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The Danish Startup Bible

Getting savvy with the ecosystem

2022



Discovering Startup Denmark

Business of Building

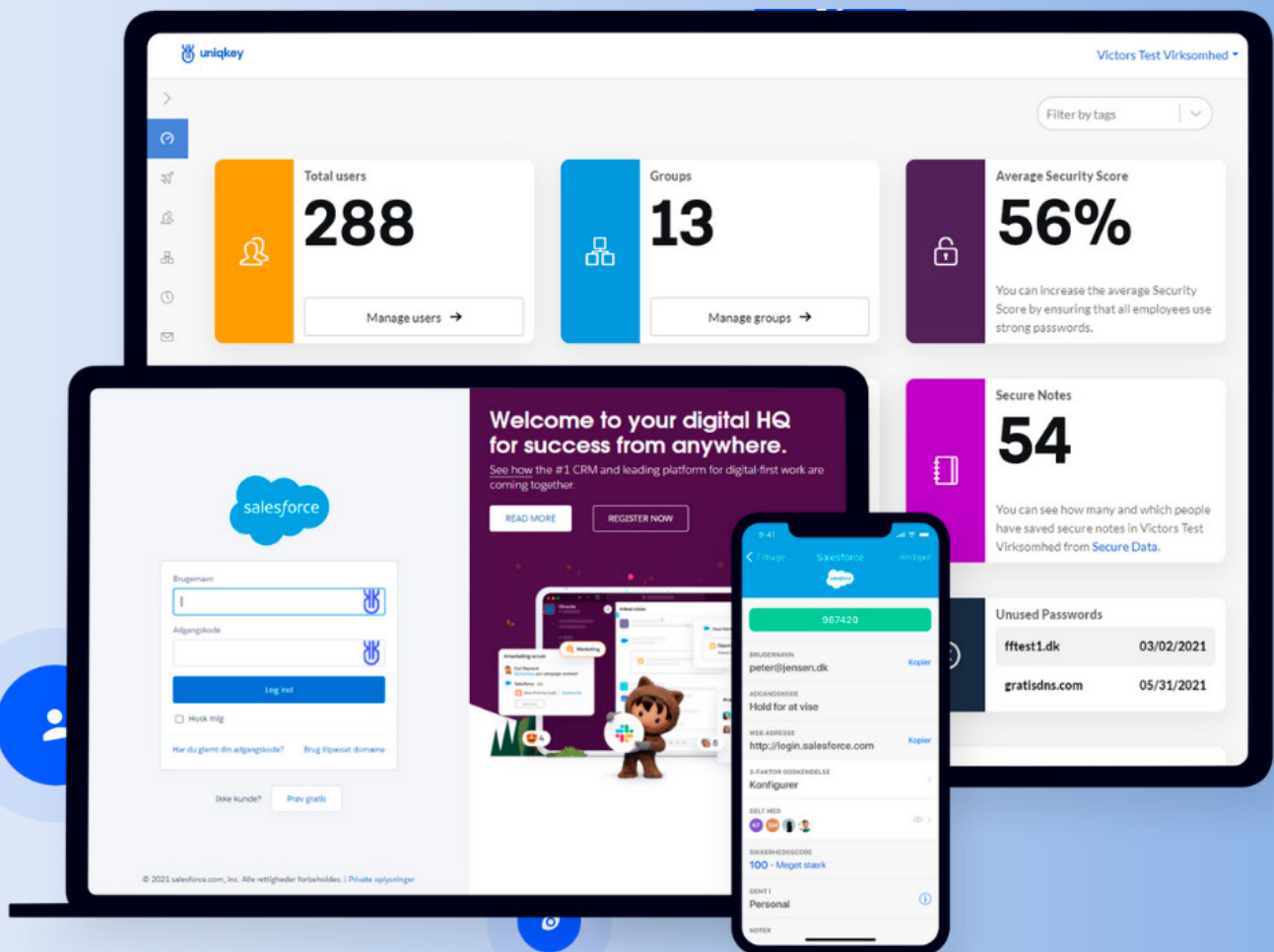
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Discovering Startup Denmark

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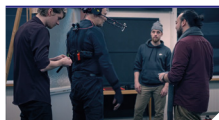
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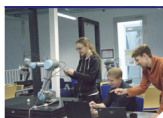
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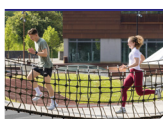
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10 years of discovery:

From grassroots barbecue to a mature, self-reinforcing industry

Written by **Sebastian Kjær**, Editor-in-chief & CEO at TechSavvy.media



300 pioneers from the depths of the Danish startup ecosystem gathered when the first edition of TechBBQ was held back in 2013. An intimate forum where epic tales about daring entrepreneurs venturing into unknown territory and conquering new frontiers in the far west could be shared.

The fact that TechBBQ has grown to host 8,000 enthusiasts from across the ecosystem in the Locomotive Workshop is in many ways a good reflection of how explosively the ecosystem has evolved over the past decade.

The Danish startup scene is no longer just geeks from the core of startup land, sharing tips, networking and having fun with the dream of building an app that could make it big over there. Today, tech startups have become a viable career path with its own success stories and rock stars. A regular industry that employs thousands of people, attracts billion-dollar investments from all over the world and has become so mature and independent that it has fostered 10 unicorns.

Discovery: towards new horizons

The first pioneers made the journey across the Atlantic, learning new startup methodologies while building successful companies and new networks. And most importantly: They brought their resources back to the Danish ecosystem - paying it forward.

The maturity of the ecosystem today is very different from that of just 10

years ago. This applies to the individual startup, all the supporting initiatives and the wider community.

But of course, that doesn't mean we're there yet. It's ingrained in human nature, and maybe even more so in the startup ecosystem; we're not going home, we're moving on!

Let's discover new technologies, business models and methodologies. Make new connections with established industry, nourish the relationships with our neighbouring ecosystems in the Nordics and build new bridges to the most exciting communities across the globe. The Danish ecosystem has come a long way, but it never does it alone - not yesterday, not today, not tomorrow.

As the journey of discovery continues, we urge everyone to follow it closely. Startups are a study in applied future - for the individual as well as for society as a whole - which allows us all a glimpse of what's to come.

And this is essentially what this publication is all about: enhancing the exploration by showcasing some of the highlights from the Danish ecosystem right now. Enjoy! ■

Discovering Startup Denmark: By the numbers



2.000+

Digital and scalable startups established in Denmark in 2021



€1.7bn

Invested in 2021 in startups



25.962

Employed in startups and scaleups



10

Unicorns

#1

Most digital society according to UN's eGovernment rankings

#1

Copenhagen voted world's most liveable city by Monocle

Find more numbers on www.danishstartups.dk

What next?

The Danish startup scene has reached a level of maturity that, a decade ago, few could even dream of. But what are the next steps for Denmark's entrepreneurs? Which technology will be the next big growth accelerator, and who will be the next unicorn?

By **Sebastian Kjær**

When a group of Danish physicists and engineers set out to reinvent the nuclear reactor, it seemed more like a futuristic fantasy. A fantasy that, if it succeeded, would require a series of breakthroughs in physics and the development of new materials. Not to mention a series of breakthroughs in the regulations surrounding nuclear energy, in order to reach world markets. But the potential—that is, to be able to supply the world with environmentally-friendly electricity on an enormous scale—was so promising that the idea found its feet as a startup.

»In hindsight, it was vital that we were very inexperienced when we started out. If I knew then what I know today, I'm not sure I would have started Seaborg. There are so many areas in which we have to innovate—from the regulations to the technology itself, to how the supply chain works—but that's not to say that success is out of reach, it's just hard to reach,« says Troels Schønfeldt, CEO and co-founder of Seaborg Technologies.

Since the beginning, Seaborg has raised a total of €13m. Today, their 100+ employees are exploring unknown territories in their mission to discover the solution to our planet's most pressing problem.

A trend machine

Go back 20 years and »startup« was not a word common to the Danish language. Sure, there were entrepreneurs and some of them dabbled in technology, but in just two decades, an independent Danish startup industry has emerged, boasting scaleable tech companies across sectors. 10 such companies have earned themselves so-called »unicorn status« with a valuation of over \$1 billion and startups from the seven largest sectors alone employ over 15,000 people in Denmark.

With such an explosive two decades behind us, it's risky to predict what the future might hold. But one person who dares to do so is serial entrepreneur and investor Lars Tvede. For Tvede, it's not a question of whether there will be technological breakthroughs, but of which technologies will break through, and when. That's precisely what he's attempting to discover with his company, Supertrends.

»When you trade on the stock exchange, your dashboard displays trading news, all the latest price developments and the current trading volume in real-time. That's what we're creating with Supertrends, just with everything. Supertrends Labs is a trend machine that filters out noise and picks out the ►



▲ Seaborg envisions a future where their nuclear technology delivers abundant, affordable, low-emission energy to all.



▲ Serial entrepreneur and investor Lars Tvede.

► central trends from billions of data points,» Tvede explains.

The trend machine gets its knowledge from a multitude of databases, uses artificial intelligence to read articles and then combines all the data, assisted by subject-specific experts, creating an automatic overview of the companies, individuals or technologies that are trending within any given industry or technology.

»I'm constantly hearing about new technologies that seem like they're sure to be the next big thing, but when there are so many, it can be difficult to keep an overview if you don't have a system for it. Supertrends enables us to follow these developments—generally speaking, first something will be hot amongst

investors, and then it'll be hot commercially,« says Tvede.

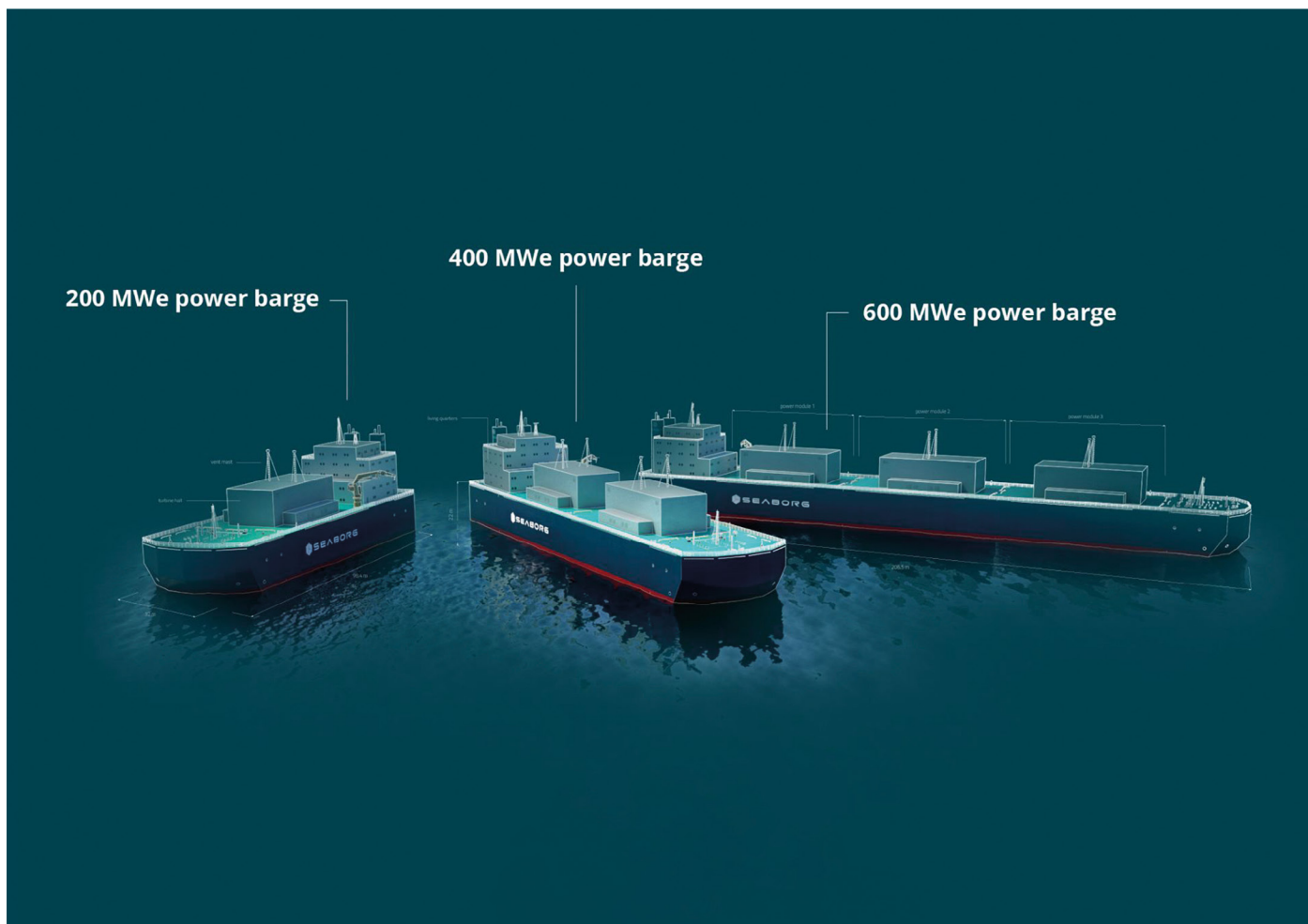
It's usually startups who take the first steps into new technologies and make them commercially attractive. They also use technologies together in innovative ways and create new business models—much faster than larger, established companies are able to. This is why Lars Tvede believes it's particularly wise to keep track of when investors seem to flock to one particular kind of startup, even if the companies haven't yet developed a finished, market-ready product.

»What you often see is that around 6 - 7 years after the smart money has been invested, the startup will start

changing the world with its solution. If you're an angel investor or a VC, it's your job to keep an eye on these things, but if you work in a larger company, it's also useful to know what smart people and smart money are getting up to, because if you notice it for the first time when it hits the market, it's already too late to do anything about it,« Tvede concludes.

An expanding ecosystem

One intersection where new technologies are being adopted and commercialised is where university research, startups and established companies meet. An intersection that has been in rapid development in Denmark during the past decade. In 20 years, 2,500 new ►



▲ Seaborg is currently developing a standardised molten salt reactor that can be installed in standard 40-foot containers. The containers are then installed on specially designed ships as floating power plants so that the entire package can be safety-approved and provide power anywhere in the world.

► companies have spun out just from the Technical University of Denmark (DTU), not to mention all the other universities. However, the aim is not merely to link the research world and the commercial world, as Anne Malberg Horsager, Partner Director for DTU Entrepreneurship and DTU Board Education.

»If we're going to discover the new and innovative solutions of the future and bring them to market, then we also need to tear down some of the barriers between stakeholders: research, startups and corporates. We're uniquely placed to do this in the Nordics, partly because we have such a trust-based society which is crucial for a triple helix ecosystem to thrive,« she says.



Anne Malberg Horsager
Partner Director
for DTU
Entrepreneurship
and DTU Board
Education

Horsager believes that startups and scale-ups as well as established companies can become even more integrated into education and research, so that new knowledge has a better chance of becoming reality, faster. However, this must be done with respect for the research itself which, compared to the usual startup mindset, can seem very slow.

»Thorough, unbiased research is valuable, the fail-fast startup approach is valuable, and experienced corporations that scale new ideas fast is valuable. The challenge is for the three to work together and acknowledge each other's strengths. Because when investors, startups and corporations dare to venture into research environments ►

► and researchers dare to share their knowledge in a commercial context, that's when we can really innovate. We need to create new ecosystems, as well as developing the ones we already have in place,« Horsager explains, highlighting the universities' entrepreneurship collaboration Open Entrepreneurship as an example.

Great discoveries and risky business

Seaborg's founders have a background in physics from DTU. They started out with public funding and have since received large, private venture investments from, amongst others, Anders Holch Povlsen. Recently, the startup/scale-up announced a partnership with the South Korean shipping company Samsung Heavy Industries.

Although there is still a long way to go for Seaborg, they serve as a good example of how far a startup idea can go when connections are made across ecosystems. Their current goal is to be ready with the first power barge in 2028, which can be centrally approved for safety and go on to supply power to energy-deficient Southeast Asia.

»It's the same goal as when we started out, but our way of getting there has changed. That's why it can pay off to be a bit stupid and inexperienced at the beginning and just throw yourself into it. Our business case, business model and go-to-market strategy are also evolving alongside our core technology,« says Schønfeldt.

Despite the many obstacles on the way to Seaborg's liquid salt reactor becoming a reality, he still believes in the potential:

»Taking risks won't necessarily lead to creating value, but great value is rarely created without taking risks,« he concludes. ■

TechBBQ Theme: Discovery

A drive to navigate and shape the future we envision for the world. Harnessing and embracing the very core of what makes us human: our curiosity and our drive to discover.



▲ Seaborg doesn't yet have a finished prototype of their reactor, but their eight years of development have created measurable value in multiple ways. For example, they have made discoveries concerning energy storage in molten hydroxides, which became the spinout company Hyme.

7 snapshots of future technological breakthroughs, as predicted by Supertrends

- 2023** Commercialisation of laboratory-grown caviar
- 2024** Electric cars can be charged while driving
- 2027** A previously-extinct species is reintroduced into the wild
- 2030** First flight of a 100+ passenger zero-emission aircraft with fuel cells
- 2030** Commercialisation of a sodium reactor with a molten salt storage system
- 2034** First smartphone powered by self-charging batteries
- 2042** A dinosaur that isn't also a bird is brought back to life

Startups are enjoying the limelight,
but want government action:

»Politically, we
have failed the
entrepreneurs«

Startups have become sexy in the public eye, but entrepreneurs themselves still want more action and a national strategy if Denmark is to make it as a startup country.

Written by
Erik Lillelund

It is there, there, anywhere. In conversations. In the media. And in culture. In recent years, entrepreneurship has really made its mark on the public agenda.

In 2021, money.co.uk even named Copenhagen the most accommodating and affordable city to start a business in, highlighting its good transport links and many co-working spaces.

Yet for many it does not feel that way. At least not for the startups that currently live here.

In a member survey by The Danish Chamber of Commerce, 53 percent of Danish startups report that recruiting qualified staff is a barrier to growth. An increase of 14 percentage points compared to 2021. In addition, 28 percent of startups experience that retaining skilled employees is a barrier to growth. This is also an increase of 12 percentage points from 2021.

»Politically, there is slowly a greater understanding of some of the many issues that exist. But it's too slow. We could make many more great tech companies if we weren't so bad at supporting them at the community level.«

That is the message from Esben Gadsbøll, who heads the Association of Danish Tech Startups, which was founded by 50 leading tech entrepreneurs from companies such as Tradeshift, Unity,

Planday, Vivino, Too Good To Go, PLEO, Founders, Rainmaking and Queue-it in the hope of creating better conditions for startups in Denmark.

Employee shares and the public sector

One of the most contentious issues in the long-running debate on entrepreneurial prerequisites concerns employee shares. And the complexity of handing them out.

Today, every fourth Danish entrepreneurial company with employees uses stock options as part of their remuneration model. But many more would like to do so, according to a survey by The Danish Chamber of Commerce.

»Startups can't match the bigger companies on pay for good reasons. But employee shares are a way to attract talent, which is one of the things we lag behind most. We need to be able to attract people who have tried the growth journey before. And this is a point where, from the point of view of share ownership and our overall society, we should be among the best in the world. For some reason, we're just not,« Esben Gadsbøll says.

In addition, the public sector purchases DKK 355 billion each year, making it Denmark's largest consumer of new, innovative solutions. It's just rare that those solutions come from startups. ►



Esben Gadsbøll
Head of the
Association of
Danish Tech
Startups



Mona Juul
Business
spokesperson for
the Conservative
People's Party



► Figures from the Confederation of Danish Enterprise show that four out of five entrepreneurs have never bid for a public contract. The barriers, according to respondents, are both a lack of information and of resources.

»We have a very large public sector, but the state does almost exclusively partnerships with large, old companies. That reflects that we think entrepreneurship is nice and cool, but politically, it's still not a priority. It's considered a hobby project compared to the established companies,« Gadsbøll believes.

Neighbouring countries are more startup friendly

One of the big issues is the so-called

inventory tax. Once a company has reached the size where they are ready to be listed, entrepreneurs are forced to pay tax on the value of the shares - whether they have sold them or not. So it's easy to be forced to sell out to pay the tax, even if you don't want to.

»Politically, we have failed entrepreneurs. There is simply too much talk and too little action. There are some very significant obstacles in the form of inventory taxation, employee shares and attracting talent,« says Mona Juul, business spokesperson for the Conservative People's Party.

»We can see how much business activity we are missing out on in favour of, for example, Sweden or the UK, where they have put together much bet-

ter rules. In Denmark, we have simply set ourselves up for failure by making it difficult to scale and build large businesses. We need a serious national effort in this area,« she continues.

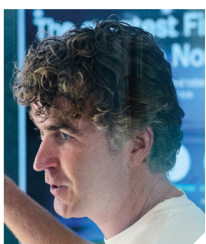
And even though Denmark set a new record with two unicorns (companies with a valuation of USD 1 billion or more) last year, the analysis is shared by the Association of Danish Tech Entrepreneurs.

»Israel broke the record last year with 33 unicorns. And we should be able to match that number. We have all the prerequisites to be the world's best entrepreneurial country, but in the long run we will be much weaker than the big startup nations because not enough has been done politically,« Esben Gadsbøll says. ■

Expert Panel:

How is the Danish startup scene doing today?

We asked four experts to take the temperature of our cold country in the North.



Simon Schou
Chief Innovation
Officer, Copenhagen
Fintech

What is the main strength(s) of the Danish startup ecosystem today?

► The growing talent pool, which is due to the volume and breadth of those wanting to go down the entrepreneurial route being greatly increased. Denmark has not historically been among the leading global startup hubs, but right now I'm seeing an absolutely huge energy and desire to start your own business, work in a startup, or invest in startups from a lot of different angles. Everyone is suddenly talking 'Løvens Hule' (Startup tv-show, ed.) and familiar with terms like valuation-sheets etc.. Where 10-20 years ago the »dream« among students might have been to work in Brussels or in a big company, now it is very much to become successful entrepreneurs or investors. And it's definitely not just among students. We are also seeing a rapidly growing flow of talent with key experience from large companies who are now ready to leave highly paid positions to »build

something themselves« - and preferably something that creates impact and makes a difference.

What do we need to do to take it to the next level?

► At Copenhagen Fintech, we have had relative success in building a highly specialised community-based startup ecosystem focused on the fintech vertical. We have created a community where it is easy to engage with other specialised fintech entrepreneurs - but where there is also easy access to specialised fintech investors, large financial firms and the fintech relevant branches of academia etc. This community has become relatively »easy« to find and easy to come back to after a successful exit or otherwise - and this means that we are now starting to experience it as a real »ecosystem« that is evolving and renewing itself all the time. I think we could go a long way as a country by building similar vertical ecosystems in, say, healthcare, education or the public sector.



Jasmina Pless
Head of
Entrepreneurship,
Danish Chamber of
Commerce

What is the main strength(s) of the Danish startup ecosystem today?

► Denmark is at the forefront of new ideas and innovation, whether in the green transition or new digital solutions. Danish startups help to challenge the existing business community and that is good, as it keeps the entire Danish business community relevant and competitive. Danish startups create growth, prosperity and the jobs of tomorrow, but we could be even better off if our politicians were more willing to ensure access to talent and better tax conditions.

What do we need to do to take it to the next level?

► For Denmark to become the world's best entrepreneurial country, it is crucial that Danish startups can attract the right minds to take the company from startup to global growth company. It is often resource-intensive for small startups to recruit qualified staff, and therefore one initiative, in particular, will enable them to reach the next level: giving Danish startups the opportunity to offer employees equity. When the entrepreneur is better able to pay his employees in equity shares, the employees also get a part of the potential gain as the company scales.



Jakob Neua Nørgaard
Serial entrepreneur
and CEO of Estaldo

What is the main strength(s) of the Danish startup ecosystem today?

► I think we are good at banding together and establishing collaboration across the board. In addition, a number of useful organisations and conferences have been created, such as Tech-BBQ, CPH Fintech, PropTech Danmark and the like. The Danish startup ecosystem's greatest strength, in my view, is its ability to organise itself.

What do we need to do to take it to the next level?

► In general, I am negative about some of the public facilitation of the ecosystem in Denmark. I simply think that there are too many organisations in the world doing pseudo work.

I have read that we spend up to 4.7 billion kroner of

taxpayers' money a year on business promotion - and there is no doubt that a lot of that money is spent on administration.

In my world, we might as well divide the 4.7 billion into 2350 pools of 2 million. Then we could throw the money into a lottery and let a panel pick which startups qualify for the lottery. I think in the long run that would produce a better result, and you know what the cool thing is? Next year, the 4.7 billion for the lottery will come again, so we could help even more startups.

Of course, I am well aware the world is not like that, but if we are to get to the next level, we need to think smarter about the conditions we offer startups and the way we spend the money earmarked for supporting the ecosystem.



Rolf Kjærgaard
CEO of Vækstfonden

What is the main strength(s) of the Danish startup ecosystem today?

► The ecosystem has evolved rapidly, with a much more cohesive ecosystem of investors from the early stages through to an exit. Particularly noteworthy is how connected the Danish ecosystem has become to the outside world. Denmark and our companies have really made a mark on the map, which is also underlined by the fact that a record number of international investors made investments in Danish companies in 2021 (Source: Growth Fund Startup to Scaleup Report 2022). This proves that Danish startups are of high quality.

What do we need to do for it to reach the next level?

► We must continue to build on the strong platform

we have today. We need to focus on both the depth and breadth of the ecosystem. By depth, I mean that we need to continue to focus on verticals that are mature and well-functioning, such as biotech, fintech and enterprise software. At the same time, we also need to embrace new areas that are emerging and have a lot of momentum these years such as sustainable food, energy and digital health. This way, we can strengthen the ecosystem at large. At the same time, we can also see that it is vital to create some beacons for future generations of entrepreneurs to emulate. Success breeds success, as we know. Creating these rings in the water will certainly help take the Danish ecosystem to the next level.



Copenhagen Capacity connects foreign companies with the Nordic ecosystem

International rankings can reveal plenty of great reasons to run a company from Denmark. Copenhagen Capacity helps foreign companies assess the viability of Greater Copenhagen as a solution to their needs, before they make the all-important decision to move here.

To Danes, it might seem odd that foreign talent and companies choose to relocate to a place where high tax rates and gloomy weather are often on the list of things we complain about.

When doing business, however, there are a multitude of advantages that make Denmark attractive. The country consistently tops the charts when it comes to ease of doing business, trust and liveability – and in 2022 Copenhagen was named the world's most digital city.

»We help startups and businesses from every industry globally to establish a Nordic or international base in the Greater Copenhagen Region, and to help them evaluate both the strengths and weaknesses that Copenhagen has for them as

a potential new hub,« Oliver Hall, Head of Tech Investments (UK, EU & Japan) in Copenhagen Capacity, explains.

The Local Guide

For foreign companies, Copenhagen Capacity is the one-point entry to the local ecosystem – acting as the local guide that knows and understands the community intimately, and who already supports 30-50 companies in establishing themselves in the Greater Copenhagen Region each year. They know that each company has its own journey, so the support from Copenhagen Capacity is always tailored to their individual needs.

»If they want to come and experience what they can accomplish here, then ►



► we go all the way: we show them around; introduce them to partners across the triple helix; provide a range of corporate advisory services and benchmarks against other locations, and even fully assist them with access to highly-skilled international talent through our world class Talent Team,» Oliver explains.

From benchmarking the logistics of setting up in Denmark from other cities, to explaining various corporate structuring models, Copenhagen Capacity has 27 years of unique experience in creating business cases – as well as prestigious awards for its industrial cluster creation, such as Medicon Valley, CLEAN Cluster, and closely supporting others such as Copenhagen Fintech, the Danish Life Science Cluster and BLOXHUB. It is a prolific initiator of Nordic projects, such as the Nordic Asian Venture Alliance, the Microbiome Signature Project, the Greater Copenhagen Career Portal and the Greater Copenhagen Green Deal.

A Place for People

It is easy to point at rankings that showcase all the benefits for businesses when foreign companies consider relocating to Denmark. But according to Oliver – a native Brit who relocated to Denmark – it is

not just about the business incentives.

»Copenhagen is not just the world's most digital city and the easiest place in Europe to do business. When companies relocate

it means people relocate too, and then liveability means a lot as well. And when it comes to work/life-balance and liveability, it's hard to beat this region,« he says. ■

A Career in Denmark

A record level of 10,5% of the working population consists of international talent, an illustration of the fact that Denmark has been an attractive career destination for years, but is simultaneously deeply dependent on international talent. Therefore, Copenhagen Capacity works actively to inspire and motivate more international candidates to consider a career in Denmark.

»And with some of the flattest workplace hierarchies in the world, you are encouraged to share your ideas and take an active part in shaping the tech scene and not least the green transition in Greater Copenhagen,« Dan Rosenberg, Strategy and Talent Acquisition Lead at Copenhagen Capacity says.

Are you also ready to join us? Check out the open jobs and sign up for career news on the [Greater Copenhagen Career Portal](#).

Copenhagen Capacity

Copenhagen Capacity is the official organisation for attracting and supporting international companies, investors and professional talent, with the goal of continuous, sustainable growth in Denmark and the Greater Copenhagen Region. The organisation does this by promoting the metropolitan region and country globally and using its network and experience across industries, academia, and the public sector to guide customers through their business opportunities.

The organisation currently employs seventeen different nationalities who speak over twenty languages, which makes it easy to break down both language and cultural barriers.

Contact: Oliver Hall, Head of Tech Investments (ohall@copcap.com) & Dan Rosenberg, Strategy and Talent Acquisition Lead (dro@copcap.com)

Case:

Curaizon: a UK-based life science company relocating to Denmark

Who?:

Curaizon is a life science company from the UK. They provide a digital service which ensures the correct intake of prescribed medicines for the benefit of patients, healthcare providers and pharmaceutical companies, thus helping these patients achieve better management of chronic diseases.

Copenhagen Capacity has assisted Curaizon in the decision to move the company's global headquarters from London to Medicon Valley in Copenhagen.

Why Copenhagen?:

- The highly specialized workforce which has proven to be significantly less expensive (but just as skilled) compared to the specific workforce in the UK.
- Tax advantages for R&D companies.

- A co-founder friendly tax law.
- Technological progress and development.
- Medicon Valley as an ecosystem from which to draw the highly-specialized talent they require.

How CopCap assisted:

During the decision process, Copenhagen Capacity has introduced Curaizon to the vibrant life science ecosystem in Greater Copenhagen, important stakeholders, and general business operations in Denmark. After Curaizon's relocation to Copenhagen, Copenhagen Capacity has continued to be a close partner, giving the company advice on, amongst others: investments, data access and market access.



Insisting on #The Nordic Way



Avnit Singh
CEO at TechBBQ



Benjamin Rej Notlev
CCO & CIO at TechBBQ

We are extremely proud of the fact that TechBBQ has been a consistent player in the Nordic startup ecosystem and a recurrent international event that the startup community could count on. It is also very satisfying to witness how – what we these days define as a – Summit has evolved both in size and quality since its inception in 2013.

Today, we are Scandinavia's largest tech Summit, and it's important for us to insist on doing our work according to The Nordic Way. Because we're not the next Silicon Valley – and we shouldn't be. In fact, as an ecosystem, we tend to forget how unique we are in the Nordics.

There is a lot to be thankful for.

Denmark is according to several sources one of the most digitized and innova-

tive countries worldwide and the demand for talents among Danish tech companies is huge. Surely, we have the largest pool of tech founders and talents in the Nordics.

Aside from this, the governments of the Nordic countries, the universities and the local community all encourage and support research and development, as well as the creation of startup innovation hubs throughout the country and support big entrepreneurial events such as TechBBQ.

Denmark is also one of the best places in the world to set up a business, we have one of the best health systems in the world, our rankings in international benchmarks are always atop when it comes to living standards.

We have a quality public schooling system and a high level of education, and

we have some of the most secure societies which make up most attractive places to live. We have the least corrupt countries in the world, and everything works in terms of infrastructure, logistics and timekeeping.

When it comes to adapting to new products and concepts, the Nordic consumers and business are widely known for their abilities to be first-movers, hence testing your new technology in the Nordics first before going global may indeed be a smart move for any startup company.

Finally, the Nordics are trust based societies that thrive with transparency, inclusion and equality as our guiding tools. We also have a culture of high ethical standards and a strong financial sector that runs stable, securing ease of mind as a modern global citizen.

What excites us the most in all of this, is the unique atmosphere for startups that has proved to be so ever inspiring. On behalf of the TechBBQ team, we are pleased to work in an environment that shows full support of entrepreneurs.

Let's celebrate our 10th event together.

We wish you a fun, fruitful and safe one full of new contacts and learnings! ■



Vision of being more than a Summit



Sam Eshrati
COO at TechBBQ

Innovation doesn't happen overnight or in a vacuum. Governments, universities, foundations, corporations, investors and entrepreneurs all have a vital role to play in fostering a progressive tech ecosystem.

At TechBBQ, we continuously ask ourselves how we best can interact with these ecosystem players and support them in driving the agenda forward for a better, smarter and more sustainable future for us all?

Being a part of one of the leading tech and startup Summit globally, our main goal is to support and strengthen the Nordic startup ecosystem, and further, to foster growth for risk-willing founders from startups and scaleups.

We gather relevant players to discuss essential topics to inspire and promote entrepreneurship. Our goal is to engage the ecosystem and tap into everyone's potential to lift the tech ecosystem in Denmark, and more broadly in the Nordics.

We aim to address global problems, such as access to talent and access to capital. One of TechBBQ's main activities is matchmaking talents with startups, scaleups and corporations to address

those specific challenges. At the same time, we invite a great number of startups and matchmake them with investors to help them accelerate their businesses.

As part of our annual Summit, we cover many other areas and do additional activities in order to explore new possibilities and become experts.

Throughout the year, we have different initiatives and projects driven by specific foundations and governmental bodies such as our »Founder Wellbeing«-project supported by the Danish pension company Velliv, our »Startup Capital«-project supported by investment organizations such as DanBAN, Vækstfonden, Digital Hub Denmark and Danske Bank and our »Impact Series« supported by the Danish Business Authority.

We also make sure we bring different agendas to the table and get the niche

experts from every corner of the community involved. More specifically, we have just recently kick-started a new initiative called »TalkBBQ«, which are mini representations of our annual Summit, where founders, ecosystem players and experts throughout the year get to share insights and ideas, create awareness and raise concerns on certain topics, and ultimately discuss and inspire each other in the community.

In the end, what makes TechBBQ a unique platform is the dynamic startup community and the players deeply invested in it. Our Summit allows the opportunity for individuals to get exposed to the growing entrepreneurial community, but also the possibility of getting involved in projects driving different agendas and initiatives that brings the society a leap forward. ■



TechBBQ creates impact for the 10th time in 2022



Keyvan Bamdej
Head of PR &
Communication at
TechBBQ

It's very impressive to see how TechBBQ has evolved throughout the years.

From a small grassroots movement and an event of only 300 persons for a closed circle of tech-enthusiasts in 2013, TechBBQ is today an international recognized Summit with approximately 8.000 attendees from all over the world.

Personally, I have been a part of the startup community since I graduated as a journalist from Roskilde University and the national daily newspaper Berlingske. In 2016, I attended my very first TechBBQ from when the location was at The Copenhagen Opera House. Back then I was new to the environment and a co-founder of the healthtech startup, OSAA Innovation ApS.

Here, the team and I had a physical stand to exhibit our tech solution, pitch our story and network with the large community of investors, partners and talents. This opportunity was made possible by our accelerator program, Danish Tech Challenge, which is based at DTU Science Park, a partner of TechBBQ, 20 kilometers north of Copenhagen. Realizing what TechBBQ is all about, I couldn't fathom the fact that almost every stakeholder remotely relevant for the development of our company was gathered in such a small area. Such a convenience!

After my exit in OSAA Innovation ApS, I continued to be a part of the community, now just on the supporting end, working at Venture Cup Denmark as a Project Manager & Fundraiser from 2018-2020, boosting and promoting entrepreneurs at the Danish universities and now, completing the circle, working for TechBBQ as the Head of PR & Communications



since 2021. For me, it's a constant joy to be around like-minded peers and to promote the cause of entrepreneurship as a choice of life and career for our future generations and for the common good of our society.

As you by now can comprehend, TechBBQ has always been something super special to me. But I'm far from the only one feeling this way. The Summit plays a significant and very central role in the Danish as well as the Nordic tech and innovation environment. It's the unifying figure that brings the Nordic entrepreneurial scene together and showcases the companies and technologies of tomorrow through two eventful days in mid-September in Copenhagen each year.

At TechBBQ, all of the relevant players from the industry meet across sectors and stakeholders throughout the Nordic region. TechBBQ enables new meetings as well as maintaining existing connections

through matchmaking, workshops, pitch competitions, VIP-meetings, showcasing talent and startups/scaleups as well as access to the latest technology and innovative solutions.

While TechBBQ is the third largest tech Summit in Europe, it is the largest of its kind in Scandinavia. TechBBQ is both a tech conference and a physical platform for the entire startup ecosystem in the Nordics. It's where talents, founders of innovative companies, groundbreaking technologies and solutions, international thought-leaders, key-note speakers, investors, partners, media and community come together and meet. All of it done in a laid-back Nordic way.

I truly believe that TechBBQ is creating a bigger impact than it's ever given credit for.

Hopefully the Summit can continue to inspire, ignite and fuel new ideas and collaborations.

Cheers to another 10 editions. May TechBBQ continue to grow and glow. ■

2022 Stage Themes



Keyvan Bamdej
Head of Program at
TechBBQ

This year marks the tenth time when TechBBQ makes a buzz on the Scandinavian tech startup scene. It all started as a genuine initiative of bringing like-minded entrepreneurs together to exchange ideas and celebrate their successes. Since then, the Summit has been growing in numerous ways from the attendees, the venue, and the program to the event rich in abundant opportunities and knowledge.

It's more than just a theme

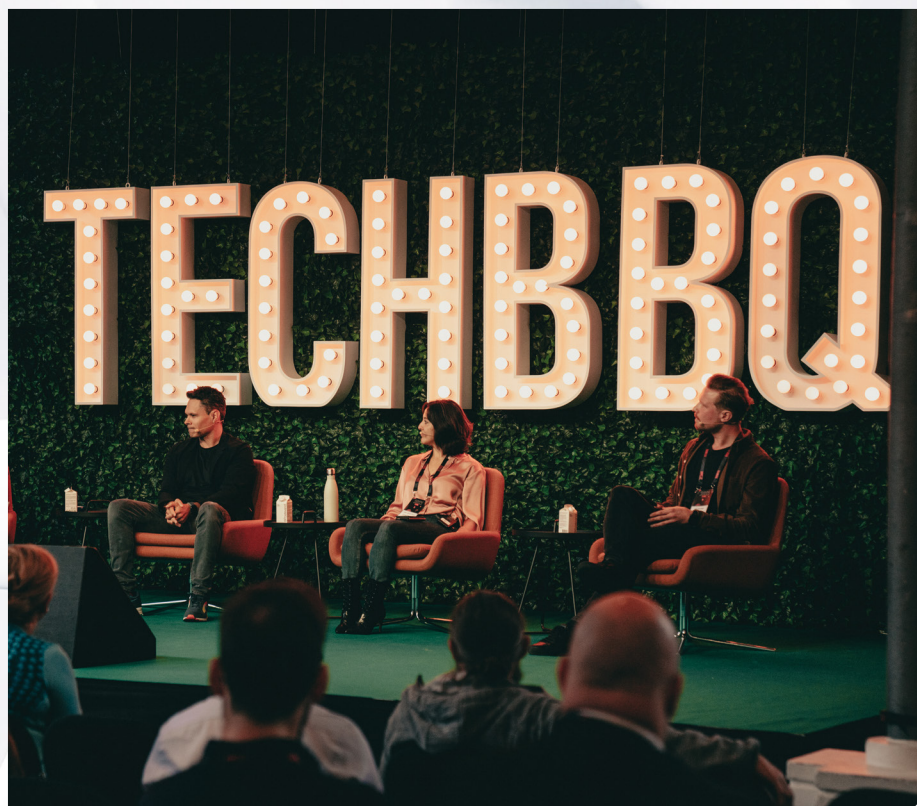
Kay Michelsen - who is the Head of Program at TechBBQ - reflects:

»The program is one of the many drivers of knowledge sharing and community-building that we have at TechBBQ. On the one hand, it's important to reflect the triumphs of our ecosystem and the cutting-edge ideas and technologies that are emerging in this time, and on the other hand, it's a way of connecting people through content and knowledge sharing. The sense of »you're not alone« is strong at TechBBQ whether that be through exploring the challenges of scaling internationally, mental health as a founder or navigating this economic downturn, we hope that gathering community-players under one roof to dissect an array of challenges feeds into a stronger sense of community overall.«

Setting the right tone

Creating a memorable and unique experience, comes down to choosing the main theme several months before the actual event. In early November 2021, Kay Michelsen sat down and researched the potential theme for TechBBQ 2022. Kay elaborates on the initial process:

»As we were slowly entering the post-pandemic era, we stepped into the



other side of history, where at the same time, there were a number of simultaneous shifts in our worlds that needed to be addressed - from critical questions around climate change to the metaverse and beyond.«

Discovery: An uncharted world emerges

The overarching theme of this year's summit addresses our need to discover and embrace the very core of what makes us human.

Kay explains: »We as individuals and as a 'civilization' are always on the lookout for new horizons and answers about what lies ahead of us. Whether that be Covid-19, war in Ukraine, Artificial Intelligence or the Climate. TechBBQ is the space where we can figure that out together. One thing that has always been true to our human nature, is the drive to discover, be curious and innovate in order to solve problems relevant to us; from the earliest hunting and gathering tools we had »way back when« to the advances we are making now to solve

both every day and global challenges. TechBBQ is the place to embrace that drive to discover so we can collectively build a better, more sustainable and equitable tomorrow.«

TechBBQ's own discoveries

The main theme also reflects on a journey of growth and development of founders, businesses and the startup ecosystem.

Kay explains what it means for TechBBQ as an organization:

»We are discovering a new chapter with a bigger team, a bigger venue, and bigger goals. We want to share and collect the learnings from one another, explore new partnerships and build businesses that will take us another step forward.« ■

Stage Themes:

One World
The Business of Building
Techno Sapiens
Movers & Shakers

Fintech by the numbers



The Danish fintech ecosystem consists of

307

Startups and Scaleups.
Up from 57 in 2012



The industry is expected to employ

5000+ people

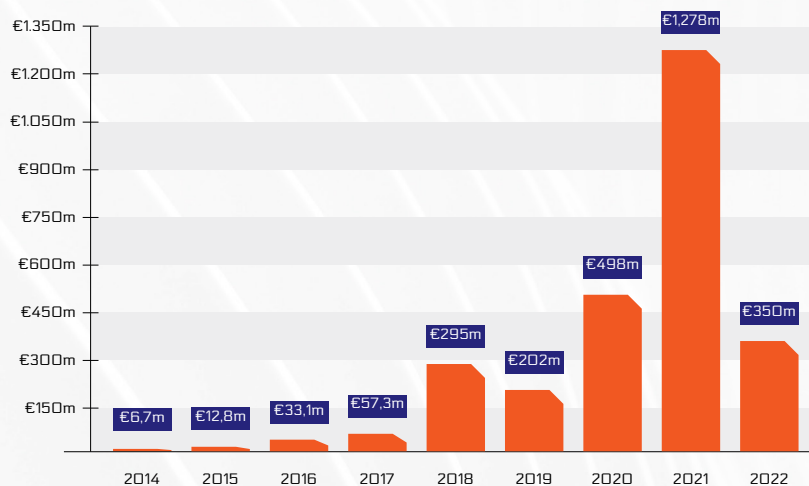
by 2024. Up from 700 in 2015.

Investments in Danish fintech companies



€1,278m

Invested into the Danish fintech ecosystem i 2021



Danish fintech unicorns

Tradeshift

Chainalysis

Pleo

Public.com

Lunar



The fintech ecosystem is Denmark's leading unicorn farm

Five unicorns have emerged from the Danish fintech community in just five years. According to Copenhagen Fintech, the level of innovation is impressive and the fintech ecosystem has a long way to go before it reaches its peak.

Written by **Sebastian Kjær**

When Copenhagen Fintech Lab opened in 2015, there was some scepticism as to whether the basis for a fintech centre even existed. At the time there were only a few handfuls of fintech startups in Denmark, so the question was, could a critical mass be reached at the Fintech Lab to match its high ambitions of becoming a Nordic powerhouse?

Pleo, Lunar and Chainalysis were young startups at the time. Today all three are unicorns – companies valued at over \$1b. And the ecosystem has grown with

the unicorns: the number of startups, investments and employees in the fintech industry has exploded.

»I'm still impressed by the pace of innovation. We continue to see new solutions, new developments and a constant stream of innovation. Developments have been very fast. But I get the feeling we've only just started,« says Simon Schou, Chief Innovation Officer at Copenhagen Fintech.

Making a difference in the market

The fintech explosion is beginning to see new companies move the markets

that they operate in. The first wave was chiefly in the core of the financial sector with banking services and infrastructure. But here too Schou is beginning to see a change, which will make the sector more visible to end users.

»The real question is, how much of a difference these successful companies actually make. Pleo is a good example of a solution to something that provides real convenience, just as you can swipe with Mobilepay for mobile payments and get help with tax with Skatteguiden and Taxhelper,« says Schou.▶



▲ **Simon Schou**, Chief Innovation Officer at Copenhagen Fintech

► At the same time, he points out that there is a particularly large number of solutions that aims at helping out the financial function in Small and medium-sized enterprises – like Moneyflow, where you can delay payment and Crediwire, which analyses financial data in real time. Solutions that show there is still room for many new fintech solutions.

»We see solutions that are beginning to impact consumers with real improvements. But if we take a look around, there is absolutely still a great deal that

can be improved. There are still many places where there is a long way to go to the Uber experience, where all the financial stuff is just smooth and nice,« says Schou.

A common focal point

In just under a decade, Copenhagen Fintech has become a strong hub for financial innovation – also for the established industry. In 2016 there were seven partners, while in 2022 there are 50 partners, which is a strong indication that the financial industry wants to

be involved in the startup community.

At the same time, the cluster's ambitions to create a unified Nordic powerhouse to compete with global financial hubs are really taking off – most recently with Nordic Fintech Week, where all Nordic ecosystems are represented.

»We want a platform where we can engage everyone. Copenhagen is really having an impact in fintech, but if you want to have an impact, then it's important that there is a focal point you can relate to – a centre you can call up and visit,« says Schou. ■

Today, she is building Europe's fintech infrastructure. But the career path was built on chance

Line Ahrensburg had envisioned a career as a software developer. But she grabbed new opportunities with both hands along the way – and today she's responsible for Open Banking Engineering in Europe at Mastercard.

Mastercard is building the highways for Open Banking across Europe. Central to that work is Line Ahrensburg in a newly appointed position as Vice President for Open Banking Engineering Europe, but the path to a position of responsibility in the fintech world was far from the beaten path through banking.

With a degree in software development, Line Ahrensburg had a passion for database administration and was sure it would be her job. But early in her working life, she accidentally ended up in management, and she seized that opportunity before another coincidence, after 10 years at the intersection of management and technology in the pharmaceutical industry, led her to the financial sector.

»I went with a good boss, so in that sense it was a coincidence that I ended up in Mastercard – but a coincidence in a pretty cool way, because I found out that it's actually an insanely exciting industry,« says Line Ahrensburg.

Financial inclusion on a large scale

Over the past few years, Mastercard has strengthened its presence in Denmark, including through acquisitions, and Line Ahrensburg is today among about 300 employees based in Copenhagen. Today she is looking into the development of a brand new financial infrastructure, so-called Open Banking, which Mastercard is rolling out worldwide. And she believes we've only seen the tip of what it makes possible.

»It's hard to find a more exciting area of fintech than Open Banking. It's about



▲ Line Ahrensburg is Vice President of Open Banking Engineering in Europe, but she also spends part of her working time as a role model in the Girls4Tech programme in Denmark, which aims to inspire girls aged 7–12 to pursue a future in STEM subjects.

using data in a way that empowers consumers: what do they want to share and how can it benefit them? The whole idea of democratising the financial market and its data is about making financial services accessible to as many people as possible, and I think that's a sympathetic goal,« she says.

And not only does the goal of greater financial inclusion resonate with Line Ahrensburg – with Mastercard's large organisation behind her, she also sees the opportunity to drive change and development on a large scale.

Seizing the opportunity

For Line Ahrensburg, however, the size of Mastercard doesn't just mean that the

Open Banking ambitions she's working on are big. She also believes it helped give her the opportunity in the first place.

»Tech is more than just code. It's people who are creative and innovative, and there are many ways to be that. Mastercard offers a lot of opportunities for people to try something different. You might be in an IT role today, but if you want to work in product, we can probably find a way to do that. My new role is a great example of how many development opportunities and exciting career paths there are in tech at Mastercard. My career path is driven by passion and ambition, but also by seeking out and seizing new opportunities that arise along the way,« she says. ■



Payment solutions for the future are Open Source

IPP Europe has created a financial platform that opens up the otherwise heavily regulated payments market in a new way. The vision is a modular ecosystem based on Open Source, making the market accessible to new players who can unleash innovation in payments.

No matter how seamless an experience you have through an app or webshop, the journey always ends up in a familiar place: the anonymous payment page, which looks the same across most providers.

Why can't the last step of the buying experience be an integrated part like the rest of the entire journey through the

store? And why isn't there more competition to give the customer an even better experience at the point of payment itself? Those questions are the foundation on which Mathias Gajhede and Camilla Bejlegaard Thomsen founded the software company IPP Europe.

»We're used to being transferred past 2-3 different platforms when making ▶



Mathias Gajhede
Software Engineer
and co-founder of
IPP Europe

► a payment - and that's where we want to go against the market we know. The merchant portal, where webshops handle payments, doesn't have to look the same for everyone, and the webshop can actually integrate Google Analytics into the payment. It just requires the right payment infrastructure, so we've built that from scratch,« says Mathias Gajhede, Software Engineer and co-founder of IPP Europe.

Competing on experience

IPP Europe has the entire software package to get new gateways and payment facilitators up and running - with their own name, their own design targeted at their own customer base and with the ability to integrate new, innovative approaches to the payment experience. And the software is developed as Open Source, making it particularly flexible when adding new features or integrations.

»Payment has become a commodity, and we're acknowledging that now. Going forward, it's the best experience that is going to win. We're building the infrastructure for those who have a vision for a new business model or a new way to challenge the payments market - but don't want to build the infrastructure themselves,« Gajhede explains.

The customers for the solution are primarily new payment gateways and payment facilitators. In addition to the software, IPP Europe also has the regulatory know-how to apply for a licence, which makes it significantly cheaper for the customer to go through IPP Europe as their software is already documented in legal terms.

Payment provider in under 5 minutes

IPP Europe expects to create new dynamics in the payments market where the new paradigm will be more competition for the best payment experience. Large companies or agencies that want to be their own provider will have the opportunity to keep the customer in their own universe all the way through the buying experience. New startups can add innovation around the payment experience because the infrastructure allows it, or could target payments in new situations -

e.g. the growing AR universe.

»Usually, it takes 2-4 weeks from the first contact until a new customer is selling his payment solution based on our software. But we can actually start a PSP in 4 minutes and 36 seconds - and that's proven. This means that those who have a good idea can quickly go to market with it,« says Gajhede.

A foundation of Open Source

Many in the industry have doubted that the combination of encrypted card numbers and Open Source was possible. But IPP Europe has proven that it can be done; the company's solution is PCI compliant and therefore approved by the payment card industry.

»We are doing away with the self-image of operating payment infrastructure. It no longer needs to be a few players who define how payments look and feel. With the Open Source approach, we are opening the market for new innovators,« says Gajhede.

As an Open Source company, IPP Europe is inviting others to further develop their infrastructure. This means that the company already has a wealth of plugins and integrations that can be hooked directly into the payment solution - including integrations for Google Analytics, Visma eEconomics, Slack and SendGrid among others.

»We currently have 25 developers volunteering to create plugins and themes for our environment. It's already the standard in SaaS in many other industries - but you haven't seen it in the payments space at all before,« says Gajhede. ■

IPP Europe

- PCI compliant whitelabel gateway, open source merchant portal, merchant invoicing, multiple acquirer connectors and tons of integrations.
- With its innovative software infrastructure, IPP Europe can get a new PSP up and running in a very short time - the record is 4 minutes and 36 seconds. The company hopes this will unleash innovation in the payments space.

Nordic
Fintech
Week



Nordic Innovation, Global Scale.

Sep 27th and 28th
Copenhagen

1,200+ attendees, 100+ speakers, 100+ fintech startups, 50+ banks and curious minds will be reimagining the Nordic and Global financial industry, together at Nordic Fintech Week 2022.

Join two action-packed days of insights, inspiration and bold thought leadership, and take part in unlocking the future of finance.



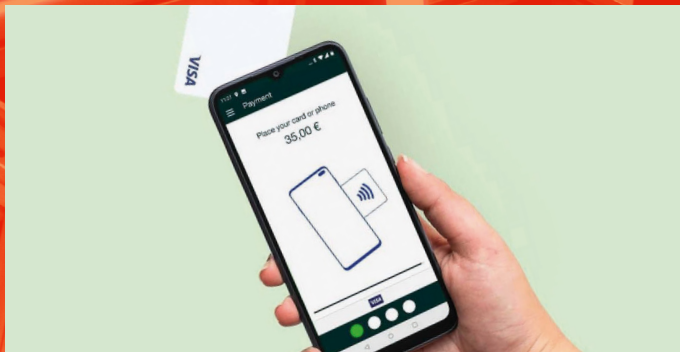
Elevating
New Nordic
Innovation.

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Copenhagen
Fintech



Fintechs to Watch



Turning smartphones into payment terminals *Vibrant.io | Founded 2020*

With nothing more than an app, the fintech-startup Vibrant turns any smartphone into a payment terminal. This makes it easy for businesses to accept payments without investing in any additional hardware.

At the same time, Vibrant.io makes it easy to integrate sales data in order to make accounting a breeze. Former Lix co-founder Kasper Enggaard Krog is at the helm of the startup, and its ambitious goal is to reach 250.000 users within 3 years



The first carbon-negative stablecoin *Ardis Fintech | Founded 2022*

Sceptics often blame cryptocurrency for being too volatile and too energy-consuming. Ardis Fintech wants to solve both. They envision a world where paying for groceries in their currency is a path to carbon neutrality.

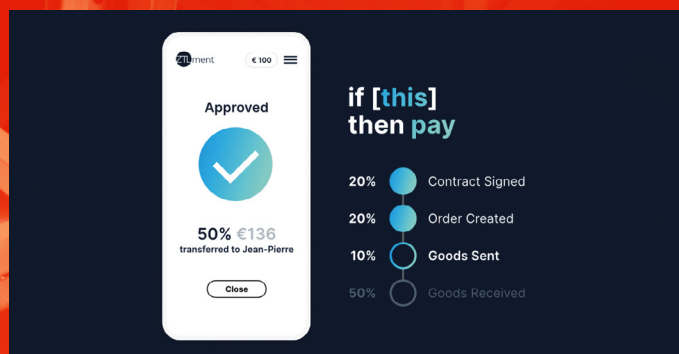
The Ardis token is a so-called stablecoin, which means 1 ARD has the same value as 1 USD. The startups invest in new solar- and wind energy parks as collateral making the currency carbon-negative. The startup promises to reduce carbon emissions by over 1 ton for every 500 ARD staked - while earning 4-6 per cent per year.



Financial wellbeing for employees *All Gravy (former Butter Solutions) | Founded 2020*

The app from All Gravy helps employees to stay on top of their finances by allowing them to track their earnings at any time - not just at the end of this month. This way, the employees know when they have earned enough for their bills and when an extra shift really pays off.

For employers, the solution helps attract and retain hourly paid employees by reducing their financial stress - resolving in more shifts taken and less employee turnover.



Programmable and compliant money *ZTLMent | Founded 2020*

In a payment situation, smart contracts make it possible to trust programming instead of middlemen. Data inputs from the cloud - like signage or delivery status - can automatically be translated into a payment.

The startup ZTLMent has developed a fintech tool that allows this kind of direct payment in a way that makes it accessible in B2B trade. All based on euro classified as e-money under European payments law to make the solution compliant.

Cybersecurity by the numbers



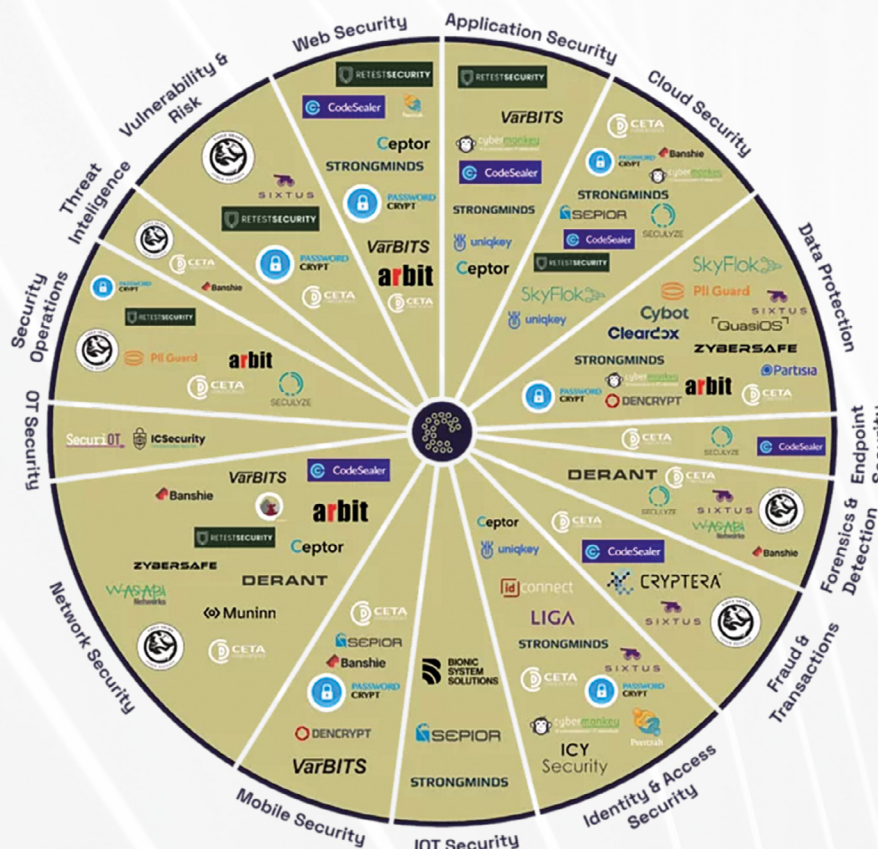
The global Cyber Security Market Size is projected to reach

\$376.32b

by 2029

at an annual growth rate of

13.4%



Digitalisation is happening so fast that security is struggling to keep up

In an increasingly digitalised world, cyber security has become more important than ever. Now, Denmark is establishing a cybertech ecosystem based on existing strengths.

Written by **Sebastian Kjær**

Digitalisation is booming and today it controls everything from the lightbulbs at home to vital infrastructure. And as every organization becomes more and more entangled in digitization, new angles for attacks and breaches emerge.

»We've rolled out digitalisation faster than we can keep up - and you can see that in security. We need to change the view so that cyber security is something you actively work with and integrate into your product,« says Kristoffer Buch, Head of Cyber Hub, which is a part of the DigitalLead cluster.

Globally, the cyber security market is growing massively these years. Denmark does not yet have a proper ecosystem, but Cyber Hub is changing that. And it is building on the strengths that Denmark already has - including cryptography at Danish universities and links to the general startup ecosystem.

»Cybersecurity startups are a relatively new field, so there is relatively low awareness. Cybersecurity is still an afterthought for many. The challenge is that you can't see it on the bottom line until something goes wrong,« says Buch.

A changing market

Although Denmark does not yet have an actual cybertech industry yet, there are several young players in the Danish mar-



ket that are doing very well. Among them Uniqkey, which with its Access Manager has managed to capture market shares from cyber giants like Lastpass, Duo and Bitwarden.

»Traditionally, IT security has been about restricting employee movement to minimise risk. We've built a tool that employees want to use because it makes their workday easier while protecting them and the business,« says Magnus Cohn, Chief Commercial Officer at Uniqkey.

The scaleup itself points to its user-focused approach as a new approach in a ►



Kristoffer Buch
Head of Cyber Hub



▲ Uniqkey takes a user-driven approach to security - created in part by founder and serial entrepreneur Hakan Yagci, who previously founded OrderYogo.

► market, where everyone expects more from new, digital products.

The number of new digital tools is growing in every business, especially in the wake of the covid-pandemic, where cloud and remote have become more dominant than ever. That's why it's also important to have a security solution that supports the many new systems - and thus potential attack points - says Cohn.

»Today, hackers most often gain access to companies' internal systems by exploiting compromised logins that employees have reused at multiple sites. For this reason, our solution is built on a decentralised structure where we reinforce the company's external vulnerabilities with strong, unique passwords for all services so that any data breach is severely limited - a bit like having watertight shutters between each service,« he says.

Security is coming

Modern businesses need to be able to adopt new IT products at a fast pace if they want to remain competitive. That's why Magnus Cohn from Uniqkey believes that solutions like theirs will only become more necessary.

»The approach today is an old paradigm based on this idea that the hacker is sitting in a basement with a hoodie over his head and decides to hack a certain company. Today the approach is different. They hack a system with a large userbase, and because we reuse passwords across services, one set of work email and password gives access to other services that could be an entry point,« he says.

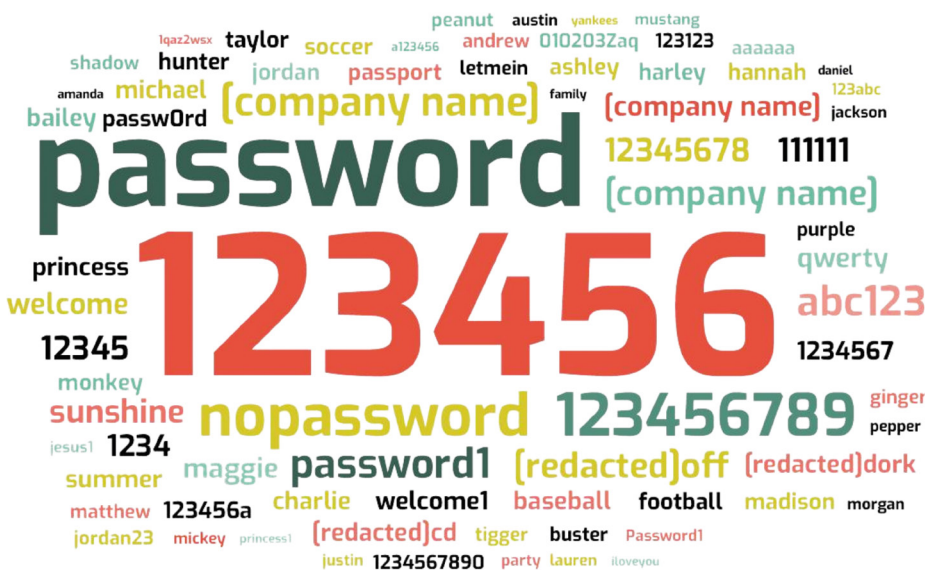
In the wake of GDPR, personal data has become an important issue for companies across industries. Kristoffer Buch of Cyber Hub believes the same will happen in cyber security.

»There will be a big tipping point at which cybersecurity becomes a selling point for all kinds of businesses. At some point, there will also be tougher motivators in the form of regulation and legal requirements, and then there will be a paradigm shift,« says Buch.

Cyber Hub has seen a positive development in the cybertech field in Denmark in recent years but wants to motivate more entrepreneurs to get involved in the field. The train is coming, and he believes Denmark has the potential to become a strong player.

»What you can say about the ecosystem is, that it is based on a country that has a high degree of digitalisation and some values we are also trying to start establishing as a Danish strength - for example, sustainability, trust and also an ethical and moral position in the world,« he says. ■

Uniqkey: 4 things we discovered after handling millions of passwords



Everybody hates passwords. They're hard to manage. Easy to forget. And resetting them is a pain.

Because of this, employees use simple passwords for convenience's sake. Considering that 81% of all cyberattacks leverage poor password security, passwords are now more than an annoyance - they're a major security risk.

In 2022 alone, we have managed millions of passwords for our customers. Here are 4 things we've discovered that can help businesses combat password-related cybercrime.

We're suffering from a password pandemic

1 We're constantly creating accounts for new digital tools. While essential to our productivity, it's also making us careless about our password security, as each new service forces us to create a

new set of credentials.

This has led to a password pandemic, where everyone is losing control of their passwords. On average, employees in our system use around 100 passwords, split between personal and work. To handle this mess, we sacrifice security for convenience and pick passwords that are easy to remember. And this is making businesses extremely vulnerable.

More awareness ≠ better passwords

2 Companies know that weak employee passwords are a security risk. The go-to response is regular password changes, but this reduces security instead of improving it because people just make new variations of old passwords.

Another way is to educate employees via awareness campaigns. Despite good intentions, these efforts rarely make an

impact. In fact, our data shows that employees' security score (based on the hash value of their passwords) is equally low whether the customer has run awareness campaigns or not.

Restrictive security is doomed to fail

3 Another solution is restricting employees' access to new software tools to reduce potential risks. But this approach is built to fail; employees are hired to produce, not protect.

Either it takes so long to get new software approved (we've seen examples of up to a year) that employees miss out on a tool that could boost their efficiency. Or worse, they use the tool anyways, increasing the number of unmanaged and potentially vulnerable services connected to the company. In fact, 80% of employees admit to already using unapproved business apps.

Employees: the strongest and weakest link

4 Here's the truth: Employees don't care about IT security. They know it's important, but they won't go out of their way to follow security best practices if it means sacrificing productivity. Companies can try to fight this - and fail - or see it as an opportunity.

Most cyberattacks capitalize on the misstep of employees. If we give employees business-enabling security tools that are easy to use, they can - instead of being a concern - become a proactive force and form the foundation for a strong cyberdefense. ■

Uniqkey

Uniqkey helps companies reduce data breaches by automating password use at work and making it easy for the IT department to protect the company's digital presence.

Startup OS:

Denmark's startup operating system is all grown up. But the next update is always just around the corner.





A positive spiral is spinning in the Danish startup ecosystem, where success breeds success. Resources and know-how from established scaleups are breeding grounds for new ones, and the well-calibrated startup factory means that the next disruptor is never far away.

Written by **Sebastian Kjær**

Teamway is a startup that offers the same thing as thousands of others: helping clients with their IT development. Yet, the company has seen extremely rapid growth since its inception. The company's revenue in its first financial year was several million Danish kroner; in its second year, this has already been accomplished multiple times over - with prominent companies such as Ikea, Better Collective and Gamerpay as clients.

You see, Teamway is no ordinary consultancy. For starters, their team-based network manages to attract some of the best tech talents around the world and their 627 members are based in a total of 59 different countries.

»When it comes to freelancer marketplaces, most freelancers still feel like they're at the mercy of the marketplace—just as they were previously at the mercy of the corporations they used to work at. They're not incentivised to contribute to the network effect of the platform, which is why it was important for us from the start that the platform should be on freelancers' terms,« explains Teamway's Co-Founder & CEO Søren Nørgaard. He continues:

»We're transitioning from gig economy to talent economy. In our model, freelanc-

ers are no longer just marketplace assets, they're co-owners too. When you join us, you're rewarded with co-ownership when you contribute to the network - you earn tokens when you invite clients or talent on board, screen applications, write content, mentor others, work for a client and so on. In that way, we are creating a new employment model which is more fair, inclusive and empowering.«

Much like other freelancer networks, Teamway is a platform that makes it easy for freelancers to get work and easy for companies to hire talented freelancers and manage their remote and flexible teams. Where Teamway differs—and perhaps the key to its success—is in the alternative ownership structure. When a freelancer is accepted to the platform, they get part-ownership via blockchain tokens. And it's evidently a popular model: Right now, Teamway gets 1,300-1,500 applications from tech talent every month, of which only five per cent are accepted into the network.

»We attract the best because we have the best conditions. Our fees are low, as all members participate in running the network, which means that freelancers receive almost the entire amount the client pays, and they automatically become co-owners,« explains Nørgaard. ►



▲ The founders of Teamway: Søren Nørgaard and Kristian Kongsted. Kongsted has previously worked as Senior Team Manager at Danske Bank, where he gained insight into assembling project-based teams of consultants and freelancers, while Nørgaard spent several years in Silicon Valley, as General Manager of a tech startup.

► The novel ownership structure also means that members have a say when it comes to business decisions for the network. The core team can not just decide to raise its fee, as the fee is dictated by a smart contract on the blockchain.

»Our model means that we can't just change the rules of the game without the community's consent. Things like fees are managed by smart contracts, which can only be changed by a community vote. So basically, we've gone from 'don't be evil' to 'can't be evil',« says Nørgaard.

DHD: A budding ecosystem

Teamway was founded during the COVID-19 pandemic, and has therefore been 100% remote from day one. Its members are located all over the world,

and the core Teamway team is spread around Europe. Despite the many potential locations for Teamway's headquarters—including Silicon Valley, where Søren Nørgaard has spent a good chunk of his career—the company has chosen Denmark as their base, and there are good reasons for this.

According to Nicolaj Christensen, Interim CEO at Digital Hub Denmark, Denmark has a good »startup operating system«:

»Our public sector is extremely digital, which makes for a much smoother process—it takes minutes to start a business here. And, generally, we're also a very digital society. We adopt new technologies quickly and there's a high level of trust. All of these things considered, Denmark provides a great ►



Nicolaj Christensen
Interim CEO at
Digital Hub Denmark

► ecosystem in which to test out new companies,« he says.

He also points out that the ecosystem is a bit of a duck pond, where everyone knows each other and projects like TechBBQ and StartupAarhus encourage this kind of mingling. This means that when a company does well, there's a ripple effect that everyone can learn and benefit from.

»We had a generation of entrepreneurs who went over to the United States and did well there. They returned to Denmark with capital and know-how, which they injected into the ecosystem we have today. Three or four generations later, we've got successful startups like Pleo, which continue to inspire its employees to start new companies. It's a self-reinforcing spiral, the effects of which we're only just beginning to see in full,« Christensen explains.

This development is also evident in terms of how ambitious Danish startups have become. These days, it's possible to start a company in Denmark that grows and becomes international. Instead of selling out to an American competitor for 100 million DKK, companies stay and grow in Denmark until they reach a unicorn valuation. The bar has been

raised, but it's also raised new problems, one of which is lack of talent.

»The problem we're continually faced with is the talent shortage. That's our main barrier to growth here, almost regardless of industry. Tech startups require highly specialised talent to help them grow, and if they can't find it here, they have to go elsewhere. Which is a shame, as it puts a stop to the spiralling ecosystem we've managed to develop,« Christiansen concludes.

A startup factory

As the ecosystem has matured, several common models for startup success have emerged. One of the latest trends includes so-called »venture studios«: startup factories that come up with ideas, assemble teams and acquire funding.

One of the most well-known here in Denmark is Kring, who have put an impressive number of startups into the world since their inception in 2016.

»A general rule of thumb is that 80% of startups fail, 19.9% just about manage to survive and the rest become unicorns. We're trying to flip the statistic so we have a success rate of 80%,« says Jacob Madsen, Co-Managing Partner at Kring. He continues: ►



▲ The inside of Krings venture studio in Copenhagen.



▲ Jacob Madsen, Co-Managing Partner at Kring

► »We're not necessarily better at coming up with ideas than others, but we have a lot of experience validating and testing ideas, and shutting them down if they're unlikely to work. Ideally, the 80% that would fail, should fail before they become an actual company.«

This method is what Kring calls »Speedbooting«. The venture studio is a co-founder in all the companies they start, and provide some standard frameworks for tricky legal aspects like ownership agreements, accounting and reporting. They also ensure the initial funding, which means that the entrepreneurs who make up the founding team can receive a salary and focus on the product rather than trying to pay rent. All that remains is to match the right team with the right idea.

»Our model means we're able to attract talent that doesn't have a typical entrepreneur profile, but comes from a different background entirely. For example, we have people with management backgrounds from Bain, Implement and McKinsey,« says Madsen.

Although Kring has its first unicorn to

boast of, their methods have proved so viable, that the venture studio is about to close another round of Speedbooting funding for 100 million DKK, enabling them to invest in their future startups up until they reach Series A rounds.

»Our hands-on approach makes it an investment model that can outperform private equity and traditional venture capital. As for increasing innovation in Denmark, I think it's a model that's very interesting from a societal perspective, because we're laying the groundwork for the creation of new and viable Danish companies,« says Madsen.

The society of the future

Teamway is on the brink of becoming a fully token-based Web 3.0 blockchain community. And even though the model is brand new, the company's founders have high expectations for how it could alter the market in the long run.

»It's likely that this model will utterly outstrip traditional Web 2.0 marketplaces and, to some extent, agencies as well. The challenge is how best to scale. What happens, for example,

when we reach 5000+ members? Of course we can adjust things along the way, but we can't change the basic principles. That's why it's important that the economy of the entire community is well thought out from the start,« says Søren Nørgaard.

When a community has its rules tied to the blockchain and said rules are determined by the community itself, the usual »fuck it, ship it« startup approach doesn't work.

On the other hand, the potential for long term success is enormous. Several startups have already spun out of teams formed in the Teamway platform, hinting at a future where startup incubation could be done very differently.

»This is phase one, where we connect the best tech talent with companies who need it, without too many fees or legal homework. Where we go from here might be to think about how to create similar communities in other contexts: new startups, incubation, funding and much more—the possibilities really are endless,« Nørgaard concludes. ■

Building a business is tough.

Tool up!



Ageras' online marketplace for finding an accountant helps growing businesses finding an accountant with expertise within their sector and growth phase.

[AGERAS.DK](https://ageras.dk)



Salary is Denmark's best rated payroll software* that makes payroll and employee management easier both for small and medium sized companies.

[SALARY.DK](https://salary.dk)



Billy is one of Denmark's leading accounting software providers, offering an easy-to-use tool to easily send invoices, keep track of expenses, do bookkeeping and annual reports.

[BILLY.DK](https://billy.dk)



Many SMEs find it difficult to get financing for their growth and working capital needs. We offer business loans, credit lines and invoice financing using financial data to provide better rates.

[AGERASFINANCE.COM](https://agerasfinance.com)



Ageras Group was founded in 2012 with the vision to enable success for small businesses by simplifying their administration. By integrating its solutions into a financial hub for invoicing, accounting, payroll and banking, it enables entrepreneurs to focus on running their businesses, having served 1 million businesses globally.

[AGERAS.GROUP](https://ageras.group)

* Ranking no. 1
on Payroll Service
Provider on Trustpilot,
September 5, 2022

After digitalisation comes automation:

Automatic bookkeeping is the secret to Estaldo's success

If a company is to be scalable from the get-go, it makes sense to automate all the basic business operations, in order to spend more time focussing on the company's core offering. This is the philosophy of digital estate agent Estaldo, who has become one of Denmark's largest estate agents in just three years.



Jakob Neua Nørgaard
Co-founder, Estaldo

All you have to do is show your house-for-sale to potential buyers, and Estaldo takes care of the rest: photos, floor plan, sales description and listings on the main housing portals, not to mention all the paperwork when the house sells. With their innovative model, the tech company has risen beyond mere »estate agents« in just three years; now it's the big chains they're competing with.

Behind Estaldo's impressive growth is (among others) co-founder and serial entrepreneur, Jakob Neua Nørgaard, who expects to see a tenfold increase in business within a few years. But how has Estaldo done it? The answer is based on a fairly simple principle: automation of all basic business operations.

»In effect, we're trying to make it cheaper for homeowners to sell. To do that, we simply have to be more efficient. If the company is going to grow fast, we need to have processes in place to ensure that things keep running smoothly, even when we're bigger and busier,« Nørgaard explains.

Bookkeeping is one of the things Estaldo has automated from the very beginning.

»The majority of what someone employed to do bookkeeping would normally do—paying bills, registering purchases, etc.— gets done automatically in the programs we use. I have no use for a bookkeeper, I'd rather spend that salary on another real estate agent or programmer,« he says.

Setting a new standard

One of Estaldo's automated bookkeeping secrets is Corpay One. Corpay One automatically scans and registers the company's invoices and pays them without needing to go through online banking—all of this is then automatically synchronised with Estaldo's ERP (Enterprise resource planning). The only thing employees have to do is click »Approve« and, according to Mads Christensen, Corpay One's Head of Operations, it's only a matter of time before all companies have such a system.

»Invoice and expense management ought not to be such a burdensome and manual job. It's possible to do it far more efficiently than most companies do it today, and that's why I have no doubt that automatic document scanning will soon be the standard,« he says.

Corpay One has proven how they can handle receipts and invoices, and they're also able to introduce other time-saving automations, for things like approval flow and travel expenses.

»We've set it up so that company employees can have Corpay One on their smartphone, where they can approve expenses from specific suppliers. This means that employees are involved in an easy and intuitive way, and the rest of the process runs by itself,« Christensen explains.

Automation is the key to digital growth

With Corpay One, companies like Estaldo have ensured that bookkeeping will ▶



Mads Christensen
Head of Operations
at Corpay One



Corpay One: When digital bookkeeping became automatic

- The majority of bookkeeping today is digital, but many individuals and companies still receive invoices via email, approve them, manually transfer money and then open their bookkeeping system to upload the invoice and mark it as paid.
- Corpay One's core offering is the automation of all the manual processes like document scanning, approval, payment and bookkeeping. You simply forward or upload an invoice to the platform, where it gets sent for approval to the person in charge and is then automatically paid on the due date and registered in the ERP.
- With Corpay One, the solution has different features and these can be tailored to the individual company. One such feature includes approval flow—where specific employees can be assigned responsibility for approving bills from specific suppliers—another involves specific management of travel expenses.

The automation era

Receipts and bookkeeping have been digital for several years. The data is there, our banking information is recorded and we have systems to handle it all. But it's only with the emergence of modern IT systems that enable all the information to flow freely that digitalisation has really begun to alter workflows for the better.

For example, one of Corpay One's integrations works with the messaging app Slack, enabling employees to approve a payment directly in the system they already use for day-to-day communication with their colleagues. This is just one of many small improvements that, in this case, limit the amount of time an employee might spend switching between apps.

»We're still very much at the beginning of the automation era. The sky's the limit, or rather, there is no limit for what we can automate—you can tailor solutions to your company's needs, and this doesn't just stop at bookkeeping,« Mads Christensen concludes. ■

► continue to run smoothly, even when the company scales up fast. But Corpay One is far more than just a crisis-prevention tool.

»All our systems need to be able to talk to each other. We're a software company, so when we come up with something new, it's important that it can be easily integrated into everything else. And if you start with the right building blocks, it's easy to keep going,« says Nørgaard, adding that the company has continued to build upon the foundation they created with Corpay One.

Nørgaard too has been an entrepre-

neur in the 00s, sitting in front of a single Excel sheet that served as the company's accounting tool.

»If it wasn't for systems like Corpay One scanning our bills and paying them for us, we wouldn't be able to run our business as we do today. I can no longer even imagine a world where we'd receive an email with a bill attached and have to log on to online banking in order to transfer the money, then register it manually in our system as 'paid'. It tires me out just thinking about it,« he says.



▲ Geetanjali Tyagi and Manas Garg also, two of the three founders of the marketing platform Optmyzr, relocated to Denmark in 2016.

India, South America or the US:

SaaS-startup could have gone anywhere, but chose to settle in Denmark

After the platform Optmyzr saw an increase in Nordic customers, the founders decided to relocate and set up shop in Denmark. Six years later, they are very happy they did – both professionally and personally.

When people move, they usually only bring the most basic stuff with them; clothes, furniture, old photos and a few memorabilia. But the Indian couple Geetanjali Tyagi and Manas Garg also brought their growing marketing platform with them when they settled in Denmark in 2016 through the Startup Denmark visa scheme.

At that time, the company already had offices in the USA, South America and India. Nevertheless, the choice fell on Denmark, close to their growing number of Nordic and European customers. A decision the couple are very happy about.

»Our entire company is digital, so we could in principle live anywhere. But the fact that we still live in Denmark

proves that it is a fantastic country. After a while, you realize why it is one of the happiest countries in the world, « Geetanjali Tyagi says. And Manas Garg elaborates:

»People often have a good work/life balance. They start early in the day and organize work so that they have time for both friends and family. At the same time, Danish systems are digitized and easy to use, and on top of that everyone speaks English almost fluently. So, it was not hard to settle in.«

The idea for Optmyzr came after the founders Frederick Vallaes, Geetanjali Tyagi (both formerly had leading roles with Google AdWords) and Manas Garg (former developer at Microsoft) could not find a tool fit to manage and plan ▶`

► marketing on the different media platforms. They decided to develop it themselves.

Today a large number of medium-sized and large companies in both the Nordics, the USA and Europe use Optmyzr. To that end, Danish culture has played a small part. Because in a growing digital remote culture, the ability to communicate clearly has become even more important.

»By nature, the Danes are very direct and do not say things in a complicated way. They are skilled at both giving and receiving feedback, which for our company is essential – because we are constantly improving Optmyzr, « explains Manas Garg.

And according to Tobias Panduro, head of Startup Denmark, the scheme is a unique opportunity for talented non-EU entrepreneurs to establish a business in Denmark.

»If you are an ambitious and talented entrepreneur who wants to find the right environment for your innovative business, Denmark is an obvious choice. The visa scheme gives you access to all the Danish funding opportunities, business development programs and a large EU market. It is a unique opportunity to join one of the most vibrant ecosystems in the world.« ■

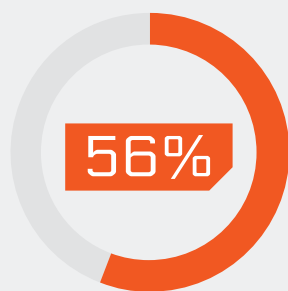
About the Startup Denmark visa scheme

- Startup Denmark is a visa scheme for entrepreneurs outside of the European Economic Area, who want to move to Denmark to start or scale an innovative business.
- Simple application: Go to Startupdenmark.info, answer some questions about yourself and your business, upload your business plan and a video pitch - and that is it!
- It is important to be able to show that:
1) the product or service you want to sell is innovative, 2) there is an attractive market for the product or service, 3) the business is scalable and 4) you or your team have the skills to build or scale your business



▲ The team behind Optmyzr

Facts on international entrepreneurs in Denmark



have participated in an accelerator program or incubator program since moving to Denmark

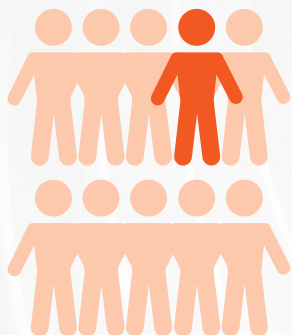


€450.000
in average funding received

28%

have registered Intellectual Property Rights (IPR)

Impact startups by the numbers



1 in 10

startup employees
in the Nordics work at
an impact startup

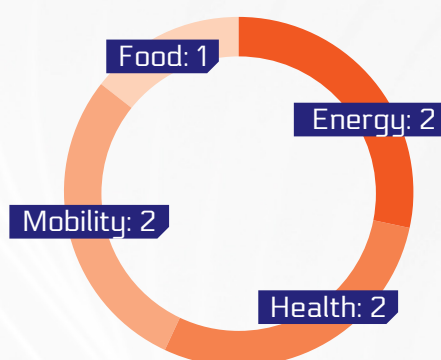


23,3%

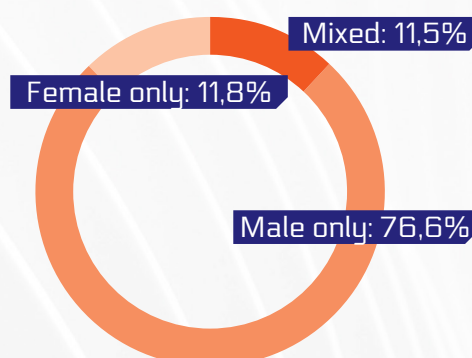
of founding teams in Nordic
impact startups have at least
1 female founder (compared to
14% in non-impact startups)

7 impact unicorns

have already been
built in the Nordics



Gender distribution in
Nordic impact startups:



Nordic dedicated green growth
VC funds are on the rise, with

\$293M raised in 2021

and \$110M in H1 of 2022.

Artificial or real sun? Does not matter. Both can help fight climate change

Green energy is a key element of the green transition. Therefore, all thinkable solutions in all thinkable sizes and shapes are needed to solve the climate crisis.

Written by **Sebastian Kjær** and **Erik Lillelund**



▲ Danish startup Second Sun has developed a solution to get sportsclubs to switch off the energy-intensive artificial lights that currently keep the pitch green for matches at major clubs.

‘Sunshine as a Service’ is not yet the most widely used concept. But perhaps it will be.

Danish startup Second Sun has developed a solution to get sportsclubs to switch off the energy-intensive artificial lights that currently keep the pitch green for matches at major clubs. And it’s a drain on the climate.

The replacement is an advanced system of intelligent software and motorised mirrors that automatically adjust to the trajectory of the sun, allowing the lawn to grow using reflected natural

light rather than artificial lighting. And that’s not just good for clubs’ green consciences, but also for the bottom line.

»With our simulation tool and variables like weather data and stadium location and construction, we calculate how many extra hours of sunshine we can deliver. We compare this with their current power consumption for artificial lighting, and from these calculations we can show that for an average football club in Europe it takes 3-5 years to pay back the installation,« says Nicolai Moustgaard, co-founder and CEO of Second Sun ApS.

The system could typically save a major stadium 10 million kroner and 2,000 tonnes of CO₂ over a 10-year period. And Second Sun has even built on the financing model itself, so everyone can participate.

»Our solution is a relatively large capital project, and that might stand in the way of clubs opting for it, even if the facility pays for itself relatively quickly. So we’ve teamed up with a financing partner to offer ‘Sunshine as a Service’, where clubs only pay for the sunshine we provide,« says Nicolai Moustgaard. ▶



▲ Enyday makes the software that enables energy communities "behind the meter".

► Empowered by software

Since 2018, the startup Enyday has been behind a platform for housing associations and developers that helps with all the practicalities of shared solar installations. Because the hard part is in the operation; the settlement between the different residents, the legislation and the cooperation with existing electricity suppliers.

»Our platform allows people to create energy communities in a manageable way, where they don't have to think about much other than whether they want to invest in solar or not,« explains Christopher Tolstrup Rasmussen, found-

er of Enyday, and continues:

Enyday's software makes it easier for the housing association to make the decision about a shared solar PV system. And it paves the way for a more decentralised energy revolution.

»Unlike the very centralised approach to greening with wind turbines, we work directly with local communities. It's also about engagement, and we can accelerate green transformation locally in buildings and cities. We juggle complexity so communities can discuss battery solutions and panels rather than focusing on how to operate it in practice.« ■

South Pole:

For the companies that act, the business potential of sustainability is immense

Jens Olejak
CEO of South Pole Sweden



Business and climate action go hand in hand as energy sources, natural resources and value chains are affected by climate change. The key for future success is driving sustainability, according to the leading climate consultancy South Pole.

Drought and floods. Energy crises. Political instability. The future can seem uncertain in many ways. Especially for those who run a business and work hard every day to bring logistics and finance together for a greater purpose.

But times of upheaval mean new opportunities. Especially for companies who grasp the great potential in becoming sustainable.

That is the analysis of the climate consultancy South Pole, who since 2006 has helped companies and organizations develop climate projects and analyze, identify and implement green solutions with lasting benefits for the environment, local communities and business.

» Look at the times we live in. The situation with Russia and Ukraine alone has created enormous challenges for

many companies regarding, among other things, supply chains and energy sources. Climate change already does the same - wreaking havoc for companies around the world. The silver lining is that it creates a growth potential for the companies who make themselves independent of gas and other fossil energy sources and take significant steps towards becoming a sustainable business, « explains Jens Olejak, CEO of South Pole Sweden and regional director in the Nordics.

South Pole today has over 1,000 experts around the world who analyze the rapidly changing political and legal landscapes and develop innovative solutions to respond to the needs of the specific organization or sector. They are also used to finding their way in waters that many may find difficult to navigate.

«Initially, it is important to take stock of a company's emissions and create a baseline to work from. Together with the company, we identify the opportunities where we can reduce, optimize and streamline most efficiently, getting the biggest bang for the buck.. It is not something that is done overnight. But we develop a roadmap that guides the organization to reach its goal, says Jens Olejak.

In the future, sustainability will not just be a 'nice to have', but essential for a healthy business, the South Pole director believes:

» By now, both consumers, clients and talents in the workforce expect climate awareness from the companies they interact with. It is no longer just a feather in one's hat, but essential, along with a good product, if the company wants sustained success. Tomorrow's winners will be the robust and sustainable companies.« ■

Sustainability doesn't pay

But we're working on it.

Becoming a sustainable farmer comes with potential barriers. The staggering cost of equipment, operations and labour are just a few of the challenges farmers face when transitioning to more climate-friendly practices.

The **AgreenaCarbon** programme supports farmers who are fighting climate change by helping them transition to more sustainable activities that turn soil into carbon sinks.

Farmers now have the opportunity to be the climate heroes of our future through regenerative agriculture and soil carbon removals. Agreena's fintech platform enables them to go green without going in the red.



Learn more about how digital tools incentivize the sustainability efforts of farmers and the future trajectory of AgTech by joining our CEO, Simon Haldrup, at the TechBBQ fireside chat.



**Digitalisation's Role in Shaping Agriculture
– A Pathway to Sustainability**

15 September 2022, 12:06 – 12:36
@ Tech Stage

Agreena

www.agreena.com

Cleantech Startup to Watch



Switching to electric made easy *Klimabiler | Founded 2021*

A paradigm shift towards electric vehicles is happening right now, but the change can be full of doubt for consumers. Range anxiety is real.

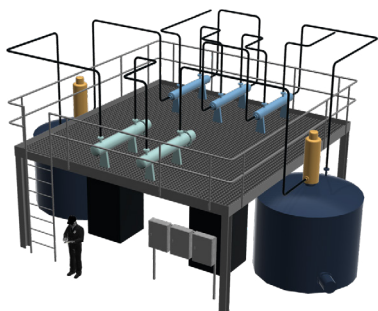
Klimabiler wants to make it easy by providing all the relevant information for an informed decision - all through their own »Klima API«. At the same time, the startup runs its own fully fledged marketplace exclusively selling EVs.



A water-saving nudge *Aguardio | Founded 2017*

Aguardio has developed a sensor solution to nudge consumers to save water during a shower. Through IoT sensors, shower data is collected and with advanced analytics, data is turned into knowledge that helps understand shower behaviour.

With its product, Aguardio is helping to raise awareness about showering behaviour and helping to reduce water consumption by a fifth. They sell their B2B solution to hotels, housing associations and dormitory projects that gain economic and environmental benefits by reducing their water consumption.



Storing energy at 700 °C *Hyme Energy | Founded 2021*

Hyme is maturing a grid-scale thermal energy storage solution based on molten salts to greatly improve the integration of sustainable energy in the energy system. The startup's novel, patented approach to chemistry control lets it deploy inexpensive and stable hydroxide salts in compact, high-temperature energy storage up to 700 °C.

Their first full-scale storage facility is currently being built in Esbjerg, Denmark and is estimated to be operational in 2023.



Virtual energy advisor *Ento Labs | Founded 2019*

Ento Labs's virtual energy advisor monitors and analyses the energy consumption of a building, and then suggests ways to optimise it - without installing new hardware.

The system will automatically find the most effective energy improvements and help make them happen. At the same time, the software gives the administrator an overall view of the building energy consumption as well as document and verify the energy optimisations on an ongoing basis.



Plan A founder:

Certificates, labels and pats on the back mean nothing without real action

The threshold is often too low when crediting agencies hand out green certificates to companies and organisations. And it risks hindering real green change, German climate entrepreneur warns.

Written by
Erik Lillelund

Sustainability is now on most people's lips. And in public conversation, terms like »green air travel«, »climate-compensated milk« and »eco-friendly avocados« are often bandied about. But many labels and certificates often end up being too easily bought, without having a real positive impact on the climate.

That is the analysis of Lubomila Jordanova, co-founder and CEO of Plan A, one of the fastest-growing cleantech startups in Europe. The Berlin-based company has with its AI-powered B2B

carbon accounting, decarbonisation and ESG reporting SaaS tool raised a \$3M seed round in early 2021 and opened offices across Europe including in London, Munich, Paris after a \$10M Series A round in November 2021.

»I've been debating publicly for a long time whether all the labels that give companies instant gratification aren't counterproductive to the green transition. Because we don't have time to shout out how successful we are on the climate front when you can currently open a credit bureau and give ▶



Lubomila Jordanova
Co-founder and
CEO of Plan A



► out awards for organisations that have plants in the office. That's just nonsense,« Jordanova says.

One of the more prominent Danish cases is the large dairy Arla, which advertises »CO₂-neutral,« organic milk. This means that the cows' greenhouse gas emissions are offset - compensated - by Arla paying for a new forest in East Africa, among other things. The idea is that trees absorb the amount of CO₂ from the atmosphere that the company emits.

But there are many uncertainties associated with climate offsetting. A report by the Danish Climate Change Council (KOR), based on two studies, finds that up to 80 percent of all attempts at climate offsetting are unlikely to have yielded more reductions or removed more CO₂ than if companies had kept the money in their pockets.

»Certification and labels are generally not a bad thing. But the threshold for when you can label sustainability and other green labels needs to be much, much higher if we are to meet the goals of the Paris Agreement,«

Since 2017, Lubomila Jordanova has

been behind the Plan A platform, which enables companies to measure and monitor their carbon and ESG performance. The platform captures millions of data points, providing an understanding of where the greatest opportunities for improvement lie. The AI software then automatically draws tailored action plans, solutions and activities for the company's decarbonisation and ESG improvements.

Today, the startup already has major international clients such as BMW, Société Générale, JOKR, Apax and the EU.

Not just about numbers

Prior to Plan A, Lubomila Jordanova worked in banking with investments, venture capital and fintech in Asia and Europe. In 2022, she was named among the »Top 50 Female Entrepreneurs in Germany 2022« by Handelsblatt and was named one of the »35 Innovators Under 35 2022« by MIT Tech Review and is currently part of the six-month Obama Foundation Leaders Europe program.

A go-getter, some would call her. That is why she personally understands the

value of giving people the time and resources to become smart in a field. So they can run the initiatives.

»Sustainability is not just about numbers, but just as much about dedicating resources and time to the issue. For example, appointing a sustainability officer to train your company's teams, increase activities and drive change at all levels of your organisation. We need change across the board,« says Lubomila Jordanova.

The message is clear and direct, but in fact it should be understood from a business perspective, says the German entrepreneur.

»I think we still have a few more years where some companies will try to squeeze out the return from fossil fuel investments. But as the new energy crisis shows, the instability caused by climate change will lead to vulnerability on virtually all types of returns on those kinds of assets. So the biggest deterrents will be seen in the numbers. It will be because of climate risk, new consumer and employee behaviour, and changes at institutional level that companies will make a green transition,« says Lubomila Jordanova. ■

Life Science by the numbers

Most recent numbers show a total revenue for Danish life sciences at around

250 billion DKK

(33.6 billion USD)



Danish Life Sciences exported products for more than

150 billion DKK

(20.2 billion USD) in 2020



The industry employs approximately

58.000

people



12 billion DKK

(1.6 billion USD) in foreign investments into Danish life sciences

In the future, the doctor's bag is filled with robots, apps and artificial intelligence

Fewer hands will be treating more patients and providing more services in the healthcare sector in the future. This requires new technological solutions across the sector. The physician's toolbox, in particular, is evolving faster than ever before.

Written by **Erik Lillelund**



▲ The robot "Robert" from Life Science Robotics doing what it does best: mobilising patients.

The challenges in the health sector have acted as a catalyst for one thing in particular: Conventional healthcare is facing a technological revolution, and doctors and nurses will spend far more of their time in the company of robots, artificial intelligence and data-driven devices.

One of them is the rehabilitation robot 'Robert', which the Aalborg company Life Science Robotics is behind. The robot both relieves the rehabilitation of paralysed blood clot and spinal cord patients, for example, and enables healthcare profes-

sionals to define the movement patterns and sequences that the person concerned must undergo.

»People have underestimated both the effect and the intensity of training in the past. That amount can often be 1-2 hours a day depending on the person, and it's actually similar to being an elite athlete. This would be enormously exhausting for a professional to handle, but with 'Robert' we see that the patient takes ownership of his own rehabilitation more quickly and thus recovers faster,« explains Keld Thorsen, CEO of Life Science Robotics.



Keld Thorsen
CEO of Life Science
Robotics

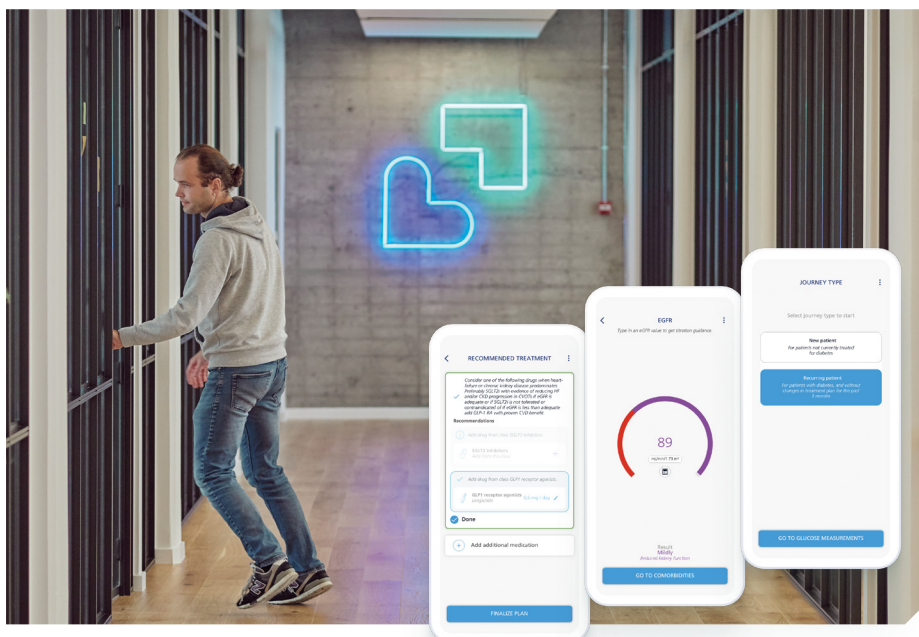
Today, around 15,000 Danes are affected by blood clots every year. It costs about DKK 2.03 billion in rehabilitation and care, according to the National Board of Health. But with robotic solutions, the bill can be halved - and often more than that.

Need medication? Here's an app

When healthcare is combined with technology, it often results in significant breakthroughs. One of them is the healthcare software company Dawn Health, which is specialised and certified in developing software as medical devices.

Right now, the company is developing the Diabetes Journey app, which will use artificial intelligence to assist and upgrade GPs' treatment of patients with diabetes. Through the Diabetes Journey app, healthcare professionals simply enter a range of relevant information and personal goals, after which the software provides recommendations for treatment.

»To understand the app structure, imagine an inverted bonsai tree. The more layers of data the doctor goes ▶



▲ Dawn Health is one of the first companies in the world to be specialised and certified in developing software as medical devices.

► through about, for example, medical complications, financial challenges, heart disease or intolerance, the treatment becomes more and more personalised and sophisticated using our decision support software called Bonzai,» says Daniel Gewecke Daugaard, CEO of Dawn Health.

Worldwide, approximately 463 million adults (20-79 years) live with the disorder. By 2045, that figure will have risen to 700 million, and in most places today it is already a truly widespread disease.

»I am convinced that software as medical device (SaMD) will become a megatrend. The decision will still be made by the doctor, but we will see more and more digital solutions supporting and upgrading complex treatment processes in particular,« says the entrepreneur.

The right diagnosis in a split second

Danish startup Corti is behind a sound-based artificial intelligence engine that supports healthcare professionals during patient consultations at emergency centres. The AI-powered software listens in on calls, writes notes, searches databases and compares symptom descriptions.

»As patients, we often expect a perfect diagnosis right away, but an early diagnosis will inevitably be influenced by judgements and estimates. This is

where artificial intelligence can step in and listen in on patient consultations, find patterns, write medical records and support healthcare professionals in their assessments - and ultimately help save lives, as we have seen with emergency response,« says Andreas Cleve, CEO and co-founder of Corti.

Through research, Corti has developed



▲ Danish startup Corti is behind a sound-based artificial intelligence engine that supports healthcare professionals during patient consultations at emergency centres.



Daniel Gewecke Daugaard
CEO of Dawn Health

an AI engine that analyses patterns in a patient's voice and breathing and can reduce the number of undetected cardiac arrests by more than 50 percent.

Eventually, the people behind it hope to become an integral part of the healthcare professional's toolkit.

»The dream is to be able to help much earlier in a course of treatment - before symptoms become acute. With Corti, we want to get to a place where artificial intelligence can help predict, for example, the risk of a patient developing an acute illness, as soon as the patient visits general practice, rather than only being able to help once the damage has been done and the emergency services are called out. We assist our customers in more than 25 million patient consultations every year, but we hope to cover up to 100 million consultations within a few years,« says the entrepreneur. ■

Health Startups to Watch



Remember your prescription VR *Khora VR - Founded 2015*

Khora is an award-winning Virtual Reality (VR) and Augmented Reality (AR) production studio in Copenhagen, creating cutting-edge content, also for the healthcare sector.

The impact of VR in various fields such as pain distraction and exposure therapy is well-documented. Khora takes it into the real world and pushes the boundaries of the technology - e.g. in personal care training and exposure therapy in social anxiety.



Machine learning rules out blood clots *Cerebriu - Founded 2018*

Every minute is a matter of life and death when the brain is bleeding or has a blood clot, but it takes a brain scan to find the damage. The young company Cerebriu has developed an artificial intelligence that helps healthcare professionals decide what to do with a patient during this scan.

The company started with brain scans. Here, they are now looking to integrate their software into MRI scanners from Siemens Healthineers.



Automated lab experiments *Inniti - Founded 2017*

Hand-held stopwatches and manual notes on a piece of paper is still the backbone of many modern laboratories. Inniti wants to change that through extensive digitisation.

The startup helps labs perform experiments automatically, before uploading data and results for analysis in the cloud. The ultimate goal is to create an autonomous lab where experiments also become self-optimizing based on the data being collected.



A dentist in the pocket *Adent - Founded 2019*

Dental health is one of the world's most neglected health challenges and a major issue for global public health. Adent wants to solve that.

In fact, more people own a smartphone than a toothbrush. With that knowledge in mind, Adent Health has developed an app where users take pictures of their teeth and mouth and answer questions about their dental health. The app then analyses the mouth and compares the results with millions of other mouths in the database, before giving the user tailored recommendations to keep their mouth and teeth healthy.

Techno sapiens:

Technology for the sake of technology or people?

We need to discuss the end goal of new technology. Otherwise, we will end up with societies that do not have human interests at the core, a professor in digital transformation from Copenhagen Business School believes.

Humans will change more in the next 20 years than in the previous 300.

That was the thesis of one of the world's most prominent futurists and public speakers, Gerd Leonhard, back in 2016. And looking beyond today's technological landscape, one might well agree with him. Society is certainly facing a series of quantum leaps that will potentially change the lives of many.

For trends such as artificial intelligence, cognitive computing and infinite virtual worlds are sweeping through society right now. And the new technologies bring with them a range of ethical dilemmas that we have been too slow to address in the past. So says Mikkel Flyverbom, professor of communication and digital transformations at Copenhagen Business School, head of the research platform DigitalTransformations and member of the Data Ethics Council.

»We have been regulating on the back foot for many years. Too few have seen technology as a political issue. This has created a regulatory vacuum, which is why many countries now need to actually address some important issues. So when people complain about the tech giants, it's as much governments and stakeholder organisations that have been asleep at the switch and not implemented the right playing field,« Flyverbom explains.

The obvious example is social media.

Besides the fact that platforms like Facebook and Twitter have become de facto privately owned democratic town halls, several international studies have shown that the impact on the mental health of children and young people in particular can be harmful. And when the businesses behind it are also tied to an attention economy, where technology is used to retain the user for as long as possible, it becomes problematic.

»I often compare it to the early phase of industrialization, when companies could just empty their toxic waste into the local lake, hire child laborers, and generally do whatever they wanted. Similarly, social media has for too long had free rein in what amounts to the unregulated Wild West. That's why we're in a tobacco moment, just like when the public realised the need to regulate the tobacco industry's addictive cigarettes,« Mikkel Flyverbom says.

Technology must be considered as critical infrastructure

Although the impact of social media is finally resonating with the public, new dilemmas lie ahead. Because technology is evolving faster than ever before.

»Besides social media, of course, I think the next 5-10 years are going to be about the damage that Google and Amazon are doing to both our free choice and the general consumer market,« says Mikkel Flyverbom. ►



Mikkel Flyverbom
Professor of Communication and Digital Transformations at Copenhagen Business School, Head of the research platform DigitalTransformations and member of the Danish Data Ethics Council.



► It also means that societies need to go further than before and rethink the balance between private enterprise and the well-being of democracy.

We are in a situation where we have let private companies set the framework and have control over what is de facto the community communications infrastructure in our society.

»Maybe we need to set a new framework for the dividing line between big business and government. If you think about the role that some tech platforms have taken as infrastructure, we would never allow a free highway from a super-company in exchange for advertising on it. And we do that today with

our communication and Facebook and Twitter,« Flyverbom explains.

The metaverse lurks

In 2021, 40 percent of Apple's investment and acquisitions, 66 percent of Facebook's (Meta) and 75 percent of Snapchat's were all in the XR space. The giants have all turned their gaze in the same direction. Similarly, digital consultancy Digi-Capital expects that revenues from the Extended Realities market will rise from \$13 billion in 2020 to a staggering \$67 billion in 2024.

And with the potentially society-changing metaverse on the horizon, it seems we might as well get used to discussing the limits of technology.

Because it's going to be a fixture of the political landscape in the future.

»In the long term, of course, the metaverse will be useful in several contexts. But like all technology dreams and nightmares, it is being oversold,« says Mikkel Flyverbom and continues:

»It's not about being for or against technology. The problem is that digitalisation has been sold through a narrative that we will fall behind as a society if we are not at the forefront. But instead of talking about what technology can do, we need to talk about what we want to achieve and how we get there. And here technology can sometimes help, but not always.« ■

Games by the numbers



Revenue more than doubled
in the Danish games industry
from 2019 to 2020 from

€192m to €426m



**2 out of every
3 euros**

earned comes from export



The Danish games
industry consists of

159 companies

in 2020

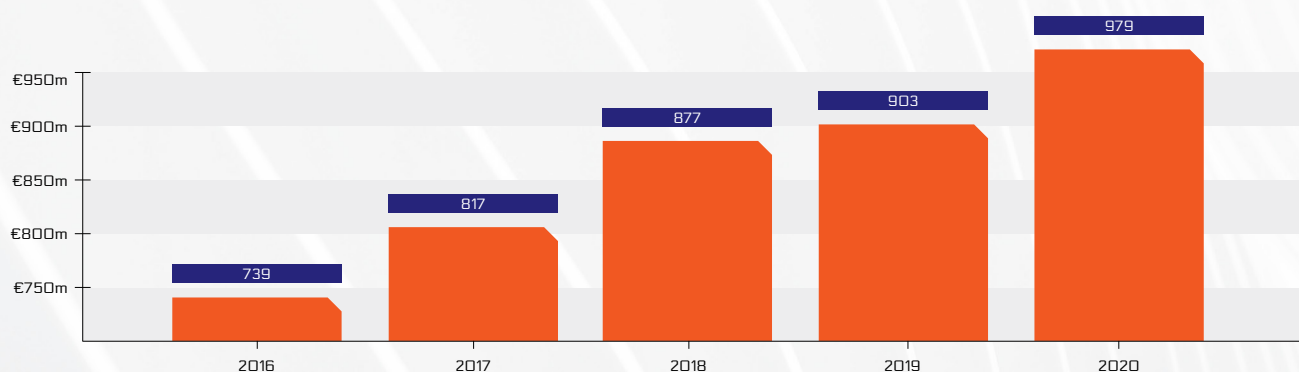


The industry
employed close to

1.000

people in 2020

Employees in the industry



A new generation is booming:

The game industry is reaching adulthood



Revenue in the Danish gaming industry has more than doubled in just one year, and the explanation can't be found in a single, worldwide hit – but rather in a new generation of successful developers from across the country.

The Danish games industry is thriving. The latest report from the Danish Producers' Association shows an explosive increase in revenue from €192m in 2019 to €426m in 2020. According to Jesper Krogh Kristensen, games consultant in the audiovisual cluster Vision Denmark, this shows that the Danish games industry is well on its way into a new golden age.

»Over the past 12 months, we have seen acquisitions of Danish game studios for an estimated amount of DKK 1Bn. From my point of view, this is very positive, as it shows that Danish games companies have great value and can easily compete internationally – because the acquisitions are primarily international,« he says.

And the success comes from a wide range of companies: Slipgate Ironworks is based on nostalgia for 90s shooters. Brightstar Studio combines blockchain and the NFT wave with a game in the MMO genre. Ghost Ship Games has become successful with a Games as a

Service model and a strongly community-driven game. And Tactile Games – which is the studio with the biggest revenue right now – is strong in free-to-play on mobile.

Why now?

Ghost Ship Games was founded in 2016, released the game *Deep Rock Galactic* in 2018, and sold more than three million units before being acquired by Swedish Embracer Group in November 2021 the studio had.

Thus, the game studio joins the ranks of new successes. But if you ask CEO Søren Lundgaard, who has 20 years of experience in the industry, there is no one good answer as to why the wave of successful Danish games is coming right now.

»These are very different businesses, and each of them has a unique business model. It does not come from one thing, and some of it is random. But I think a big part of the explanation is that the gaming market is growing. There are new sub-markets flourishing that one can do business in. And had there been 20 more startups three years ago, we would have seen 10 additional successes right now. It's just a question of volume – the opportunities are out here,« Lundgaard says.

A maturing industry

Although the successful games studios differ in both genres, platforms and the path to success, Jesper Krogh Kristensen from Vision Denmark sees one important similarity: All the companies are established by experienced people.

This is not the first time that the Danish games industry has gained momentum. The Danish game *Hugo* was a huge international success in the 90s. *Hitman* took the world by storm in the 00s. *Subway Surfers* found its way onto billions of smartphones in the 10s. Still, the industry has reached a higher level of maturity with the new wave of successes, according to Jesper Krogh Kristensen:

»Even though the new wave is in its infancy, I'm starting to see some signs that the bottlenecks will appear elsewhere this time. In the past, the biggest challenge was always funding, but today it is also about recruitment. It shows that the industry is growing and the scale of the need for talent has only grown larger with the industry,« he says. ■





▲ With Rokoko's motion capture suit, Eddaheim can capture actors and transfer it directly to the virtual world of their game in a matter of days – here Lars Mikkelsen during the filming of Neon Knights – Humanity Erased.

»It's not about the technology, but how we can use it to tell better stories«

The young game studio Eddaheim offers a high-end cinematic videogame drama with actor Lars Mikkelsen as the main character. They are growing towards shipping their flagship title to a global market – and they have done it all with far less resources than similar projects.

It started with a dream about telling stories. Impactful stories that lasts a lifetime, like *Festen* and *Forbrydelsen*. But how do you transform that dream into a highly polished videogame when you are just students from The National Film School of Denmark?

»It was a big idea. Most people thought we would need 100-200 people and a multi-million dollars budget for this. That would be nice, but with technology these days, we found a way to do it smarter by building tech-partnerships and new processes,« Mark Iversen explains.

Today, it's no longer a dream but a game studio called Eddaheim. In just 18 months it has grown to 20 people who have build the first glimpses of a tech-dystopian noir-drama game called *Neon Knights – Humanity Erased*. A game set in a future Copenhagen featuring the famous actor Lars Mikkelsen (*House of Cards*, *The Witcher*) as the main character. All made possible by utilizing technologies to punch above their weight.

Necessity breeds creativity

Previously, motion capture and virtual production was exclusive available to Hollywood and the biggest game studios. But by utilizing the new software like Unreal Engine and partnering with new tech-startups like Rokoko and Rigsters, Eddaheim has gained a tech-driven firstmover advantage to empower their storytelling.

»I think it's a part of the DNA in the Danish film industry: necessity breeds creativity. If you don't have 300 people and a big budget, then you have to get creative and figure out other ways to do it. In the end, the audience doesn't care about how you made it. It's not about the technology, but how we can use it to build better stories for our audience,« Mark Iversen says.

In the same way, the three founders have used their insights and network from film production to add cinematic value to their game by engaging film pho-

tographers and sound designers to their virtual production. And the results shown in the first trailer for *Neon Knights* speaks for itself: An enthralling drama with an incredible production value.

The home of stories

For now, Eddaheim is making an ambitious videogame for a global market, that is already bigger than than movies and music combined. But their ambitions doesn't stop here: They want to become »the home of stories«, a nordic powerhouse of entertainment. And *Neon Knights* is just the first step in that journey.

»There are teams that make a game and teams that want to make a company. We are the latter, and we want to grow big,« Mark Iversen says and continues:

»Our vision is to tell stories that lasts a lifetime and to bring the Danish storytelling tradition to the booming global games market.« ■

Eddaheim & Neon Knights – Humanity Erased

- Neon Knights: Humanity Erased started as a graduation project from the National Film School of Denmark in June 2019, and is now under development as a full-fledged game. Neon Knights: Humanity Erased is a psychological noir game set in a frozen Copenhagen in the year 2079. The story follows Nik Gates, played by Lars Mikkelsen, a digital exorcist belonging to a secretive order called the Transenders
- The three founders, Mark Bansak Iversen (Creative director), Alexander Tange (Narrative Director) and William Wrede Elung-Jensen (Managing director), utilized technology to make the game stand out: Unreal Engine 5, Rokoko motion capture, Faceware facial capture and a digital copy of Lars Mikkelsen, 3D scanned by Rigsters.
- Eddaheim is the company behind the game and has received DFI-funding, VC-funding from the Swedish fund Behold Ventures as well as an Epic Mega Grant in December 2021. This has helped the company grow from 6 people in a basement to 20 employees in 18 months.

Games Startups to Watch



Decade-long indie-project turned lucrative business *Fair Game | Founded 2020*

Become a mighty wizard, build or trade your way to better equipment and a larger colony or wander off exploring the vast, magical world. The extensive and colourful pixel universe in the computer game Necesse is developed by the one-man army Mads Skovgaard.

He began developing the world all the way back in 2012 and has now successfully brought it to Steam Store, where it has received overwhelmingly positive reviews and sold an estimated 200-300.000 copies. Which might turn the one-man army into a full-fledged gaming studio.



Singleplayer LOL experiences *CinderCat Games | Founded 2022*

CinderCat Games is a newly started game studio in Aalborg consisting of fresh graduates - with a dream of building laugh-out-loud experiences for single-players. Their debut project is a comical first-person single-player action-adventure game where you play as the temperamental goblin 'Glum', who reluctantly kicks his way through a medieval kingdom to save his evil ruler.

The young studio already employs 8 people who work full-time on the dream of releasing their first big game.



Stop-motion gone gaming *Kong Orange | Founded 2017*

The games studio Kong Orange already has a few games on the market including Felix The Reaper, but its upcoming game, Vokabulantis, is the first to bring oldschool stop-motion techniques to life in a videogame.

The upcoming game received words of praise from the Lord of the Rings actor Elijah Wood and the comedian Patton Oswalt when it successfully got crowdfunding on Kickstarter last year.



Feminist gaming company unleashes Dead Pets *Tripple Topping Games | Founded 2017*

The selfproclaimed feminist indie studio Tripple Topping Games makes games with unique stories and artstyle; their first game was a pansexual platformer called Spitkiss.

Recently, the company launched a Kickstarter campaign for their upcoming game, Dead Pets Unleashed. A feminist, slice-of-life and management-lite game about a struggling punk rock band, friendships and growing up.

Robots by the numbers



21.1 billion DKK

(2.8 billion Euro) turnover
in 2021



11 billion DKK

(1.5 billion Euro) in
export in 2021



More than **400**
robot, drone and automation
companies in Denmark



More than **10.700**
employees in Denmark



Employees in Denmark
and abroad are expected
to increase to

23.800

in 2025.



Since 2015, more than

6.7 billion DKK

(900 million Euro) has
been invested in the Danish
robot industry

The robots from Funen:

What went wrong right?

Odense Robotics is today considered the most developed robotics cluster in the world. And while the seeds of success are complex, one of the key ingredients has been a particularly Danish custom, according to one of the main characters of the Funen fairy tale.

Written by **Erik Lillelund**

It is a story that has been told many times. Both at home and abroad. For although there are now 14 national business clusters in Denmark (recently reduced from around 40) specialising in everything from offshore industry to computer games or welfare, there is still no fixed recipe for the perfect ecosystem.

That is why people in Denmark and the rest of the world often look towards Odense. Here, startups have grown into billion-dollar businesses over the past decade and today form a vibrant ecosystem with one common denominator: robots.

But how is it that Odense in particular has managed to put itself not just on the Danish map, but on the world map when it comes to developing and exporting advanced robotics technology?

»There has been a willingness from the larger companies to hand over knowledge. Danish trust has been crucial here; the belief that one's technology will not necessarily be stolen just because we share knowledge. And they probably wouldn't have acted in the same way towards a Chinese robot manufacturer.« Thomas Visti, who has extensive international experience from Denmark's biggest

robot successes Universal Robots (UR) and Mobile Industrial Robots (MiR) as co-owner and CCO respectively, says.

»Similarly, there has been a common understanding that talent was not fished from other companies in the cluster. And the cluster has been lucky - at least initially - that the majority of companies were not 1:1 competitors. Today, there are several that are in the same specific field. Still, this hasn't dampened the desire to share experiences, because most people understand that it's easy to improve together without handing over critical patents,« he says.

An old shipyard

The history of robots in Odense goes back to Lindøværftet, a proud old shipyard that built ships for the Maersk Group's shipping business for almost a century. Thirty years ago, the yard began developing and investing in welding robots that could streamline production of its huge ships.

In 1997, Mærsk donated DKK 100 million to the University of Southern Denmark as part of its robot development, and this was the start of the Mærsk McKinney Møller Institute. ▶



▲ Since 2015, more than €900 million has been invested in Odense Robotics companies.



Thomas Visti
Former leader of Universal Robots (UR) and Mobile Industrial Robots (MiR) as co-owner as well as CCO and CEO, respectively.



▲ Several robot startups in Odense have grown into billion-dollar businesses over the past decade and today form a vibrant ecosystem

► Universal Robotics (UR) really drew attention to the Funen robotics scene when the company was sold for a staggering DKK 1.9 billion in mid-2015. Three years later, it was Mobile Industrial Robots' (MIR) turn, this time for DKK 2.3 billion.

»The large sales have been decisive and have meant that large amounts of capital have been reinvested in the ecosystem and both skills and talent have remained in the area. I'm a good example of that myself,« says Thomas Visti, who played a leading role in both UR and MIR and today supports and co-creates new businesses himself through the company Visti Unlimited.

But the company is far from alone in having added capital to the robotics cluster ecosystem, figures from Invest in Odense show. Since 2015, more than €900 million has been invested in Odense Robotics companies and today the cluster is considered the largest

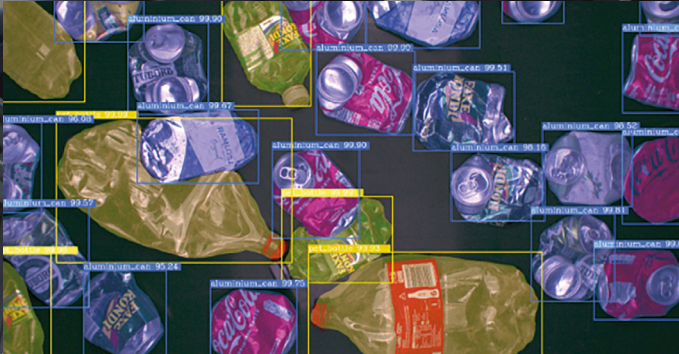
and most advanced in the world. It is estimated that there are around 300 robotics and drone companies in Denmark due in part to the development.

Robots look set to get an even bigger star in the future. Today, Odense Robotics has been made a national cluster by the Danish government and Denmark is home to over 400 companies in total, all working in the field of automation, robots and drones.

And the future? It looks bright.

» Successes have bred more optimism too. If you talk to a robotics company today, it's the global approach that prevails. It wasn't like that ten years ago. In the future, though, I think we're going to see the big companies get bigger. There you have to recognise that with Universal Robots and MiR you've got someone who disrupted the market in their time. Instead, we'll probably see a few big ones and then a lot of subcontractors flourish because of the size of the giants,« says Thomas Visti. ■

Robots to watch



Sorting waste with AI

Aris Robotics | Founded 2021

Do we teach 8 billion people how to recycle - or one AI? Aris Robotics are betting on the latter. Therefore, they have harnessed the power of a customisable and automated solution to sort waste in a smarter way.

The startup's solution utilises Deep Learning and image-based classification to sort consumer waste. Thereby shifting the responsibility from people to machines - and reducing the amount of recyclable waste that ends up in a landfill.



A 3D printer for houses

COBOD International | Founded 2016

Cobod is on a mission to disrupt the global construction industry. Their weapon of choice: world-class 3D robotics and automation used to 3D print entire houses. By improving printing speed, efficiency, labour need and material costs they seek to challenge how we build.

Right now, they company is working with first movers but envision a future where 3D construction is accessible to all. As a testimony to their capabilities - they recently printed a 140 m2 house in Angola.



Perfect welding - automated

WeldingDroid | Founded 2019

Welding pipes has been hard, manual labour in awkward working positions for years. WeldingDroid wants to change that with their automated welding robot.

The startup uses proprietary software to auto-generate perfect pipe, tube and tank welding every time. Essentially a solution where anybody can weld pipes perfectly.



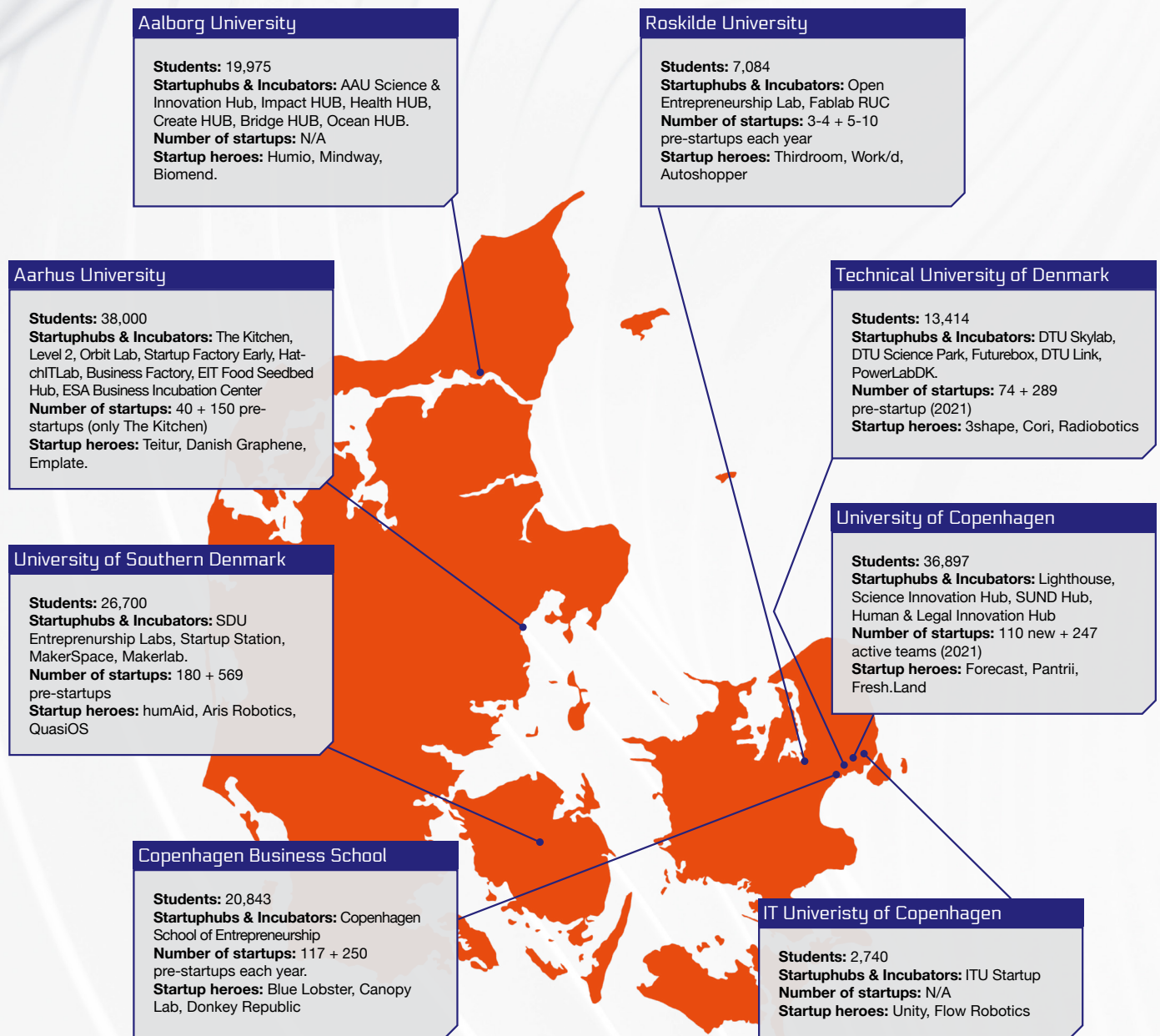
Ecological farming made carbon neutral

FarmDroid | Founded 2018

FarmDroid has built the world's only fully automated robot that can perform both seeding and mechanical weeding. The solar-powered field robots use GPS to help farmers and crop growers reduce the cost of sowing and cleaning crops while making it carbon neutral and ecological.

By spring 2020, FarmDroid had sown and cleaned more than 1,500 hectares in large parts of Europe.

From University to Unicorn



Projects across universities

■ Venture Cup

Work to promote and showcase entrepreneurship among university students, and help eliminate the gap between the academic world and the business community.

■ Open Entrepreneurship

Supports research-based spinouts from Danish universities.

■ Digital Startup Generator

Connecting and empowering technical and commercial talent to unleash their digital startup potential for society.

■ DIREC

Have established an effort with focus on innovation and entrepreneurship, eg. The Young Researcher Entrepreneurship Academy.

■ Beyond Beta

Supports the Danish startup ecosystem from initial idea to investment and scale by providing founders with the right network, knowledge, and navigation tools.

■ The Innovation Foundation

Development programme for entrepreneurs (Innofounder) and grants for companies and entrepreneurs who want to launch an innovative, knowledge-based development project (Innobooster).



▲ »The dream is, of course, to make a feature film to be shown at the cinema so we can step onto the red carpet with our families,« says Camilla Mødekjær, who's one of the three founders behind Amunet Studio.

Entrepreneurship on the syllabus

The focus on entrepreneurship is growing at the Danish universities and startup-hubs are encouraging more and more students to start their own businesses with what they have learned through their studies.

By **Sebastian Kjær**
& **Erik Lillelund**

Aishah, Camilla and Mathias were actually searching for an internship in a company as part of the study of mediaology at Aalborg University. But then an opportunity arose to do an internship together with students from Truemax and the National Film School of Denmark.

»All three of us were admitted to this programme, where, for the first time, an animation film was to be produced in a game-engine – that is, with gaming technology which is usually used for developing computer games. And, in a Danish context, using it for films was a completely new concept,« says Aishah Hussain.

That made them think, that there might be an opportunity of using gaming technology as a digital tool in films. Not long after, they started the com-

pany 'Amunet Studio' with the help of the incubator at Aalborg University. For instance, they received mentor guidance and carried out their work from here the first year. At the same time, they received an 'Innofounder Graduate' grant, which financed their salaries in the first phase of development.

Today, Aishah, Camilla and Mathias all work full time on the startup.

»The traditional pipeline for using computer graphics in films is very long. But using game engines, we are able to see everything live, which saves a lot of time in production. The technologies are not new, of course, but at first they were very expensive and only used in Hollywood. Now they've become much cheaper, so many more can afford them« Aishah Hussain says. ▶



▲ Jørn Guldberg, Patrick Jakobsen and Jakob Kjær-Kammersgaard have founded their own computer company, QuasiQS – a protocol for a more stable and secure operating system, which will initially be put into use in robots and similar IoT gadgets.

► **Mission impossible: Beating Microsoft**

»When I was a kid, something in me wanted to beat Microsoft, and I've thought about it ever since.«

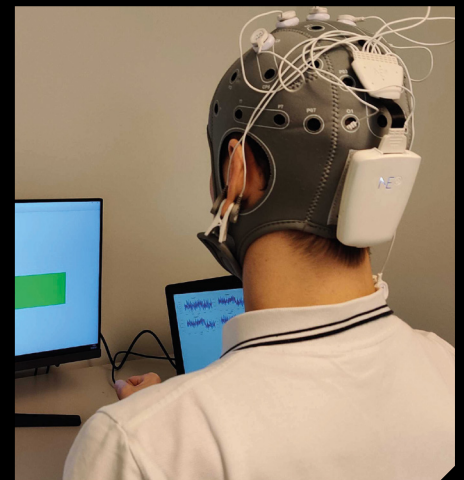
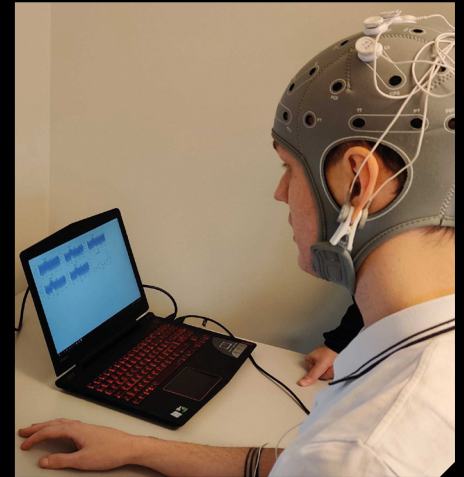
Jørn Guldberg laughs as he says it. But a computer science degree at SDU in Odense later, he and fellow students Patrick Jakobsen and Jakob Kjær-Kammersgaard have founded their own computer company, QuasiQS – a protocol for a more stable and secure operating system, which will initially be put into use in robots and similar IoT gadgets.

»Our technology enables us to send encrypted messages to the robot without also obscuring the identity of the sender of the message. This is an approach to permissions that is very different from the current operating systems out there, and it provides a different kind of security, which is great for people who

work with robots. With our technology they don't have to worry about the robot starting before they're ready because someone starts or updates it through the network,« Guldberg explains.

The three founders of QuasiOS were already well underway with the development of their operating system whilst they were studying at University of Southern Denmark, and were assisted in this process by SDU Entrepreneurship Labs.

Although the operating system from QuasiOS is still in the early stages of development, with their new protocol, the SDU founders are really rethinking digital security. » If there is a ransomware attack, which can shut down a whole network, our solution ensures that such an attack can only reach one computer, « Jørn Guldberg explains. ►



▲ REDO is getting ready to enter the market with a revolutionary technology that can reduce the pain of chronic pain patients.

► Research is becoming pain treatment

A couple of years ago, Tor Emanuelson, Mathis Rosenberg Sørensen, and Morten Kirkegaard did not know each other. But after Aalborg University matched the founders of the startup REDO with each other and armed them with a series of groundbreaking research findings, the company is getting ready to enter the market with a revolutionary technology that can reduce the pain of chronic pain patients.

REDO expects RELEARN, as they call their form of treatment to be a groundbreaking development, when it passes the official clinical trial phases, they expect.

»By visualizing the brain activity from a pain experience around a specific movement, it becomes easier to work with the nervous system's reactions to

what hurts and does not hurt. Our technology shows this to the patient in the same way as a heart rate monitor would show your heartbeat.«

Based on existing research, REDO's technology visualizes pain-related brain activity in real time. That bodes well for the pain patients of the future, who through physical and mental rehabilitation can learn to manage the brain activities related to the pain – and in the long run control it.

»In the long run, we hope to be able to provide a treatment that reduces the need for medication and symptom treatment. With RELEARN, patients can work with exactly their pain challenges, and we very much hope that this will be a revolution for people who suffer from chronic pain every day,« says Mathis Rosenberg Sørensen. ■

TravelTech by the Numbers



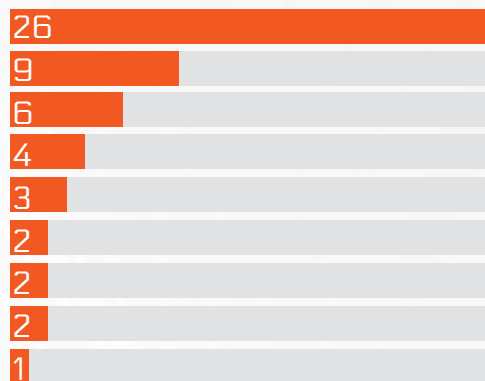
Number of startups:

150

Up from 57 identified startups in 2020

Segments (2020):

Activities, touring and info:
Business processing:
Marketing & Communications:
CSR & Sustainability:
Equipment and fixtures:
Alternative accommodation:
Smart Luggage:
Deals and gift cards:
Vacation & Travel:



Foreign tourists' consumption in Denmark amounted to more than

€8 billion in 2019

making tourism the fourth largest export industry in Denmark.



Investments:

7,2% of business angels

in Danish Business Angel Network invested in »Leisure, Travel & Recreation« in 2021 – making it the fifth most popular industry among the investors.



Tourism has changed, bringing new opportunities for entrepreneurs

The new Hub for Innovation in Tourism will help startups transform the potential in the post-Covid travel industry into excellent global businesses that can benefit the entire tourism industry.

Countless Covid lockdowns have wreaked havoc in many industries, including tourism. During the pandemic, the entire tourist industry came to a standstill and afterwards, once international travel was allowed again, travel patterns changed, and tourists had new expectations.

»After so many of us across the world have worked at home for so long, we now need more than ever to travel abroad. People are taking more trips and travelling in new ways. So, if any industry needs new digital solutions and business models, then tourism is definitely it,« says Heidi K. Dahl Larsen.

She is the Head of Secretariat for the

new initiative Hub for Innovation in Tourism (HIT), which opened in the summer. HIT aims to create an ecosystem that helps entrepreneurs realise the new potential in the tourism industry. It will do this by strengthening entrepreneurs, and by helping the next generation of knowledge-based entrepreneurs by collaborating with universities.

It has a wide base

Hun for Innovation in Tourism is new, but Denmark has already fostered several successful tourism startups, including the search portal Momondo and marketplace Gaest.com, which was sold to Airbnb. ►



▲ Copenhagen is rapidly deploying new experiences for its tourists. Hub for Innovation in Tourism hopes to see the same rapid deployment of new technologies in the coming years.

► A new generation of entrepreneurs are knocking on the door, and the hub has given them a place that they can go to for help and guidance. This way, HIT hopes to pique the interest of existing startup who just has not seen the tourism sector as a potential market yet.

»When you talk traveltech, you tend to think about the booking platforms, but it's much more than that. It's also about the backend and solutions for hotels, and it can also be solutions aimed at sustainability in general. For example, a solution like FlowLoop, which helps hotels recycle shower water,« says Larsen, and adds that several entrepreneurs in HIT are also involved in other industries.

Startups drive innovation

In the post-Covid world, several new Danish traveltech startups have already grown impressively. And according to Larsen, this is absolutely necessary.

»Globally, startups have been the primary drivers of innovation in the tourist industry for many years. The travel industry has been disrupted by Airbnb, booking.com and Tripadvisor – and Danish Momondo, which has also been insanely successful,« says Larsen.

And with new rising stars like Digital Guest, LuggageHero and StoryHunt, the ground has been laid for a new, successful generation. ■



Hub for Innovation in Tourism

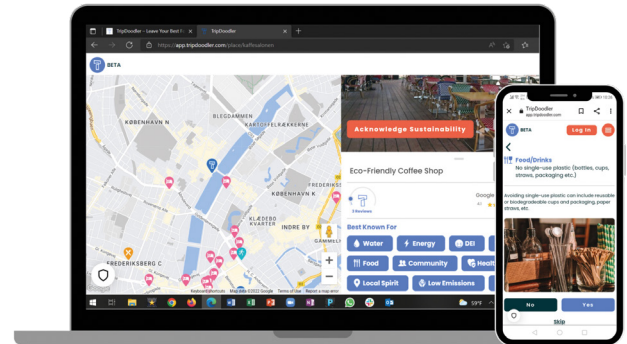
- Hub for Innovation in Tourism (HIT) is a project aimed at strengthening the whole ecosystem for tourism startups at different levels.
- Entrepreneurs and startups can exchange and sound out ideas and get advice directly from HIT, including testing their solution and getting advice about specific markets.
- In addition, HIT collaborates with knowledge institutions, where students are presented with challenges within tourism – which will ensure the pipeline of new entrepreneurs.
- Hub for Innovation in Tourism is part of a new national tourism strategy in Denmark. It is run by development companies Dansk Kyst- og Naturturisme, MeetDenmark and Dansk Storbyturisme; the latter two have their secretariat at Wonderful Copenhagen. Hub for Innovation in Tourism has received funding from REACT-EU, and the EU's Special Fund, which are implemented by the Danish Board of Business Development.

TravelTech Startups to Watch



Lost and found in a digital way *Faundit | Founded 2019*

If you forget something at a hotel, Faundit will take care of the whole process of getting the property back to you. They handle all the brokerage and transport on behalf of the hotels, so the guest can get their items back. Faundit has agreements with hotels, tourist attractions and the like at home and abroad.



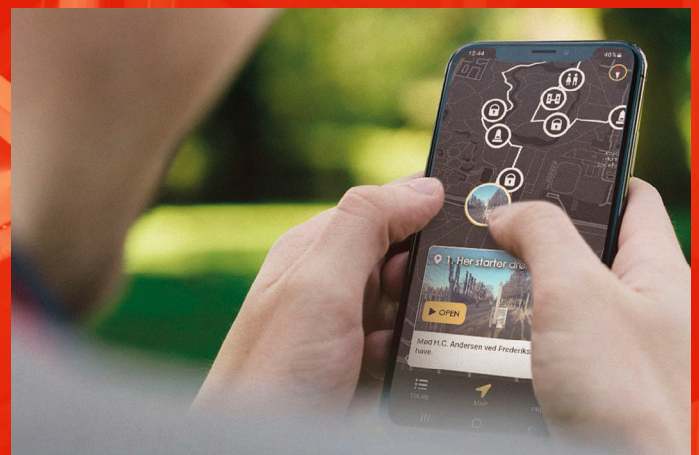
Sustainable travelling made easy *TripDoodler | Founded 2019*

TripDoodler wants to make sustainable travel choices simple. The platform allows global tourists to find and share verified sustainable travel choices through a searchable database featuring user ratings and proprietary algorithms. The platform makes it easy for tourists to rate and recognise sustainability without being experts.



A digital nature guide *Natureventyr | Founded 2018*

Natureventyr (Nature adventure) is a guide to nature in an app format that makes it fun for families to explore the wild. The app consists of a series of adventures linked to specific areas which challenge children in an educational way.



Local guide in the pocket *StoryHunt | Founded 2018*

StoryHunt is a map-based app for travellers with stories linked to specific locations. To unlock the stories, the user must be present, which leads to an exploratory experience and exploration of the destination. The app takes the user on routes that unfold neighbourhoods, historical periods and themes.

Investments are booming:

Is Denmark the next big Nordic startup-star?

While the Nordic region is shining bright on the global startup scene, Denmark is still catching up to its Nordic neighbours in terms of investment and capital. But maybe that is about to change, experts predict.

Written by
Erik Lillelund

Denmark is a small country, that is for sure. Geographically, it is the 138th largest country in the world and the 112th largest in the world in terms of population. But on the startup side, the red and white vikings may be moving up the global hierarchy.

After record highs in both 2019 and 2020, 2021 saw another record year of activity in the Danish venture market, with Danish companies attracting a total of DKK 14 billion across 131 investments, significantly more than ever before. From 2020 to 2021 alone, the amount invested increased by a factor of 3.6 - the highest growth rate in the entire Nordic region.

Developments in the burgeoning Danish venture market mean that Danish companies have overtaken Nordic neighbours in Finland and Norway in attracting venture capital. However, it is

still clearly Swedish companies that attract the largest total amount of venture capital.

And now foreign countries are starting to catch on to the trend.

»When we look at the Nordic countries, there are many unicorns per capita. And here the Danish ecosystem has become a more interesting, dynamic environment with, among other things, interaction between several startup organisations, large companies, universities and startups. We are also slowly starting to see this spill over effect we know from other countries, where entrepreneurs start their second startup journey with reinvested capital and reacquired talent,« says Michael Wiatr, General Partner at global venture capital firm Antler, which established offices in Denmark a little over a year ago.

This made Copenhagen one of Antler's 26 locations worldwide. And so far they ►



Michael Hansen
CEO of Danish
Business Angels



Michael Wiatr
General Partner at
Antler

► have made a total of 12 Danish investments - including in companies like Onemarket, Zupply, O-Mission, Kitchen-swaps and Flows.

But what has changed?

» If we look at the evolution, there has been a consistently more focus on startups - a better support system, quite simply. Universities have started to teach entrepreneurship, capital is more available, also thanks to the dynamic support from foundations like the Growth Fund and the Innovation Fund, and then Denmark is generally good at organising itself through business-promoting clusters,« Michael Wiatr explains.

Increased professionalisation

Investment rounds also increased in 2021, with more than one in three rounds at +€100 million. At the same time, international investor participation has been high in 70 percent of investment rounds in 2021, confirming that interest from abroad in Danish companies is high.

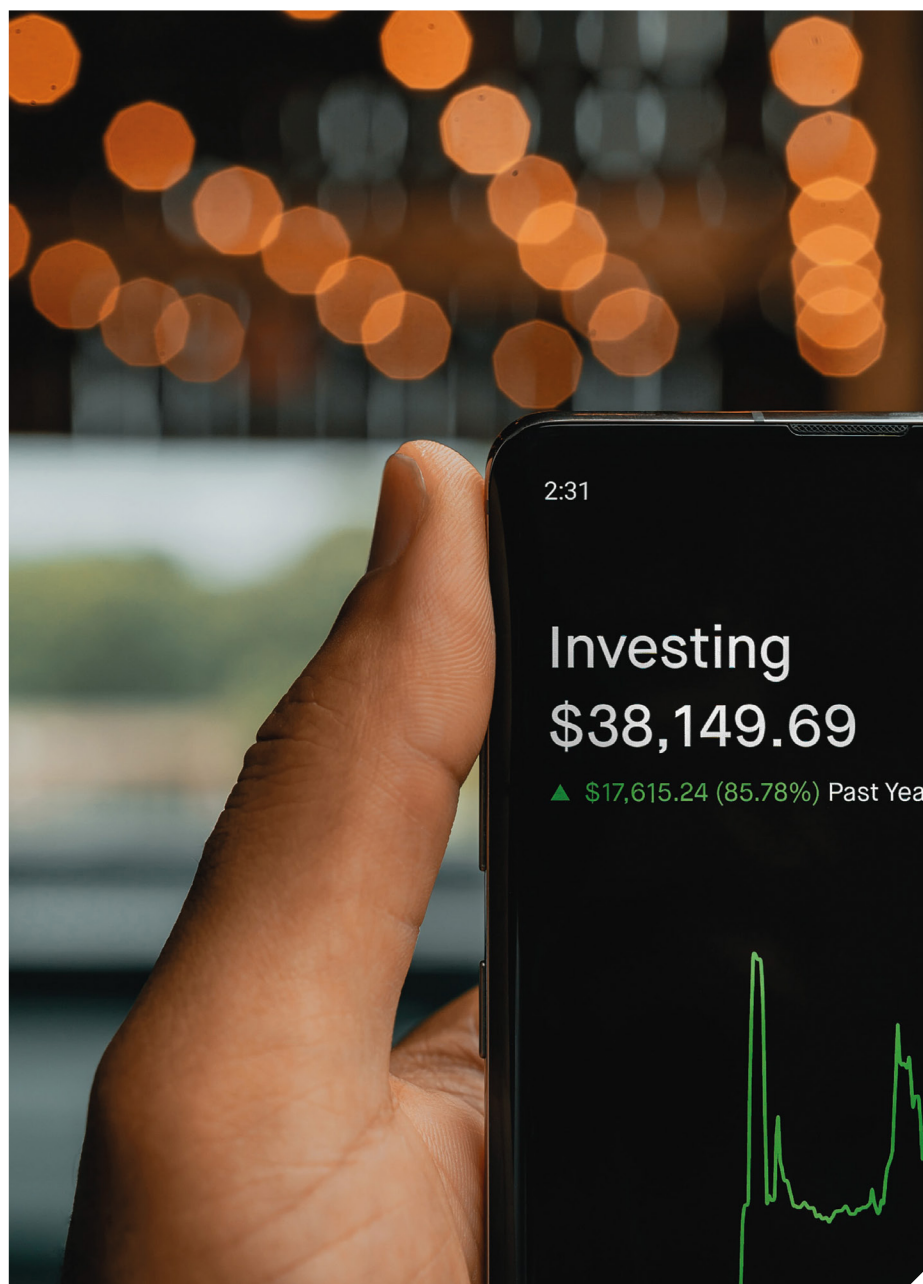
And according to Michael Hansen, CEO of Danish Business Angels, it's also a sign that Danish startups have become better and more professional - especially when it comes to raising capital.

»There has been a professionalisation over the past decade, with start-ups maturing much earlier for investment. The quality of cases is simply increasing. And the interest and therefore the fight for capital has become much tougher. For example, we are now seeing companies queuing up and on waiting lists for our angel investor pitch events,« describes Michael Hansen.

Not (yet) on a par with Sweden

In Denmark, new high-growth firms created 4.332 full-time jobs between 2017 and 2020. This was the highest number of jobs created in the last ten growth periods, and also the highest since the financial crisis in 2008.

But we still have some way to go to catch up with our Swedish neighbours. Especially when you look at the tax rules around stock market listings and or the complexity around giving employee shares, which companies are highly de-



manding in the global battle for talent.

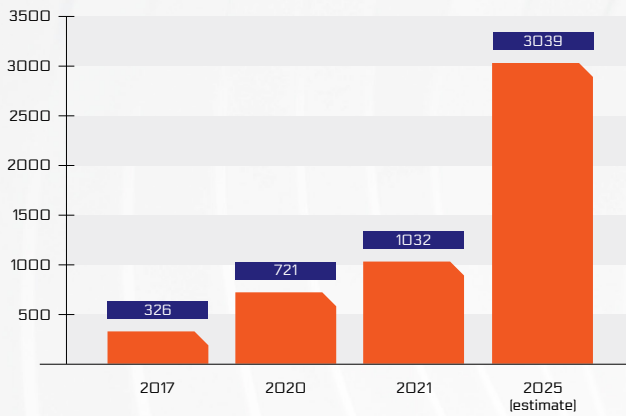
»Many of these conditions are unwanted and inhibit startups. So it's not because we have as good rules as in Sweden and the UK that there will be. It's because we have some good investors who want to give back to the ecosystem. I don't even dare to think what would happen to the supply of capital to Danish startups if we just approached the rules in London. Then it would all explode,« Michael Hansen says with a smile.

In addition, Denmark has not had a long-term strategy in this area.

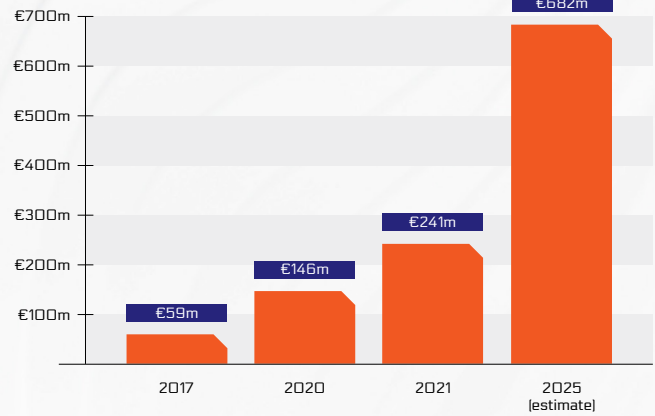
»Sweden is a good example of an ecosystem that got on the startup wave early. It's clear that they're bigger than Denmark. Among others, the earlier unicorns (e.g. Unity, JustEat and TrustPilot, ed.) that took off, slowed us down. But all the momentum and growth we have here at home shows we're on the right track,« explains Michael Wiatr of Antler. ■

Sportstech by the numbers

Jobs in the industry



Revenue



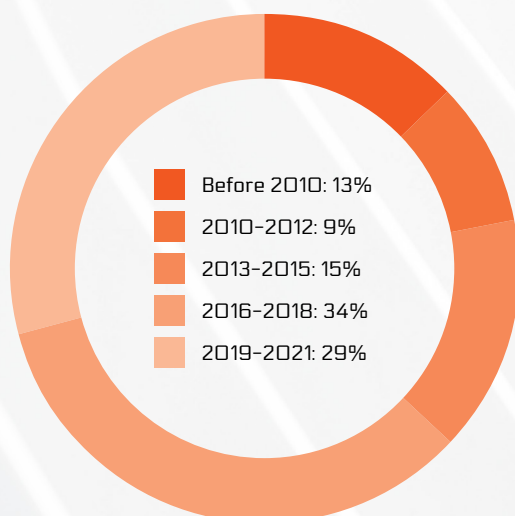
Note: Some companies are included in more than one category

Startups based on subcategories

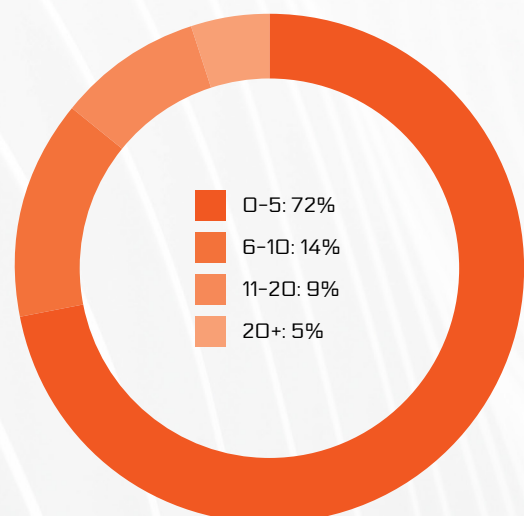


A young industry:

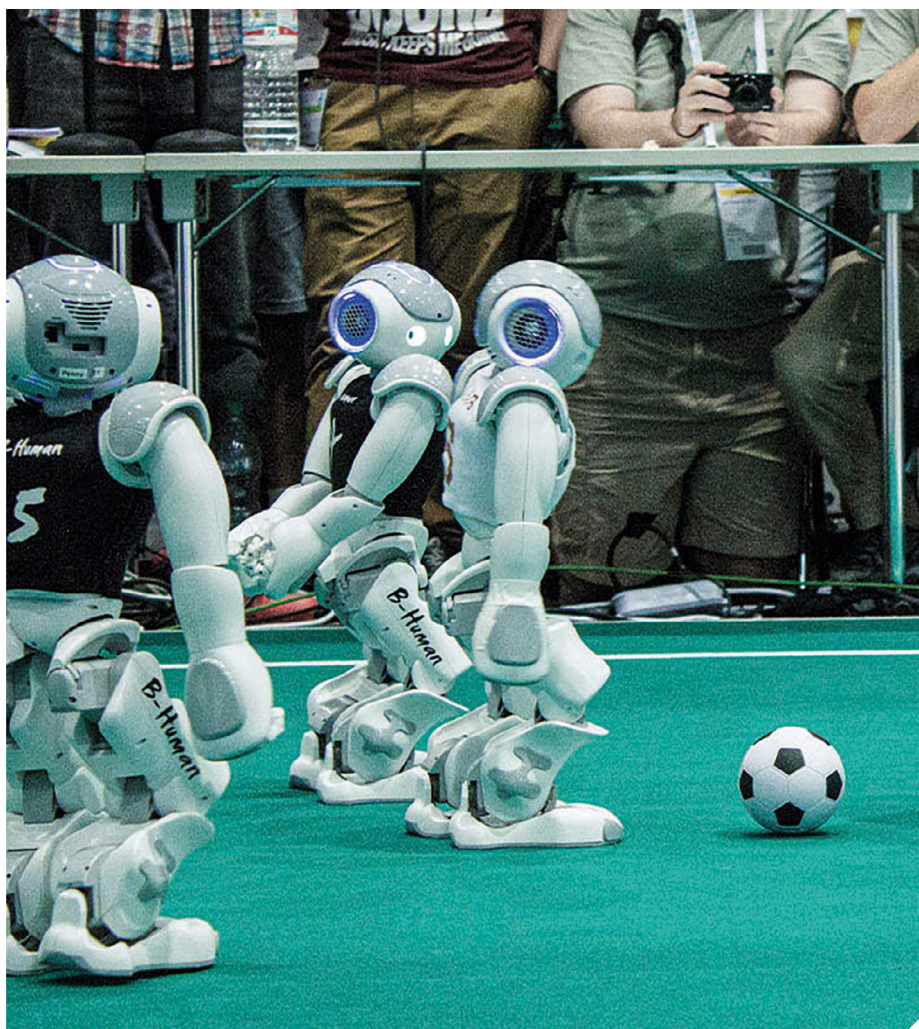
Year of establishment



Number of employees



Danish sports tech has global leaders – and the potential for many more



A number of successful companies have already put Denmark on the sports tech map, and with a greater investment in the industry, the future looks bright, says the DIF Innovation Lab.

The Danish companies Trackman and VEO have in common that they focus on sports – and have managed to become global leaders in their field.

Both have been around for a number of years and are now well-established companies. But in recent years, they have been joined by a host of new start-up peers in sports technology.

»When we started the DIF Innovation

Lab in 2017, hardly anyone had heard of the term sportstech. That's not to say there weren't companies working with sport and technology, but over the past five years I've seen an explosion of development. This applies to both the established companies, such as Select, which has seized the development of building a chip into the ball. But we're seeing even greater growth in the number of startups developing new tech solutions for sport. And with that have come burgeoning investor communities,« says Anne Mette Trier of the DIF Innovation Lab.

The experience in the innovation lab is supported by an Iris analysis that shows

massive growth in Danish sports tech. And with a sports tech industry characterised by many small and start-up companies, the future looks bright.

A broad sector in a good position

Internationally, too, sports tech is booming, with annual growth of 13 per cent expected by 2027, or \$33 billion.

The breadth of the industry is evident in the Danish ecosystem, which already covers a wide range of solutions such as heart rate monitors for runners, underwater cameras for swimmers, VR goggles for tactical training, management systems for clubs, fan platforms and 3D printed soles for athletes. A breadth that creates value for both subcontractors and, in particular, the established sports industry, which, through collaboration with sports tech companies, innovates and develops new commercial products.

Anne Mette Trier points out that the budding success is due to the fact that Denmark has a number of fundamental strengths that provide the industry with a good basis for further growth.

»We are a small country – but we already have a strong position in sports tech, and we need to use that to get an even bigger slice of a growing international market. In sports tech, Denmark is already in the top 10 in Europe, and Copenhagen is number 5 in sports tech entrepreneurship. That's an insanely strong starting point. We are well organised in the world of sport with federations and associations. We have good conditions for entrepreneurship, and we have a solid design tradition, which provides a good starting point for developing successful new products,« she says.

The DIF Innovation Lab is also preparing the next step: To establish the largest innovation hub for sports tech in the Nordic region, which can further position the Danish ecosystem on the international market. ■

 Sponsored: This article is published in collaboration with **ZOLES**



▲ Zoles work with well-known elite athletes to perfect the performance of their insoles.

Technology reduces sports injuries – and not just for elite athletes

Danish startup ZOLES uses new technology to make customised sports insoles, which prevent sports injuries whatever the user's age, level or sporting activity.



Cecilie Lisberg
Co-founder and
CEO at ZOLES

A 3D-scan precisely measures your feet. Some nifty algorithms process the scanned data. The system then automatically designs the insoles so that they are a perfect fit for your sporting activity, e.g. badminton or cycling. Finally, the insoles are 3D printed, perfect for your needs and feet.

Excellent insoles are not only comfortable when running or walking, they actually prevent injuries. By using state-of-the-art technologies, Danish start-up ZOLES takes insoles to a whole new level and at a price most of us can afford.

»Some of our customers have experienced injuries already, and we help to ensure it doesn't happen again. But ideally, we want people to avoid becoming injured in the first place – staying active is difficult if you get sore knees every time you do

sport. In collaboration with universities and doctors, we have learned that a great many injuries in the legs and joints could be avoided if people just wore the correct insoles,« said Cecilie Lisberg, co-founder and CEO at ZOLES.

Developed with help from elite athletes – for the benefit of everyone

Customised insoles is not a new practice in the sporting world. But until now it has been cobbler-style, manual cut-and-glue work using standard insoles to begin with. ZOLES has revolutionised the method, by using 3D printed insoles that have the perfect shape for individual feet down to the last millimetre.

»We are the only people developing insoles who use technology from start to finish. We have the most advanced biomechanical AI (editor's note: artificial intelligence) to do this across different sporting activities, so the insoles provide the support that is required for the specific sport,« explained Lisberg.

The insoles are not only made for the individual person, but also for the individual sporting activity. The company has collaborated with a number of prominent

athletes in order to train the algorithms correctly – badminton insoles are developed in collaboration with the YONEX Peter Gade Academy, handball insoles with Daniel Svensson and AJAX København handball club, and football insoles with a number of Danish top-level league (Superliga) football clubs.

»We have used elite athletes to develop insoles for the benefit of everyone else doing sports. We do it this way for two reasons: for branding purposes and for testing insoles in the environments that really matter. Because if the insoles are great for elite footballers, then they are also great for Joe Bloggs down the road who plays in his local club every Tuesday and Thursday,« said Lisberg.

More focus on insoles

Customised insoles are still a relatively specialised product, but the ZOLES co-founder expects that in just a few short years we will see a shift where more and more people discover what a good insole can do for them when doing sports.

»All of us are getting older and older. We want to stay active for as long as possible and we can do this if we take care of our bodies. So it makes sense that we already use aids in our 20s if we want to do sport when we're 70,« said Lisberg. ■

ZOLES' new software

The startup company has developed three types of software which are necessary for providing customers with customised insoles in an effective way.

- **Zola:** A chatbot that interviews the customer. It covers demographic information, any current physical irritations and what kind of environment the insole will be used in. The data is then compared with the 3D scan and all of the biomechanical data is used to make the »diagnosis«.
- **Ortho:** Biomechanical algorithms take the biomechanical data and calculate where the insole shall provide the most optimal function for a given sport.
- **Inco:** Designs the 3D model based on the input from the two other systems, so that the insole is ready for 3D printing. All done in under one second.

A rapidly changing industry:

Today, sports professionals must also deal with technology and entrepreneurship



Lars Elbæk
Associate Professor
at the Department
of Sports Science
and Clinical
Biomechanics at
SDU

A sports education can lead to a lot more than a job as a high school sports teacher or sports association consultant. The industry is undergoing rapid change, which can lead to new competencies – and the University of Southern Denmark (SDU) has found the recipe for meeting demand.

A university degree in sports is the ideal education for sports lovers. And with the sports industry undergoing rapid development in recent years, completely new career paths are opening up. It is a development that is based on technology and entrepreneurship and SDU already began to offer its »Sports, innovation and Entrepreneurship« sports degree nine years ago.

»I want to help educate for the future labour market in sports, and the market is changing as the industry grows, becomes

more private and business-driven,« explains Lars Elbæk, Associate Professor at the Department of Sports Science and Clinical Biomechanics at SDU.

Students still receive the traditional education in sports, but at the same time, they learn to put it in the context of the new and growing part of the sports market which is desperately in need of qualified professionals.

»We need to educate students with a different mindset; their education doesn't have to point toward a job as a high school sports teacher or consultant for a sports organisation. It's about establishing a mindset in students that is experimental and proactive, where they learn quickly through feedback from customers and use the resources at hand,« says Elbæk.

A bridge to the sports industry

Sports education's closest partners have always been sports organisations and associations. However, with a rapidly evolving private industry, the sector is changing towards a more market-oriented and technology-driven approach.

To get closer to the changes, the universities have started to work closely with the private sector – much as they do in engineering and business education pro-

grammes. For example, right now a project between SDU, Aalborg University, the University of Copenhagen and Sports Lab Copenhagen is underway, financed by The Foundation for Entrepreneurship, aiming to build bridges to the private sector:

»Our position is that the sports industry is a unique context and must be included in the sports-cultural self-perception. This means we have to make more specific bridging models, so that students gain a more specific industry understanding – regardless of whether they intend to establish a startup or work in the industry,« says Elbæk.

It means in practice that students get other types of courses during their education programme, that the programme is aligned with the university's startup environment and lastly, it is linked to the external sports industry's ecosystem.

»They must learn to focus on the customer or end user. It is not the most natural thing in our environment, where traditionally the coach knows best. But when it succeeds, it makes a huge difference, and it is helping to form the framework for the establishment of entrepreneurial ambitions among students,« says Elbæk. ■

Sport, Innovation and Entrepreneurship

- The Sports, Innovation and Entrepreneurship programme at SDU has existed for nine years. Students are taught traditional sports, such as dancing and ball sports – but they also learn about the UN's Sustainable Development Goals, digital design and marketing.
- The programme has led to 40 company projects, of which three are viable businesses today. Together they have received investments of over DKK 5.5 million.

Food & Bio by the numbers



The Danish agriculture and food sector employs

188.000

people in Denmark



The sector exported its goods to

208

countries in 2022

Export:



Food & Bio Cluster Denmark has

360+

members spanning from young startups to industry giants.



The cluster facilitates collaboration between innovative entrepreneurs and well established corporates - an effort including

450

Danish and International project partners

All chefs report to the kitchen:

In the fight against climate change, food plays a leading role

Meat, eggs, avocado. Many foods impact the climate negatively, and if we are to combat global warming in the future, it will require innovation regarding what we eat and how we produce it.

By Erik Lillelund



▲ Science Brew is a circular food consortium behind a patented technology that minimizes raw material consumption by reusing the by-products for new types of food.

It generates almost 40 million tons of residual product mash annually, when students at the Technical University of Denmark (DTU) consume conventional beers throughout the year.

But a DTU-startup has set out to change that. Science Brew is a circular food consortium behind a patented technology that minimizes raw material consumption by reusing the by-products for new types of food. The goal is to change the

global imprint of beer production.

»With our approach, we make 'zero waste beer' through a circular process, where we recycle the waste products associated with making beer. After brewing a batch of beer, most breweries are left with large amounts of the residual product mash, which contains protein, sugar and antioxidants. We run it through a patented filter press developed at DTU, which divides it into a liquid and a dry

matter part, which we use to make various snacks – such as our Beer tapenade or our 'Beerchos',« says Anca Elena Onciu, who is a co-founder of Science Brew.

»For us, it's both about the unique taste and about the story behind it. We work so experimentally that each beer can vary. I think that appeals to people who increasingly appreciate that the products are natural and sustainably produced,« Anca Elena Onciu says. ▶



▲ Hey Planet produces climate-friendly snacks, protein bars, crispbread and meat alternatives – all made from beetles and insects.

► Coke, fries and an insect burger, please

In the future, we will have to get used to eating insects, according to the foodtech startup Hey Planet founded in 2016 by insect researcher Malena Sigurgeirsdottir and social entrepreneur Jessica Buhl-Nielsen.

The company produces climate-friendly snacks, protein bars, crispbread and meat alternatives – all made from beetles and insects.

»Insects are an absolutely fantastic food that we do not use enough. It is extremely nutritious, high in vitamin B12, iron, calcium, protein – generally many nutrients that we get from animal sources today. In addition, they are very sustainable to produce. They emit about 100 times less CO₂ than meat from cattle and are on an equal footing nutritionally. The UN has named them among the world's most sustainable foods,« Jessica Buhl-Nielsen says.

It takes 20 kilos of feed to produce one kilo of beef. With insects, the ratio is 1:1. A no-brainer in terms of the climate.

»The insect we use the most are buffalo beetles. We get them from farms in the Netherlands, where they are raised vertically in a kind of shelf system, so they take up as little area as possible. Here, they are fed with the residual prod-

uct mask, so it is a very climate-friendly and circular production,« says the Hey Planet founder.

The fruit no one wanted

On a trip to Tanzania, Marianne Dujim from the Technical University of Denmark (DTU) experienced a huge waste in the cashew nut value chain. Farmers would not use it. So, she set out to make sustainable

caramels out of the cashew fruit that usually stands in the shadow of the nut.

The nut that grows on the outside of the fruit makes up only five percent of the total crop and every year about 16 million tons of cashews are wasted on the African continent alone, where on average 40 percent of fruit and vegetable crops on or around farms never reach the consumer.

»In many places in Africa, farmers just dispose of the fruit, throw it on the ground and let it rot. Therefore, I started thinking about how to use all that fruit in a better way. Because it simply could not be right that this just went to waste,« says Marianne Duijm, founder of Casju.

The cashew apple has an astringent, slightly sour and sweet taste. And after several experiments in the kitchen, Marianne decided to make caramels out of a paste from the fruit. A successful crowdfunding campaign later, Casju was established.

»Most people are surprised when they see the fruit – and especially the size ratio between the fruit and the nut. So for me, it's about creating an understanding of the food, which does not just land by itself, ready to eat on a plate. To tell the story of all the stages that precede the final product that we put in our mouths,« says the Casju founder. ■



▲ On a trip to Tanzania, Marianne Dujim from the Technical University of Denmark (DTU) experienced a huge waste in the cashew nut value chain.



Food & Bio startups to watch



Plant-based cheese with dairy ingredients

PlanetDairy | Founded 2022

PlanetDairy wants to create a new paradigm and benchmark for tasty, healthy and sustainable dairy. Not by making a completely plant-based alternative, but by blending natural ingredients from dairy and plants.

Starting with cheese, the startup wants to deliver stepping-stones for sustainable, ever-improving solutions that speak to the many. With no compromise on taste and nutrition, and a plan to eventually become animal free - as a mission, but not as a religion.



Making the textile industry circular

Textile Change | Founded 2020

The demand for textile and fibers is only increasing, but fashion and fiber production is causing massive-scale pollution; less than 1% of material used for clothing production is recycled into new clothes.

Textile Change aims to guide the textile industry into a more sustainable future. The startup is developing a technology that turns textile waste into raw material for fiber production.



Leather made by apple waste

Beyond Leather Materials | Founded 2017

Beyond Leather is the B2B supplier of Leap - a sustainable leather alternative made from leftover apples. The startup upcycles apple waste from the juice and cider industry to create Leap with an 85% bio-based composition and with focus on recyclability by design.

Thanks to its energy-efficient production, Leap can be produced in only one day using 99% less water and emitting 85% less CO2 than traditional leather production, without the use of animals.



Meat from mushrooms

Tempty Foods | Founded 2021

Tempty Foods is a food startup founded in a university course at DTU during quarantine in February 2021 - with a vision to make as much impact as possible. The startup is to bring tasty, healthy, and sustainable protein-rich food products based on mycelium (roots of the mushroom) to market.

Preliminary LCA estimates estimate their food alternative to emit 40 times less CO2 than minced beef and 2x less CO2 than tofu. And the company has already won DTU Skylab Ignite, the Danish & European food Innovation competition Ecotrophelia, and the Student Startup of the Year 2022 at DTU.

Triggers by Credewire

Credewire

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Company

Yes, please.



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