Denmark: A global role model

The Nordic country comes out of the pandemic with a stronger economy and as a leader of the digital and green transitions

The Danish economy overcame COVID-19 at a remarkable pace. It returned to its pre-pandemic level in spring 2021 and expanded by a total of 3.9 percent that year, according to Ministry of Finance forecasts.

It’s a scale of growth that the small nation hasn’t surpassed in over two decades, says Nicolai Wammen, Minister for Finance. “Our economy is very strong at the moment: we weren’t hit as hard as many other countries, but we’ve also rebounded faster than most. If anyone had said to me a year and a half ago that we would be in this situation, I’d have said let’s get back to planet Earth because, at the time, we dared not dream that we could be.”

As soon as the pandemic hit, the government started catalyzing this extraordinary recovery by implementing substantial health and economic measures to support businesses and citizens. It was able to take on the financial burden of these due to Denmark’s status as a triple-A-rated country with a robust banking system and one of the lowest ratios of debt to gross domestic product in the European Union. Another contributor was its productive industries, which kept running throughout the crisis. “When the world economy was gaining speed again, that meant our companies had their employees at work, ready to take the opportunities that came their way,” comments Wammen. “The biggest challenge we face now is if we get too much speed on the economy and it overheats, so we’re lifting our foot of the accelerator to deliver long-lasting growth for the economy.”

The minister, like most Danes you talk to, is convinced that a key weapon in the country’s battle against COVID was its unique socio-economic model rooted in trust, openness and collaboration. As David Briggs, CEO of the roof-window specialist VELUX Group, puts it: “There’s a real spirit of partnership between the government, corporate sector, workforce and general public. There’s no conflict, rather there’s an expectation that we ultimately have similar goals and can only achieve them working together, which enables us to go much further much faster than others in addressing challenges.” This spirit was demonstrated by Denmark’s extensive pharmaceutical and biotech ecosystem during the pandemic, says Anne-Marie Levy Rasmussen, CEO of the state-owned Innovation Fund Denmark. “An innovative force swept through the country as our researchers, companies and public sector came together. Everyone here always leans in to play their part in developing a shared solution.”

This approach to solving challenges collectively and with innovation has helped the country become a worldwide force not just in life sciences, but in a wide range of sectors, including wind energy and other green technologies, fintech, food ingredients and shipping, believes Brian Mikkelsen, CEO of the chamber of commerce Dansk Erhverv. “The simple answer behind the success of all our growing industries boils down to public-private partnerships.”

It has also given the country a huge head start in the two biggest global issues for the post-pandemic era: it’s one of the most digitalized countries in the world and it’s been ahead of the curve in the green transition for decades. “Denmark has shown it’s possible to reduce carbon emissions while still having economic growth and creating jobs. For businesses here, and for the political system, sustainability is a prerequisite for prosperity,” Mikkelsen says. Wammen agrees: “My job is to balance the budget and make sure we have growth, it’s also to do that in a responsible way when it comes to the climate and green transformation. We’re currently working on a green economic model, where we’re becoming much better at estimating what green initiatives mean for the economy and vice versa. Denmark has been used as an example of how to do this within the global Coalition of Finance Ministers for Climate Action.”

Mikkelsen highlights one challenge for the economy at the domestic level: “Denmark is an extremely good, stable place to do business, but right now there is a shortage of labor in almost all industries.” The Danish unemployment rate is currently at its lowest level in 12 years, Wammen explains. “Because the economy is moving so fast and there’s a great sense of optimism, companies have all been hiring at the same time. We also see that, on a more structural level, we’ll need more hands The good news is that we’ve taken steps and agreed initiatives that will make it easier for companies to hire the people they need and we’re also looking internationally to attract more people to Denmark.”

As the country puts the pandemic behind it, the minister reveals his new priorities: “In order to put Denmark in an even stronger position 5-10 years from now, I want to make sure we undertake reforms to make Denmark richer, greener and wiser, and that we invest further in the green and digital transitions.”
The Royal Danish Playhouse at Copenhagen's Inner-city harbor

Nikolaj Kosakewitsch, President, Nasdaq Copenhagen

The Danish model: Transparency, trust and balance
Anne Hougaard, Director, Invest in Denmark

As the country’s investment promotion agency, Invest in Denmark advises international investors and facilitates their investments. What are some of the country's unique advantages that make it a successful destination for foreign direct investment (FDI)?

The broad answer has to do with overall concepts such as transparency, trust and balance. To borrow a phrase from a former French ambassador, “Denmark is the country of balance.” It’s a country built on a high level of social trust and this pours over into our labor market: we have one of the world’s most flexible labor market regulations that is based on a transparent and trusting paradigm between employers and unions. In short, you can hire and fire more easily than you can in comparable European Union (EU) countries.

The World Bank ranks Denmark first for ease of doing business, and we have a digital and transparent system for establishing and running a business. We have a long tradition in public-private partnerships as well, and you see many examples of companies, local and national authorities working closely in tailor-made partnerships. We are also well in education, skills, and had the fifth-largest spend on research and development (R&D) in the EU in 2020. Additionally, we have a world-renowned work-life balance: there is a lot of creative people here that want not just a career but also a life in livable cities, which Denmark offers—in Transparency International’s survey for the first time, the state will be paid for the authorization to build an offshore wind farm, which demonstrates the competitive prices and capacity to create a green energy that is already there.

Regarding life sciences, clinical trials is one area where Denmark has something unique to offer and the government has also created framework conditions enabling companies to produce cannabis for medical purposes, which has attracted a lot of investments. A third example is the result of Denmark being very digitized, as we have comprehensive patient data that makes it attractive for testing medical and digital health solutions.

What is Invest in Denmark’s strategy for attracting investments? We have an extensive presence in Europe, Asia and North America, where we operate in New York, Silicon Valley and Tokyo. The U.S. currently accounts for 25 percent of our inward investment flows. Life sciences and green tech are important sectors for those investments as the U.S. has a lot of innovative companies providing digital solutions that are looking to Denmark because of the framework conditions we offer. FDI stock in Denmark has been relatively robust in recent years: before 2019, stock increased by around 10 percent a year on average, although from 2020 to 2021 we saw only a 4 percent increase. However, it’s important to note that many are in their infancy and you shouldn’t expect all newly listed companies to be the next Facebook, which is why we spend a lot of time explaining that it’s a riskier segment to invest in.

We have a strong opinion about the green transition and how Nasdaq can help.

Nikolaj Kosakewitsch, President, Nasdaq Copenhagen

Major contributors to its investor-base growth are the high level of digitalization and financial literacy in Denmark, with most of the population doing their banking, personal financing, taxes and shopping online. Equity culture is also flourishing in a country driven by innovation and entrepreneurship, he states. "The pipeline of companies on our growth market looks very strong. These aren’t startups that want to sell for a quick dollar—they are founded by like-minded, passionate about their businesses and want to drive them for the long run. However, it’s important to note that many are in their infancy and you shouldn’t expect all newly listed companies to be the next Facebook, which is why we spend a lot of time explaining that it’s a riskier segment to invest in."

Best known as an exchange operator, Nasdaq support the worldwide financial sector extends much further to include listings, trading, market data investment intelligence and technology that powers over 90 marketplaces. "Our technology business is growing a lot. We supply global capital markets with infrastructure and are focused on investing in anti-financial crime technology as well. Last year, we acquired Canada based Verifin, which is world class in this area. This is where customers are looking to us for support and that is where we are going to give it," asserts Kosakewitsch. Nasdaq is also targeting technology toward environmental, social and governance (ESG) issues. Recently launched services include an ESG Data Portal that offers standardized ESG and financial metrics for companies listed with its Nordic exchanges, the Nasdaq ESG Footprint platform, which allows investors to rate the sustainability of their portfolios; and the Europe-wide Nasdaq Sustainable Bond Network that gives insights into thousands of global bonds.

"There are many and challenges to the companies that are thinking about sustainability. We will certainly continue to roll out ESG offerings in Copenhagen.”

Anne Hougaard, Director, Invest in Denmark

"Denmark is among the most digitized countries in the world and ranks first in the EU’s Digital Economy and Society Index.”

The Danish economy is estimated to have grown by 3.9 percent in 2021. What factors and sectors lie behind its resilient performance? The most significant element driving our growth is that Denmark is among the most digitalized countries in the world and ranks first in the EU’s Digital Economy and Society Index. Because we are highly digitalized, we are well positioned to withstand shocks. In a health crisis, Denmark also has an advantage because we have very robust healthcare and life science industries. For example, we are home to some of the largest pharmaceutical companies and have one of the strongest R&D environments for medical, pharmaceutical, biotech and healthcare. In addition, Denmark is ahead of the curve in many aspects of the green transition.

What are the most attractive investment opportunities in Denmark today?

Anne Hougaard, Director, Invest in Denmark

The obvious opportunity would be in green solutions and technology. Our government has the ambitious goal of reducing our carbon dioxide emissions by 70 percent by 2030. As a result, Denmark has the regulatory framework to test, develop and scale green solutions. We also have strong offshore wind investments and a strong industry that is interconnected to the rest of Europe. We’ve been successful in attracting investments in power-to-X, for example, because we have cheap green power and connections to Germany, which has adopted a strategy to use green hydrogen. This makes Denmark an interesting place to invest in areas like hydrogen, as well as carbon capture and utilization. In a historic moment, Germany’s RWE recently won a concession to build Denmark’s largest wind farm to date. For the first time, the state will be paid for the authorization to build an offshore wind farm, which demonstrates the competitive prices and capacity to create a green energy that is already there.

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“Denmark has been at the center of a wide range of major scientific and technological breakthroughs. The root cause of this is that we have excellent researchers and universities, plus skilled experts in industry who translate their research into commercially viable global solutions,” states Anne-Marie Levy Rasmussen, CEO of Innovation Fund Denmark (IFD).

Since 2014, public agency IFD has been a major cornerstone of the nation’s research and development success, the likes of “we invest in entrepreneurs, researchers and businesses, providing them with risk-willing, soft funding to develop workable solutions to pressing challenges, primarily the green transition, health, and the adaptation and use of new technologies.” According to its CEO, a key strength of IFD is the breadth of its initiatives. “It’s a one-stop shop for innovation. For example, we have programs that target high-risk entrepreneurs, small and medium-sized firms and large partnerships. We have the full toolbox if you want to join a European Union (EU) research program, partner with international companies or universities, or get investment to spin-out your business, it can all be done with IFD.”

The agency facilitates collaborations within the Danish innovation and research ecosystem to unlock its full potential, the adds. “We want to use our programs and knowledge to ensure that the most competitive innovation part-nerships are funded and that we also fully realize the capabilities of the thriving startup scene. To date, we have financed almost 2,000 startups, which we can help on every step of their journeys.”

As one of the world’s most digital societies, Denmark’s advanced use of technology, data, analytics and digitalization helps radically with its creation of innovative solutions. Rasmussen highlights an impressive energy sector that includes renewable specialists Orsted and Vestas to illustrate this: “With IFD as an investor, Vestas in collaboration with our universities has achieved wind-power breakthroughs and commercialized them at scale. Another area to spotlight is agriculture and sustainable food, where we have companies like Chr. Hansen, the food-ingredient developer.” A further innovative stronghold is a vibrant life-science ecosystem that includes companies from pharma giants to high-tech startups, and Denmark’s long-term investment in health research paid off during the pandemic, she says. “We felt a responsibility to support society to get through it. We put out a call that resulted in the biggest number of applications we’ve ever received—the whole community mobilized around the challenge.”

Among other solutions, this initiative led directly to a COVID-19 vaccine, which emerged from a IFD-funded University of Copenhagen research group and is now being developed by biotech firm Bavarian Nordic.

“Digital tools ranging from apps and meeting platforms to robots are one of the most important reasons why Denmark managed the pandemic better than most,” believes Lars Sandal Sorensen, CEO of the Confederation of Danish Industry, the country’s largest trade body.

The nation adapted to these tools seamlessly, as expected from such a highly digitalized country—but November, it was crowned champion in the European Union’s Digital Economy and Society Index (DESI), which has four benchmarks: human capital, connectivity, integration of technology and public services. “When it comes to public digitalization, we’re probably the best in the world. All information gets through digital communication,” says Brian Mikkelsen, CEO of the chamber of commerce Dansk Erhverv. Denmark continues to push digital boundaries forward, he states. "We're focused on how to leverage the possibilities of technology in all industries and speed up the digitalisation of society. For instance, government minister [Mikkelsen] is the head of our largest companies and other bodies, which including myself, formed the Digitalisation Partnership last year to design new policies and guidelines in this area.” In October, the partnership presented a 46-point digital roadmap of legislative tools and other measures that aim to take the country to the next level in digitalization in order to, among other things, foster sustainable economic growth and the green transition.

Denmark is able to advance digitally because it has the best connectivity in the European Union, according to the latest DESI report. A key contributor to that is TDC NET, the country’s largest telecoms infrastructure provider, which invests $600-$750 million every year in its high-speed networks. Denmark was the first mover into 5G within Scandinavia, CEO Henrik Clausen reveals. “In 2020, we swapped our mobile network to 5G. It’s been an extremely fast transition and the new network has proved very reliable.”

“The Danish recipe for scientific innovation

Investment in research and public-private partnerships has nurtured a community that acts quickly to address societal challenges.”

Anne-Marie Levy Rasmussen, CEO, Innovation Fund Denmark.
An ideal test bed for financial technology

Thomas Krogh Jensen, CEO, Copenhagen Fintech, introduces a thriving hub for innovators in finance

Copenhagen Fintech is a not-for-profit organization that has been central to the development of an entrepreneurial Danish fintech sector that now includes over 300 companies. Why is this cluster growing so rapidly?

Despite its small size, Denmark has a powerful fintech ecosystem. One reason is that it is highly digitized in terms of infrastructure and the financial services sector is driving a lot of that. For example, the national ID system is highly digitized in terms of infrastructure and the financial services sector is driving a lot of that. For example, the national ID system includes over 300 companies. Why is this cluster growing so rapidly?

Another element that has driven our fintech industry is our interest in the development of an entrepreneurial Danish fintech sector that now includes over 300 companies. Why is this cluster growing so rapidly?

Our companies have a number of solutions that help people to invest more in sustainability. A lot of them concern the foundations for doing that, such as data for screening companies and their whole supply chain in order to make informed decisions about which to fund and invest in. Another focus is cybersecurity, as the financial sector is one of the most data-rich industries and this data is highly sensitive.

What are some of the current stars in Denmark’s fintech sector? One could mention Lunar, a unicorn challenger bank created in Denmark, which targets private customers and SMEs. Another is Public, one of the biggest competitors to investment app Robinhood in the U.S., which has a Danish co-founder. Public offers a social network where you can own fractional shares of stocks and exchange traded funds, follow others and share ideas inside a community of investors. It’s building much of its tech out of Denmark—there’s a high degree of trust in Danish-built tech solutions. Interestingly, many of the unicorns and larger fintech companies coming out of Denmark are business-to-business focused and a good illustration is Pleo, which is helping SMEs to manage their spending. A noteworthy example in the blockchain space is Chainalysis, one of the first residents of the Copenhagen Fintech Lab, that is helping to create transparency in the crypto economy.

The innovative data platform that Chainalysis has developed is able to analyse billions of transactions in thousands of cryptocurrencies quickly in order to identify transaction patterns and illicit behavior, a process that was extremely hard or even impossible before the company launched in 2014. This means that its clients are now able to fully understand exactly how people are using cryptocurrencies. As a result, Chainalysis has grown to become a leading software provider for financial institutions, government agencies and businesses around the world that want to detect or prevent cryptocurrency crime and money laundering, and its platform has already been used to help solve a number of very high-profile criminal cases. The company now employs close to 500 staff, was valued at $4.2 billion last summer and has the backing of global investors like Accel and Benchmark.

Pleo, on the other hand, has devised an out-of-the-box digital business solution that combines smart payment cards for staff of SMEs with automated expense management and reporting, saving firms both time and money. Headquartered in Copenhagen where it was founded in 2015, today Pleos system has been adopted by over 20,000 companies in six European countries, a number that is tripling by 1,000 a month. In December 2021, Pleo successfully completed a $350-million Series C funding round and saw its valuation shoot up from $1.7 billion to $4.7 billion, making it one of Europe’s most valuable fintech startups and the fastest-growing company in terms of value in Denmark. The firm intends to use the new funding to help implement its ambitious plans for growth, which include expanding into another 14 European markets within the next 18 months and having a million users by 2025.

How is Danish fintech contributing to the global drive for sustainability?

People tend to only discuss the E in environmental, social and governance (ESG). Of course that is very important, but from a Danish tradition, the S and G are just as crucial and our fintechs are looking to be very specific about the positive impact their solutions have for their customers and the world.

Overall, the single biggest decision you can make to create a more sustainable world is to change your investments toward more sustainable industries than to take any other action, such as flying or driving less or eating less meat.

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Denmark's life sciences sector is among the most advanced in the world. The country is a major player in areas such as diabetes, inflammatory and infectious diseases, plus cancer and central nervous system research. It’s also home to one of Europe’s biggest pharmaceutical and biotechnology clusters that includes pharma multinationals, around 300 biotech firms, 138 medtech companies and many other businesses.

"The sector accounts for 22 percent of Denmark’s exports, worth around $21 billion. If we continue to foster this ecosystem, that could exceed $55 billion by 2026," says Kasper Badker Mejlvang, general manager of Novo Nordisk, the healthcare giant that was founded in Denmark in 1923, which specializes in the treatment of chronic problems like diabetes, obesity, rare blood and endocrine disease.

"The company is linked to the discovery of insulin in Canada, after which the Danish Nobel Prize winner August Krogh and his wife obtained the right to manufacture and commercialize insulin in Scandinavia. We've been one of the leading companies in the fight against diabetes for almost 100 years," he explains. Still headquartered in Denmark, where about 39 percent of its 45,000-strong workforce is located, Novo Nordisk products are used by over 32 million people in 169 countries and it has about a 30 percent share of the global diabetes market.

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Denmark is one of the world’s most research-intensive countries and Novo Nordisk is a big part of that tradition. "We've made many innovations, including new types of insulins and glucagon-like peptide-1 (GLP-1) agonists that better enable people to stay in control of their diabetes. A recent innovation was our production of a GLP-1: a tablet. Historically, they have only been available as an injection and no other company has found a way to put these large molecules into tablets. There's still a lot to do in molecular innovation for diabetes; for instance, we're researching once-weekly treatments and glucagon-sensitive insulin," he reveals. Novo Nordisk also transformed insulin delivery systems. Badker Mejlvang adds, "We were the first to find easier ways to put these large molecules into tablets. There's still a lot to do in molecular innovation for diabetes; for instance, we're researching once-weekly treatments and glucagon-sensitive insulin."

"I see Denmark being a lighthouse for innovation for Europe and for other countries." Darine Ghaneem, General Manager, Roche Pharmaceuticals

Innovation led by data-driven, personalized healthcare

A crucial factor behind the sector’s growth is a government that is prioritizing its development, says Darine Ghaneem, general manager of Roche Pharmaceuticals. "It’s recently invested over $40 million to create better framework conditions, foster collaboration between universities, startups and enterprises, attract foreign investments and talent, and support exports." Ranked as the largest pharmaceutical company in the world in 2020 in terms of sales, Roche celebrated its 50th anniversary in the country last year. "In 2019, Roche Denmark contributed $240 million to the Danish economy and supported 2,800 jobs. For every dollar that is spent through our guided contribution, we generated an additional 3.4 dollars in the economy," notes Ghaneem. "What’s unique about Roche Denmark within the global giants’ organization is that it covers the entire value chain through three divisions: Roche Pharmaceuticals, Roche Diagnostics and Roche Innovation Centre Copenhagen. Together, they are tasked with developing new solutions to address unmet medical needs and bring that innovation to the Danish healthcare sector and society. "Roche Pharmaceuticals, for instance, is looking at treatments for our patients who have severe and life-threatening diseases such as rheumatoid arthritis, multiple sclerosis and cancer. Between 2017 and 2021, we introduced more than 15 new innovative treatments."}

"I see Denmark being a lighthouse for innovation for Europe and for other countries." Darine Ghaneem, General Manager, Roche Pharmaceuticals

Roche’s Danish workforce has grown 23 percent in recent years.

"Our focus is to solve these challenges innovatively. "Among other things, PPPs are robust here, the different stakeholders know each other, there’s a general culture of trust and the food chain from university research to biotech startups and big pharma works."

"I’ve long held the view that Denmark is an ideal environment to advance an area close to our heart: personalized healthcare. "We can no longer take isolated approaches to diagnostics and treatments. We need a more personalized approach, understanding the type of data that is essential for us to understand diseases, to better diagnose patients, to give them the right treatment at the right time at the right time. We’re seeing that shift in Roche’s strategy toward patient-journey and disease-lens approaches." Ghaneem is convinced that an essential part of this strategy is PPPs and that the government, industry and healthcare sector in Denmark are creating the optimum conditions for these partnerships. "We have a unique opportunity here to drive more personalized and sustainable healthcare. Denmark is so advanced and rich in healthcare data and digitalization, it’s important to discover how to release the power of that data to better inform health decisions and accelerate innovation. This is something that we’ve been researching here in Denmark and we’re working closely on it with the different life science stakeholders."

"Moreover, our focus is on business model innovation. "These models include a new business model for Roche Innovation Centre Copenhagen (RICC), which was founded after the acquisition of Santsa Pharmaceuticals in 2014, to explain. "We’re extremely proud of RICC, which has its roots in a Danish biotech. It focuses on ribonucleic acid (RNA) novel medicines and technologies and has become an essential part of our R&D strategy worldwide. It provides the possibility of running our phase one, two and three clinical trials across oncology and all the new therapeutic areas we’re advancing medicine and accelerating learning," she declares.

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"Moreover, our focus is on business model innovation. "These models include a new business model for Roche Innovation Centre Copenhagen (RICC), which was founded after the acquisition of Santsa Pharmaceuticals in 2014, to explain. "We’re extremely proud of RICC, which has its roots in a Danish biotech. It focuses on ribonucleic acid (RNA) novel medicines and technologies and has become an essential part of our R&D strategy worldwide. It provides the possibility of running our phase one, two and three clinical trials across oncology and all the new therapeutic areas we’re advancing medicine and accelerating learning," she declares.
Bang & Olufsen: beautiful products incased in timeless designs

The iconic brand was launched almost a century ago by two engineers, Peter Bang and Svend Olufsen, in the coastal town of Struer where it’s still based. “The fact we’ve survived so long comes down to great people, great products and a passion for what we do. We’ve always tried to do things differently, rethinking how people use audio-visual products and experiences. We’ve been designing the future since 1925,” Tær claims. The firm’s creations, including audio products and systems, headphones, speakers and televisions, are developed by designers and engineers in collaboration, he states.

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There’s a culture and tradition in Denmark of making beautiful things. “There’s a culture and tradition in Denmark of making beautiful things. Over the six years leading up to the pandemic, the number of visitors attracted to Denmark grew by 25 percent, with tourism contributing 4.2 percent of the country’s economy in 2019. Now travel is back on the agenda, advance bookings suggest it’s the vacation destination of choice for many of us in 2022. Boating over 400 islands, one huge draw is Denmark’s stunningly varied natural environment, says Jan Olsen, CEO of tourism promotion agency VisitDenmark. “Our coastline is 7,200 kilometers long and dotted with small villages, cottages and holiday homes. There’s a lot of space to relax in your own family bubble, but even if you opt to stay in a city, you’re never more than 52 kilometers from a beach.”

Then there are the cultural attractions of colorful cities like Aarhus, Odense, Ålborg and Copenhagen, which embody the deep-rooted Danish concept of “hygge” that roughly translates as cozy comfort and togetherness. “People also come because of our design, architecture, icons in furniture like Arne Jacobsen, Finn Juhl and Poul Kjærholm—and our simplicity. Small is beautiful here,” adds Olsen. Copenhagen illustrates how the country successfully blends its history with innovative florishes, he states. “For example, the old industrial harbor has been transformed into a vibrant contemporary neighborhood and you can now enjoy a swim in its waters or unwind in a floating sauna.”

Another major incentive to visit is that Denmark is the current capital of gastronomy. It’s home to the top two restaurants on the planet—Noma and Geranium—according to the World’s 50 Best Restaurants, as well as a host of other cellars with Michelin stars. “It’s a popular off-the-grid adventure tourism destination. Then there’s the unbeatable views of the Northern Lights and our wildlife—seals, polar bears, walrus, reindeer, eagles and so on—it’s really something,” Smárason enthuses.

For those looking to tour to untouched locations that are in tune with nature, where they can experience and learn more about the world we live in, Greenland is clearly a great answer. But how accessible is it? “There are now two hubs to fly into Greenland from: Copenhagen and Keflavík in Iceland. We also have two international airports under construction in the towns of Nuuk and Ilulissat that will be ready by the end of 2024. At that point, Nuuk will be only two hours from New York, for instance. Our goal is to open up new routes, with the aim of becoming one of the leading global sustainability destinations by the end of the decade,” he replies.

The country is committed to ensuring future tourism has no negative impact on the pristine environment, Smárason stresses. “The current government is committed to making Greenland a carbon-neutral destination. We want to make sure that the future generations understand that we need to invest in the future generation. The future generation is going to inherit our planet.”

We turn science into growth

“Daniel’s strong focus on the environment is also playing a growing role in attracting tourists. It’s an important criteria for many.”

Jan Olsen, CEO, VisitDenmark

Tourism: Exploring Denmark’s authentic riches

Experience endless coastlines, cozy cities and the world’s best food in a kingdom that prioritizes the simple pleasures of life all year round

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Jan Olsen, CEO, VisitDenmark
A taste for organic food and carbon-neutral farming

Denmark's largest competence cluster is its vast knowledge-based and highly efficient agriculture and food sector. With an ideal temperate climate, fertile soils and flat landscape—a combination of which is rare—30 percent of Denmark’s dairy production is organic. Denmark produces enough food to feed three times more people than its own population.

Agriculture generates about $2 billion in international sales annually, around a quarter of the nation’s total exports, mainly from its premium-quality meat and dairy products. Our food sector occupies a strong position and has done so for over 100 years. Denmark is our biggest market, followed by China, Sweden, the U.K. and Poland, while the U.S. is seventh or eighth, says Flemming Nør-Pedersen, executive director of the trade body Danish Agriculture and Food Council (DAFC). Denmark stands out for its ongoing commitment to organic and sustainable farming, with about 12 percent of its farmland being cultivated organically. But the country wants to go further, he says. “Our ambition is to develop organic production over the next 10 years and to increase organic exports. We’re collaborating with the governments on programs to support this.” The sector also aims to become climate neutral by 2050 without impacting production volumes, he adds.

“We see innovative technology as a hugely important answer for this and have research centers working together to find new technical and digital solutions.”

Bringing Greenland's wonders to your plate

The country of Denmark harvests surprisingly little food from its sea. Instead, the marine champion of the Danish kingdom is the world's largest island. Greenland. For centuries, the remote, ice-covered country's economy has relied on wild-caught seafood from the rich fishing grounds of the Arctic and North Atlantic Ocean that surround it. “Currently, 95 percent of Greenland’s exports are seafood and Royal Greenland is involved in about half of those exports. We’re owned by Greenland’s government, but operate as a commercial company, and we’re the world leader in cold-water shrimp and lumpfish now, with a significant position in the global snow crab and Greenland halibut market as well,” says CEO Mikael Thinghuus. He explains that Royal Greenland’s strength lies in the island’s deep, unique fishing traditions, plus the quality and traceability of its products. “We’re vertically integrated: we catch the fish, process it, distribute it and sell it to customers around the globe.” The company runs its own fleet of modern, energy-efficient trawlers, he states. “We also buy seafood from over 2,500 independent fishermen in Greenland and Eastern Canada, most of whom operate vessels that are less than 6 meters long.”

Almost all in products are sold frozen, a procedure which needs to happen rapidly after catch and processing to retain their quality. That’s an extremely complicated proposition on an island where no roads link the arterial fishing communities that are dispersed around the country’s vast coastline, especially when many are ice-bound during the coldest months. Royal Greenland’s solution is to process the seafood as close to proximity to where it is caught, Thinghuus reports. The company owns and operates a large modern refrigerated warehouse in Nuuk, Greenland, plus a few in Canada and Germany. Most of our facilities, especially in the north of the country, consist of a small factory with a large freezing house. In the winter, fishermen fish through holes in the ice, we process and freeze it immediately and, when spring comes, we take the products out for distribution.” The company’s fishing methods may be traditional, but its processing facilities use the latest technology to guarantee the strictest quality, hygiene and safety standards. “We’re a successful enterprise because we have an exceptionally good reputation for food safety and production quality; if we say we’ll produce within certain specifications, we will,” he affirms.

Historically, nearly all of its exports were enjoyed in Europe but, today, over 30 percent are shipped to Asia, especially China and Japan, around 15 percent goes to North America and its recent investment in a Chilean fishing business is now boosting South American sales. Royal Greenland’s customers can be assured that it only works with sustainable fish stocks, Thinghuus stresses. “Some people think all fishing is unsustainable—that’s inaccurate. Wild-caught fish is a superb way of getting sustainable healthy protein if you have well-managed fisheries, take care of the ocean and act on what biologists tell you about where, when and how much to fish. We’re very strict in following these criteria.” In deed, the company aims to get the most value that it can from its catch, he adds. “Fillets make up only 35 percent of a fish’s weight. The challenge is what to do with the remaining 65 percent and we’re developing technologies for the many side streams that come out of our fishing. For example, we’ve taken our utilization of shrimp to almost 100 percent by using the peeling to make powdered meal.” The company takes an equally responsible approach to its economic role in Greenland. In recent years, it has returned solid profits on average annual sales of around $762 million and it recorded its best ever results in 2021. Royal Greenland has also doubled its employee numbers in the last decade, says Thinghuus. “We now employ around 2,500 staff and twice as many in the fishing season. It’s of paramount importance to us that we train and motivate our staff, and we maintain very high levels of employee satisfaction. Social sustainability counts a lot for Royal Greenland.”

“Wild-caught fish is a superb way of getting sustainable healthy protein.”

Mikael Thinghuus, CEO, Royal Greenland
Agriculture is responsible for around one-fifth of Denmark’s total carbon-dioxide (CO₂) emissions and its decarbonization is a priority for a country seeking to become carbon neutral by 2050.

In October, the Danish parliament ratified plans to reduce the sector’s greenhouse-gas (GHG) emissions by 55 percent within 10 years, pledging funding of nearly $600 million for green farming technologies to help achieve this. One new solution that is rapidly being adopted by farmers in Denmark and Europe comes from the startup Agreena. “To achieve carbon neutrality, carbon removal is essential and nature-based solutions are the most cost-effective strategy for this,” says CEO and co-founder Simon Haldrup. “A lot of the answers can be found in agriculture and that latent potential needs to be unlocked, but it requires economic incentives at the micro level—and that’s Agreena’s focus.” In summary, Agreena mints, verifies and sells carbon credits generated and owned by crop farmers that are transitioning to regenerative practices, such as increasing use of cover crops and organic fertilizers, or reducing soil disturbance and fossil-fuel usage: methods that help reduce GHG emissions, keep carbon stored in soil and boost biodiversity.

“We’re a farmer-centric company and want to enable them to take on a new role in the climate battle. Our mission is to mobilize a scalable approach for farmers to adopt sustainable practices by plugging in a secondary income from carbon certificates. We launched a year ago in Denmark, have already scaled to eight countries and we expect that our farmers’ will be removing over 2 megatons of CO₂ a year from the atmosphere by the end of 2022,” Haldrup reveals.

A significant advantage of Agreena’s proprietary agtech platform is that it’s vertically integrated: farmers enter data about each of their fields, relating to what’s happening now and their plans for transition, and the platform calculates the impact of those changes using Agreena’s vast data resources, he states. “We capture a lot of data on farms and quantify it in terms of how much carbon each activity reduces.” Farmers can then track their shift to regenerative practices and, once a year, their carbon reductions are translated into CO₂ e-certificates that they can sell through Agreena’s platform or elsewhere on the voluntary market to, among others, organizations looking to offset their own emissions. Before issuing certificates, Agreena validates all data through farm visits, algorithmic analysis and satellite technology. It also goes through two layers of independent verification and its ISO-standard program is certified by the international accredited registrar and classification society DNV.

This month, Agreena raised €20 million in its Series A round led by Kinevik, Giant Ventures and the state-owned Danish Green Investment Fund. Haldrup explains how those funds will be invested: “We want as many farmers as possible to participate in the carbon market and are looking to expand across the pan-European region over the next 24 months. Our second focus is to enhance our program, improving the technology, algorithms, specificity of the verification and increasing the number of farming practices. Our vision is to enable farmers to become climate heroes by giving them the tools to help build a green European economy. There’s a need for a fundamental shift in how food is produced, we need to build that tidal wave in collaboration with farmers and I really believe our efforts are beginning to crack that nut.”
“Denmark has shown that it’s possible to reduce emissions significantly while at the same time becoming more competitive, creating jobs, having better health and a higher living standard,” states Dan Jørgensen, Minister for Climate, Energy and Utilities.

“As a small country, we’re probably only responsible for around 0.1 percent of the world’s greenhouse gas (GHG) emissions, so you might question if it matters what we do. We think it does, because we believe we have a chance to inspire other countries.” Between 1990 and 2019, Denmark’s total carbon emissions plummeted by over 44 percent, driven by a huge increase in its production of green energy. By 2020, 68 percent of Danish electricity came from renewables, with the majority being generated by wind. Already one of the least carbon-intensive countries in the OECD, in 2019 the government introduced a Climate Act with ambitious new goals that included cutting GHG emissions by 70 percent of their 1990 levels by 2030 and achieving carbon neutrality by 2050 at the latest. “With regard to our 2030 emissions target, the gap between how much we needed to reduce when we set it and where we are now has been cut in half so far, which is great progress. We were also the first country with a stable oil production to say we would cancel all new licensing rounds and put an end date on oil and gas exploration of 2050,” says Jørgensen.

The pressure is now on to rapidly install and connect a lot of additional renewable energy capacity, he adds. “We have to innovate, develop new solutions and technologies, which other nations will also be able to use. It’s not the first time we’ve done that. Denmark built the first offshore wind farm back in 1991. At that time, it was considered expensive, which it was, but we’re happy we did it because that was the first step in a shift that has had global impact. Today, offshore wind competes on price with coal and even nuclear.”

The last two decades have seen many more wind farms being built off Denmark’s coasts and the ideal conditions of its sea give it the opportunity to host another 40 gigawatts of capacity, far in excess of the 15 gigawatts the country needs to meet its carbon-neutrality goal. Rather than waste that potential, Denmark is creating energy islands, which will act as hubs that harvest energy from nearby wind farms and channel part of it to the Danish electricity grid and the surplus to neighboring countries. Too are currently being developed, one of which is entirely artificial, Jørgensen reveals. “This is a new era in offshore wind; it will be the size of 64 soccer pitches and have a 10-gigawatt capacity. As well as being able to export the surplus, power-to-X technologies can transform it into hydrogen, which can be utilised or transformed further into green fuel.”

One of the 50 largest pension funds in Europe, PensionDanmark, is a partner in the man-made island’s development. The non-profit labor-market fund’s CEO, Torben Möger Pedersen, is enthusiastic about the project: “It’s a world first, but I predict that the next decade will see 10-15 of these islands in the North Sea alone.” To date, PensionDanmark has invested over $6 billion into renewable energy infrastructure and companies, plus sustainable real estate, he says. “The large amount of accumulated savings in Danish pension funds can be used to finance societal objectives and we’re allocating capital into the green transformation as a long-term investor. To give another example, we’ve said we would support the shipping company A.P. Moller-Maersk with its move to green fuels.”

Hydrogen and green fuels are a hot topic in Denmark. Among various other schemes in the pipeline, Orsted is leading the development of what will be one of the world’s biggest hydrogen and green-fuel facilities, while Everfuel’s HySynergy project is the largest production and storage facility for green hydrogen currently under construction in Europe. “It’s a 1-gigawatt three-phase project and phase one, a 20-megawatt hydrogen electrolyzer, will be operational by the end of this year,” says Jacob Koegsgaard, CEO of Everfuel, a company the operates across the hydrogen value chain, from using renewable energy to power its electrolysis from water to delivering stations for hydrogen-powered vehicles. He explains why the Gas is seen as so important for Denmark’s future energy mix. “As the frontrunner in wind power, it’s reached the point where we have surplus energy at times. There’s a place for battery storage, but it has its limitations, and the cost-efficient source of energy is hydrogen. Everybody wants to be green as long as it is affordable and that means costs that are roughly the same as those of fossil fuels. We can do that with hydrogen. It has to be a part of the green transition and Everfuel is all about making the hydrogen business case work.”

Reaching the energy trilemma

Denmark’s fast build out of renewable capacity and the changes to its energy mix present challenges to its transmission system operator for electricity and gas, Energinet, states president and CEO Thomas Egebo. “What we’re trying to build is a future energy system based on renewables, with a high level of secured supply that is affordable: what we call the energy trilemma. In short, we’re talking about an energy system that is electrical, integrated and digital.” One challenge is adapting the electricity grid for renewable energy, he comments. “We’ve come far in integrating fluctuating energy sources. Some 50 percent of our electricity consumption is matched on average by fluctuating production from wind and solar, a generation rate that’s the highest in the world. People would have said it was impossible 10 years ago, but we’ve been able to do it by developing solutions as we go along, such as sophisticated forecasting systems. Denmark is also among Europe’s top performers for security of supply and our wholesale electricity market prices are quite competitive in general as well.”

Egebo notes that a distinctive characteristic of the Danish electricity system is that it’s well integrated with those of nearby countries. “We’re directly linked to Norway, Sweden, Germany and the Netherlands, and are currently building a new interconnector to the UK. You can only have an energy system that’s more or less 100 percent green and based on fluctuating renewables by integrating across countries and we have a great deal of experience doing that.”

Denmark’s experience in green-energy collaborations extends a long way beyond its neighbors, according to Knudsfeldt Böttner, director general of the Danish Energy Agency, the government body responsible for developing and implementing policy for the sector. “If Danes really want to do something regarding international climate issues, we need to go abroad to show the rest of the world that it’s doable and that’s what we’re doing. The best platforms for us are the European Union and the United Nations climate conferences. We also have 19 partner countries around the world, including giants like China, India and the U.S., as well as developing countries like Kenya. Our role is to inspire them and share our knowledge, so that they can leapfrog from the Danish experience and thereby speed up the global renewable transition.” Böttner is confident that Denmark will soon reach its objectives for greening its energy sector by 2030 and he is now focusing on the second half of the green transition. “That means areas like transport, industry and agriculture. We’re going into the second half and that is about forming the future. Many Danish companies are currently doing a lot of planning in terms of how to form that future, and I set my agency’s role as giving them the best opportunities of doing that.”
Ørsted builds gigawatts of renewable energy capacity each year

‘We’ve proved that it’s possible—technologically’

Having pioneered the first offshore wind farm in 1991, Ørsted is at the front in the climate crisis, says Mads Nipper, Group President and CEO

Ørsted develops, constructs and operates renewable energy production facilities worldwide. Most notably, it is the global leader in offshore wind. What is the group’s role in the green transformation of energy?

I like to compare Ørsted’s role to Tesla’s in the automotive sector. Electric vehicles would have happened anyway, but nowhere near as fast if Tesla hadn’t proved it was possible to make them technologically, high quality and affordable. This is what Ørsted has done for offshore wind. Before 2008, nobody really believed it could be a scalable technology. Ørsted started to build one wind farm after another, each bigger than the last: we’ve built the largest wind farm in existence repeatedly, we have the biggest currently and next year will open an even larger one, Hornsea Two in the U.K. We’re proud that it’s possible to prove technology, that it’s a scalable part of the transformation of the world’s energy systems, and that it’s something from which the value chain can make money. We’ve been an agent for change that has accelerated innovation. This creates competition as a CEO, I hate competition, but as leader of a company with a vision of what runs entirely on green energy, I love that everybody is coping us now.

Ørsted’s goal is to become the world’s top green energy producer. Beyond offshore wind, what other sectors are you focused on?

We’re helping decarbonize the world through green power—we build hydroelectric projects that can over 10 million households is the Danish Energy Agency, which has enlisted the expertise of domestic firms to help rethink the pioneering concept. One of those is COWI, the global full-service consulting company with world-class competencies in engineering, economics and the environment that has been a strategic partner for Denmark on transformative development projects since it was founded in Copenhagen in 1930. For the past two years, COWI has provided consulting services on every aspect of engineering and constructing the island and all of its facilities, and in November it was appointed as owner’s engineer for a project it’s ideally suited to, says Lars-Peter Søbye, COWI’s pres- ident and CEO. “The company’s primal goal was to support the sustainable development of society and we’re always searching for the best possible ways to apply our know-how to projects around the world to have an impact on society, particularly in terms of the green transition. That’s been part of our DNA from the very beginning throughout the sectors we’re involved in. The technology used in, for example, the creation of Denmark’s artificial energy island is cutting edge and can drive sustainability to the next level. The transformative North Sea development project illustrates how COWI and other Danish companies are helping nations around the world to transition to green hydrogen and fuels for decarbonization, and we want to prove this is technologically possible. In 2021, COWI recorded an impressive net turnover of $973 million and $48 million in earnings before interest and taxes, and Søbye notes that global investors are increasingly targeting green development projects as significant prospects with good returns. “Within COWI, we’re taking a long-term perspective to our green investments and we want to make a real difference. In the meantime, we need to accumulate capital and be sustainable as a company through acceptable returns of investments. We’re expecting a growing turnover in the coming year and see many new possibilities for projects not only in the U.S., the U.K. and Scandinavia—society’s infrastructure for the green transition is far from complete.”

COWI, which became carbon neutral in 2020, will continue to focus on shaping that infrastructure, he assures. “Our aim is that 100 percent of our revenue must come from projects supporting the green transition. It’s crucial that the world stops talking about what we want to do about this and starts doing it. The good news is that we already know many of the solutions that can move the world in a sustainable direction. What we need is speed, commitment and to work together in partnerships across sectors and industries to achieve it.”
Danish companies step up against climate change

Denmark’s private sector is taking the lead in supporting both the country and the world to meet their targets for sustainability and reducing greenhouse gas emissions.

At the Glasgow Climate Change Conference, COP 26, Denmark presented its model for accelerating the global green transition: partnerships that combine the ability of governments to set optimal framework conditions with that of businesses to innovate and invest in new solutions, as well as to reduce emissions throughout their value chains.

In 2019, the Danish government initiated 14 industry-specific Climate Partnerships in which the heads of those industries and relevant ministries were tasked with devising roadmaps for how their sector could contribute to Denmark’s climate goals. Last year, the Climate Partnerships produced a combined report with over 400 recommendations, many of which are now being integrated into national policy. “We did what we’ve always done when faced with profound challenges: Denmark has a long tradition of pulling off bold objectives through strong public-private partnerships. I myself am chairing the Climate Partnership for Manufacturing,” states Kim Fausing, president and CEO of Danfoss, a Danish business at the front of the green transition.

“Danfoss is the leading provider globally for energy efficiency in buildings, infrastructure, supermarkets, data centers and many more structures. At the same time, we’re enabling electrification worldwide with a diverse range of technological solutions to electrify cars, ships and off-road machinery. That’s the core of our business.”

Improving efficiency can be as simple as making small adjustments to air conditioners so they consume 30-50 percent less energy or electrifying short-distance ferries. They can also be more complex, he notes. “For example, we’re in many of the data centers that are being built, harvesting excess energy and putting it back into the energy system. Recently, we worked on a Facebook center in the Danish city of Odense, which is now heating over 10,000 houses nearby.” Danfoss has expanded rapidly in recent years through organic growth and its purchase of city of Odense, which is now heating over 10,000 houses nearby.” Danfoss has expanded rapidly in recent years through organic growth and its purchase of VCS, a Danish company that contributes to a better environment and safer water in, for example, Africa.

Waiting to act is not an option anymore

Denmark’s 34.250 retail and wholesale companies are directly responsible for only 0.15 million tons of carbon-dioxide emissions a year. But that’s not the full story, says Jan Birgh, president and CEO of JYSK, the home and garden furnishings retailer which counts over 3,000 stores in 53 countries. “We’ve set the goal of halving our scope 1 and 2 emissions by 2030, but about 95 percent of our footprint comes from our supply chain. Raw materials are important and an area where a big company like JYSK can make a difference. For example, one of our goals is that the cotton used in our textiles is more responsible before the end of 2024. It’s a problematic crop, as it requires a lot of water and pesticides, and we’re working with non-governmental organizations on this.”

Another Danish driver of sustainability is retailing is Flying Tiger Copenhagen. The chain has successfully established presence across 26 countries on the back of an ever-changing portfolio of original products ranging from kitchen tools to gifts, toys and party decorations—all in-house designed with the aim of generating smiles and good feelings from customers. “Flying Tiger is built on the Danish heritage, which is design-led, simplistic and very sustainable. As Denmark is a frontrunner in sustainability, it was natural for us to say we also wanted to be a leader in the green movement,” CEO Martin Jermiin discloses. For the retailer, that means fully understanding and precisely calculating how every element in its value chain impacts the environment, he asserts. “We’ve sought out the very best data and authorities on every dimension we could find within sustainability. On emissions, we’ve signed up to the 1.5 degree Paris Agreement goal, we’ve had our targets validated by the Science Based Targets initiative and we’re on fire in terms of meeting them.”

Flying Tiger designs all its products to have as low an impact on the environment as possible, according to Jermiin. “For instance, we use wood and paper certified by the Forest Stewardship Council in our products, we’ve been reducing our plastic usage by half, eliminating half of all single-use items and we’ll be reducing our overall emissions by over 30 percent by 2026. We’re very proud of what we are, but there’s a long journey ahead to a zero-emission world. We promise to get there faster than most because we have a race to win; it’s not against peers, it’s to save the planet. Sustainability is something we implement and consider in every single business decision because waiting for others to act is not an option anymore.”

Kim Fausing
President and CEO
Danfoss

DENMARK

Source: Climate Partnerships for a Greener Future, State of Green, 2021

70% reduction in emissions by 2030

- 70%
- 0%
- 1990
- 1995
- 2000
- 2005
- 2010
- 2015
- 2020
- 2025

- CO2 Historical development
- 70% reduction

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Do you know your partner in the fight against climate change?

Get to know us
A window onto a better and healthier world

Their strong innovation aptitude and sustainability mindset make Danish firms good role models, according to David Briggs, CEO, VELUX Group.

As the worldwide frontrunner in roof windows and skylights, VELUX is among an elite league of global brands whose name has become the generic term for the sector they operate in. Can you provide an insight into the group’s history?

“We’re an eighty-year-old business founded on a spirit of innovation—our founder, Villum Kann Rasmussen, invented the roof window as a way to provide an insight into the group’s history. The spirit of innovation is still ingrained in the group’s culture. Our products can contribute significantly to reducing the carbon footprint of buildings and the impact on the environment. As we look to the future, we are committed to developing sustainable solutions that benefit both the planet and society.”

How are VELUX’s extensive research and innovation programs contributing to the development of healthier and more sustainable buildings?

“Our innovation programs are focused on creating sustainable products that not only reduce the carbon footprint of buildings but also improve the comfort and health of the people living and working within them. For example, our VELUX glass technologies, such as vacuum-insulated glazing, are made from materials that are highly efficient in terms of energy and have a low environmental impact. We are also working on developing new materials, such as biodegradable polymers, to further reduce the carbon footprint of our products.”

What is the role of VELUX windows in decarbonizing the built environment?

“VELUX windows help to decarbonize the built environment in several ways. They provide a means to harness the potential of daylight and fresh air, which is crucial for the health and wellbeing of the people living within buildings. By improving the energy efficiency of buildings, we are able to reduce our carbon emissions and contribute to a more sustainable future.”

Mission-based universities

Denmark is home to eight public universities, which provide world-class, industry-focused education and are also the country’s main centers of research excellence.

“Our universities are very international, highly ranked and one of their great advantages is they’re free. If you have the ability and yearning to get a university education, you can, no matter what social background you come from,” says Per Michael Johansen, rector of the University of Aalborg (AAU).

Based in vibrant Aalborg city in the industry-rich north of the country, AAU is one of the most prestigious of those institutions. Across three modern campuses, it generates research with global impact, while around 20,000 students a year undertake in-depth programs that are based on a unique problem-based learning platform, he states. “Our vision is for education in close collaboration with the surrounding world and, from day one, students work on real problems with industry or the public sector. We see ourselves as a mission-based, collaborative university that is equipped to take on global challenges,” he explains.

AAU takes an interdisciplinary approach across its faculties that cover engineering and science, IT and design, medicine, social sciences and humanities, plus a new business school that encourages innovation, particularly in small and medium-sized firms. Within those areas, the university concentrates on fields where it has proved to be among the very best, notes Johansen. “For example, we’re thriving in natural sciences, we’ve been ranked as one of Europe’s leading universities five times in a row, and we’ve become one of the top universities for power electronics.”

As well as using innovation to create sustainable products, VELUX is taking pioneering climate and nature actions as part of its strategy for sustainability as a business. Can you describe some of these?

“We were the second company in the world, just after Microsoft, to announce that we would remove carbon dioxide from the atmosphere. Our products can help to reduce our carbon footprint, and we are working on developing new technologies that will enable us to achieve this goal.”

What’s next?

Insulin treatment and diabetes care have evolved significantly since insulin was discovered in 1921. Yet more can be done. Continued innovation is imperative to address the significant challenges that diabetes still presents to individuals and society worldwide.

Source: The Global Tzeltal Competitiveness Index 2021 (translated)
Transition in transportation accelerates

Denmark is rapidly electrifying its existing transport systems, while also investing in expansive new road-and-rail infrastructure

Innovative drone technology monitors the health of infrastructure

**Europe’s new shortcut**

Denmark’s largest infrastructure project, however, is a critical segment of the Scandinavian-Mediterranean Trans-European Transport Network core corridor. “The Fehmarnbelt link will be the world’s longest immersed tunnel with a length of 18 kilometers and will create a link between Copenhagen and Hamburg in Germany. The tunnel will include a four-lane motorway that will cut around 160 kilometers off the drive between those cities and two electrified high-speed rail tracks will link Sweden, Norway and Copenhagen to Hamburg and wider Europe,” explains Mikkel Hemmingsen, CEO of Sund & Bælt Holding, the public company responsible for designing, constructing, operating and maintaining Denmark’s largest transport infrastructure investments, including Fehmarnbelt. Sund & Bælt started constructing the Danish section of the vast tunnel in 2012 and aims to complete it by 2029. The company’s track record in developing world-class infrastructure strongly suggests that Fehmarnbelt will be its next socio-economic success story. In largest project to date is the 18-kilometer Storholts road-and-rail link between east and west Denmark. Among the world’s longest bridge and tunnel constructions, Storholts has become one of the country’s most important traffic arteries since it opened in 1998 and is estimated to directly benefit Danish society by $5.5 billion a year. Another similarly impactful achievement is the 16-kilometer road-and-rail Øresund Bridge linking Sweden and Denmark via a bridge, an artificial island and a tunnel, which was inaugurated in 2000.

Sund & Bælt’s responsibilities extend to establishing financing for its projects, for which it has devised an innovative, user-financed model. “Investments in artificial intelligence, drones and sensors have resulted in us being able to double the lifespan of our infrastructure to 200 years.”

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