help and assist scaleups throughout the journey.

Danske Bank – The Hub

www.danskebank.com

The Hub is a free-of-charge community platform tailored to the needs of growth startups. Powered by Danske Bank, The Hub gives an overview of the Swedish and Nordic startup community by providing visibility to all Swedish startups. Via the platform, startups can get assistance with their recruitment of talent, connection with investors and access best practice tools, such as employment contracts and pitch decks.

EIT Digital

www.eitdigital.eu

EIT Digital enables European digital innovation and supports internationalization through collaboration activities. It drives the digital transformation of the financial industry with a focus on the future of the retail banking, digital wealth management, and modernized corporate banking and insurance. EIT Digital also provides entrepreneurial education and skills, and offers through its accelerator international growth support for mature startups in the field of digital finance.

Visa – Fast Track

www.visa.com

Visa's Fast Track program makes it easier for FinTechs to access Visa's network and leverage their capabilities so they can grow their business. The program provides turnkey access to Visa's ecosystem partners, online licensing, Visa's APIs as well as extensive go-to-market toolkits, online education and expert advice to help FinTechs scale their business.

Nasdaq First North

www.nasdaqomxnordic.com

Nasdaq First North serves as an important growth platform, enabling Nordic and international entrepreneurs to access growth capital to develop and expand their businesses. Currently, more than 390 companies are traded. There is a well-functioning ecosystem surrounding Nasdaq First North, with advisers facilitating a smooth listing process and a range of investors supporting the market, from retail investors to institutional capital.

Why the future is Brite for instant payments

STOCKHOLM FINTECH TALENT STORY



NAME:	Lena Hackelöer
TITLE:	co-founder
COMPANY:	Brite

Lena Hackelöer sometimes jokes that Stockholm selected her: in 2010, the then fledgling Klarna asked the German marketing expert to move from Paris to help coordinate their outreach efforts. Multiple executive positions and one IPO later, she has combined her passion for marketing with extensive product skills to lead a FinTech company tackling difficult but crucially important international payment challenges.

"It wasn't my intention initially to stay in Stockholm but I was able to integrate quickly. Back then, Klarna was vacuuming European tech talent into the city, and as all of us were new to the Swedish capital and faced the same challenges, we supported each other and have stayed friends until today," says Hackelöer.

"When comparing with Paris or Berlin, I found Stockholm to be exceptionally welcoming – not least because most Swedes are perfectly happy to speak English, the city has impressive quality of life and the booming tech scene offers a wide range of long-term career opportunities"

"Stockholm was a natural choice, primarily due to the talent pool."

As co-founder of Brite, Hackelöer has embarked on a journey to revolutionize a subsector of payments in FinTech. Instant payments, and especially payouts, across Europe have been a missing crown jewel of the payment ecosystem for years which others have either overlooked or purposefully avoided due to regulatory headaches.

The network formed during her time at Klarna, and later as CEO of Qliro, allowed her to lay the foundations for her current venture. Stockholm's excellent talent base, high mobile penetration and a broad range of know-your-customer solutions all convinced her to launch Brite in Sweden.

"Stockholm was a natural choice, primarily due to the talent pool. There are a lot of highly skilled FinTech profiles in the city and as a second-generation challenger our success depends on moving fast and avoiding mistakes we've all made at previous ventures. Getting access to that level of expertise is key for us."

With a high-end team sourced from Sweden's recent generation of FinTech giants, Brite has focused on a solution that enables account-to-account payments built on banks' Open Banking APIs. Unlike other instant payment services, Brite has deliberately honed in on creating solutions that sidestep payment initiation services (PIS) and national systems that slow down transfers.

For consumers, this means for example that an insurance company can make a near-instantaneous emergency payout for a flooded home instead of having to wait for the next business day – at best.

For e-commerce businesses with narrow margins Brite means they no longer have to wait for providers to release bulk payments that are traditionally held for a period in 'rolling reserves' or 'hold banks'. Lena Hackelöer and her team spotted an opportunity when they realised that holdback rates were causing liquidity and cash-flow issues for e-commerce companies dealing with hundreds of millions of SEK worth of transactions.

"By tapping into the potential of open banking and thanks to an experienced team, we have quickly been able to launch our full offering in Sweden, Finland and the Netherlands, and make our payout solutions available across a total of 20 European markets."

"Stockholm is unique in being able to combine the talent pools from FinTech and gaming."

As she has grown the business Hackelöer has developed a reputation for tapping into recruitment potential from unexpected areas. For example, she was quick to spot the talent available in gaming, one of Stockholm's most innovative industries alongside FinTech.

"Motivating talent from areas like gaming to join our FinTech world has clearly spiced up our offering. Stockholm is unique in being able to combine the talent pools from FinTech and gaming. Connecting gaming to FinTech is what Stockholm is all about: overcoming innovation silos and finding unique ways forward to do something extraordinary."

And Lena Hackelöer is already well on her way to doing something extraordinary. Following in the footsteps of runaway success stories like Klarna, Trustly and iZettle, Brite now has its sights set on becoming Stockholm's next FinTech unicorn.

Why high-impact FinTechs will help shape Stockholm's future

STOCKHOLM FINTECH TALENT STORY



NAME:	Lana Brandorne
TITLE:	co-founder
COMPANY:	Sthlm Fintech Week

As co-founder of Sthlm FinTech Week and program manager for the Mastercard Lighthouse Program, Lana Brandorne has her finger firmly on the pulse of Stockholm's burgeoning FinTech scene. So, what does the future hold in store for the sector? And what opportunities are likely to arise for anyone keen to get a foot in the door?

Few sectors have moved as quickly and innovated as relentlessly as FinTech, and Lana Brandorne has tracked every trend along the way. Most recently, she has seen how RegTech and identification solutions have come to the fore; this segment forms the focus of the latest batch of applications to the Mastercard Lighthouse Program, a Nordic and Baltic development scheme fueling FinTech sector growth.

Thankfully, Lana is unfazed by the sector's furious pace. Originally from Riga, she spent a decade living in seven different countries before moving in 2015 from the Netherlands to Stockholm, where she joined the city's vibrant startup collective SUP46. Once there she set about gaining expertise in a single sector, FinTech, and topping up her knowledge with clear sustainability goals.

"While working at an NGO and taking additional courses in sustainability and change management, I continuously came across mentions of Stockholm"

"At the time it seemed that Sweden was the mecca of driving sustainability initiatives, and had been since the early 1980s. I was driven to learn more from the best and decided that Stockholm would be able to offer me an

environment for professional growth. It turned out better than expected as it allowed me to discover the vibrant startup scene and for the first time to consider entrepreneurship as a potential future path."

After two positions at local FinTech hubs and one FinTech venture, Lana co-founded Sthlm FinTech Week, an annual event that very quickly showed its value. With its aim of clearing obstacles to growth, the inaugural edition in 2019 sold out. What started as a hobby project is now one of the Nordic region's leading forums for the sector: a community-driven FinTech conference with more than 120 speakers led by industry experts.

With the sector flourishing, Lana has no regrets at all about her move to Stockholm and recommends job seekers and founders with the right expertise to consider making the jump.

"First steps in Sweden can be hard, but when you do connect to the right people it seems that everything is possible. I consider myself lucky to have met inspiring and supportive individuals and encourage people to start off by building relationships based on good will."

As Sthlm FinTech Week 2021 approaches, Lana can look back at a year that has been difficult for everybody. Her team at Mastercard Lighthouse Program had to adapt quickly in order to continue offering high-quality advisory, coaching, and networking services for the program's participants. Similarly, the Covid-19 pandemic has necessitated a move online for the annual FinTech event. However, the pandemic has not had a negative impact on the sector. Quite the opposite in fact, as social distancing has fueled a large-scale transition to digital solutions.

But Lana is not blind to the fact that the sector will need to continue evolving to keep on top of future consumer and business needs.

"Of course the FinTech ecosystem is not all a bowl of cherries," she says, citing an overabundance of applications to last year's Mastercard Lighthouse Program with a focus on KYC (Know Your Customer) identification technologies.

"I would never argue that KYC RegTech ventures are not needed in the ecosystem as they are at the core of each transaction, but I had hoped to find more founders tackling large global issues like 'poverty premium' and would like to see them in upcoming programs."

What FinTech needs next, says Lana, is to find a pathway to train "cross-silo leaders" with multiple areas of expertise if the sector is to foster greater sustainability and more impact-based solutions. Historically, specialists in the Nordics have kept to their finance or technology silos, and bridging the two is already a challenge for some. As the ecosystem matures, sustainability goals will increasingly be added to the finance and technology elements, adding a new level of complexity. But Lana is more than ready for the challenge.

"The move to Stockholm has been a great step for my career development. I truly appreciate flat organizational structures and gender equal work environments. While winters can be a bit cold and dark, Stockholm does have many other benefits to offer including its amazing summer season."

Reasons to invest in Stockholm

→ The largest market in the Nordics

In the rapidly growing FinTech sector of the Nordic region, Sweden spearheads the industry ahead of its Scandinavian neighbours. According to the Nordic Tech List, Swedish FinTech companies locked in more than 50% of the total invested FinTech capital in the Nordic region in 2018.

→ Big spender on R&D

Sweden spends more on research and development than any other European nation. The world's most innovative tech companies continue to view Sweden as the place to be at the forefront of technology.

→ One of the best business climates in the world

Our well-educated population has access to free education and this gives entrepreneurs the start they need. Thanks to our generous social security system, they can dare to be creative and take risks. This, in combination with political stability and long-term economic growth, provides Stockholm with the best business climate in the world.

→ 40% of Stockholmers have a degree

Stockholm has a highly-skilled workforce. More than 40% of the population has a bachelor's degree or higher. Stockholm ranks fourth in the Times Higher Education World University Ranking.

→ 80% of Swedish citizens use digital services

According to the UN, more than 80% of Swedish citizens use e-government services. Sweden ranks among the top 10 countries in e-government development. In addition, 94% of its population is connected to the internet. This high rate of connectivity allows practically everyone to use digital services.

→ Third best in the world at English

Swedes are the world's third-best non-native English speakers, according to a global ranking of 72 countries.

→ Low corporate taxes

Sweden has amongst the lowest corporate taxes at 20.6% and there are no local taxes for companies.

→ R&D incentives

Sweden has implemented an incentive to stimulate R&D activities. The incentive works as a deduction of the monthly employer cost and directly lowers labor costs.

→ Solid infrastructure

Stockholm is one of the world's premier regions for information and communications technology (ICT) in terms of both technological development and use. Stockholm enjoys 100% broadband coverage, both fixed and mobile. Our fixed network is the world's largest open-fiber network. It's built and maintained by Stokab and owned by the City of Stockholm. The world's first-ever 4G network went online here in 2009, and the 5G network is currently being deployed. By the end of 2023, 90% of the population will have access to the 5G network.

Private Equity and Public fundings

Private equity is the common term for equity investments into non-listed (i.e. private) companies. Private equity investors have an active ownership model in which both knowledge and capital are invested. Such investments are made to support the development and growth of the companies.

Private equity investments span a company's entire life cycle – from business angels and venture capital funds that invest in young entrepreneurial companies to growth capital funds that invest in more mature growing companies and buyout funds that invest in larger, more mature companies.

Capital invested through private equity funds comes primarily from institutional investors such as pension funds, life insurance companies, foundations, university endowments and banks. Over 85% of the capital raised in Sweden comes from institutional investors based outside of Sweden.

Private fundings

Atomico Sweden partners with ambitious tech founders at Series A and beyond with a particular focus on Europe. They're based in London, but have an office in Stockholm.

Creandum is the leading Nordic venture capital firm investing in startups focusing on consumer internet, software, and hardware sectors. With a total of €435 million raised, 75 investments in their portfolio, in seed, Series A and later stage rounds, Creandum is the first stop for any entrepreneur. Notable investments include Spotify, Wrapp, Cint, Edgeware, iZettle, Vivino.

EQT Ventures is a multi-stage €566 million VC fund. It typically invests in tech companies for amounts between €3 million and €75 million, with a geographical focus on Europe and the US. Notable investments in the foodtech space include Wolt and OriginBio.

Inventure has backed over 70 portfolio companies since 2005 and has €230M of assets under management. Invested in Wolt, Insurello and Stockeld Dreamery.

Luminar Ventures is a Swedish seed-stage venture capital fund that provides seed stage financing to early stage technology companies that are looking to disrupt or transform major industries with digital technologies and innovations. Its diversified portfolio includes FinTechs such as Insurello, Normative, Omocom etc.

Norrskan VC is a €123M fund investing in startups solving the world's biggest problems while building massive business. Invested in Matsmart, Karma, Vultus, Whywaste among others.

Northzone has been around since 1996 and has invested in over 130 companies, including Spotify, iZettle and lately in Stockeld Dreamery, a plant-based cheese startup.

Zenith Capital The Zenith Group currently has three streamlined investment strategies under the same roof: Venture Capital (start-up company), Growth (growth company) and Real Estate (real estate funds).

Public fundings

Almi Invest: A public sector independent venture capital company is to be a bridge to private capital and contribute to a functioning venture capital market throughout the country. Over the years, Almi Invest has co-invested with over 1,000 business angels and institutional investors. Almi Invest is owned by Almi Corporate Partners and ultimately by the Swedish state. Almi Invest is part-financed by the EU, Almi Corporate Partners and regional organizations. The fund makes about 50 new investments per year and manages about €295M.

Industrifonden: Founded by the Swedish government in 1979 to support industrial development but switched to venture capital investments in 1996, Industrifonden is one of the larger venture capital firms in the Nordics, with €680 million in assets and has completed more than 1000 investments in its 40-year history.

SamInvest is a state-owned investment company with approximately SEK 6 billion worth of assets under management. It strives to achieve more than just returns by investing in venture capital funds with the objective of developing the venture capital market in Sweden.



“

Thanks to its strength, innovative spirit and remarkable creativity, Stockholm's FinTech industry continues to soar. The city has become a noteworthy hub for both financial innovation and sustainable finance, a result of our commitment to collaboration and ongoing nurturing of the local ecosystem.”

Karin Wanngård, Mayor of Stockholm

**Interested in knowing more or exploring
this region further? Get in touch!**

Invest Stockholm

Invest Stockholm is the official investment promotion agency of Stockholm, owned by the City of Stockholm. The Stockholm region covers 54 municipalities and attracts more than 50% of the total foreign direct investments into Sweden. Our team will provide tailor-made information and advice for companies wanting to establish a new business in the region, as well as for companies wanting to expand an existing business. For investors we assist you to identify relevant investment opportunities within the region.

Contact us



斯德哥尔摩投资署



Follow @investstockholm on social media
invest@stockholm.se
www.investstockholm.com

Invest Stockholm

P.O. Box 16282
SE-103 25 Stockholm, Sweden
Phone + 46 8 508 280 00
invest@stockholm.se
investstockholm.com