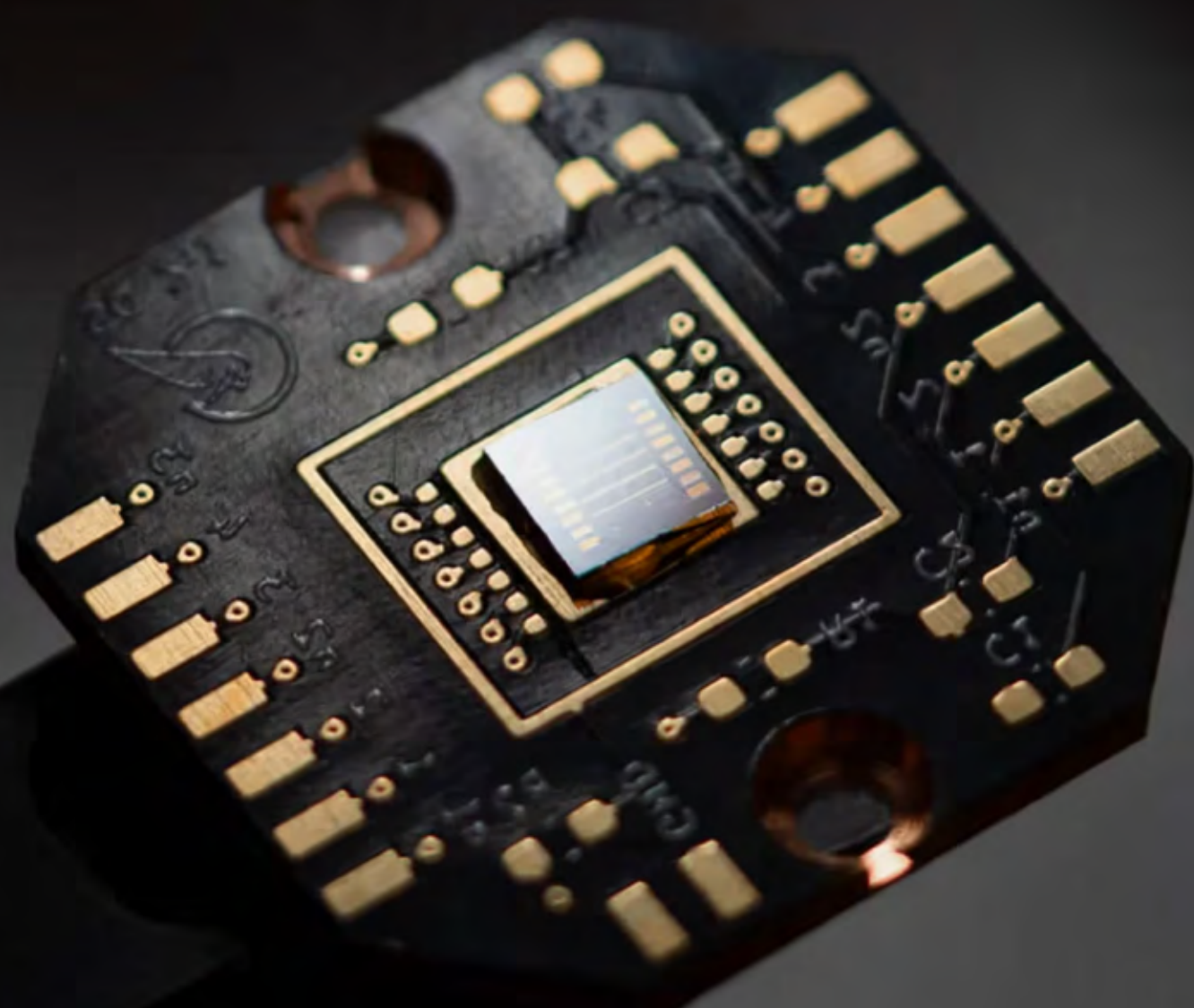


novo
holdings

Investing to benefit people and the planet



Annual Review 2025

Novo Holdings
Quantum Investments

CONTENTS

- 3** Introduction
- 4** **Investing in quantum's next era:** assessing progress and potential
- 5** **Shaping the Nordic quantum landscape:** the collaborative vision of Novo Holdings and the Novo Nordisk Foundation
- 6** Portfolio overview
- 7** Interview with Sparrow Quantum
- 8** Interview with Phasecraft
- 9** Interview with 55 North
- 10** The Novo Holdings Quantum Investments Team

INTRODUCTION

Advancing quantum innovation for human and planetary health

In 2024, Novo Holdings announced a commitment to invest DKK 1.4 billion (€188 million) to support and develop a quantum technology ecosystem. Building on Novo Holdings' experience and legacy within life science investments, the quantum play was a natural next step in our pursuit of investing in some of the best companies in the world that hold the potential to improve the health of people and the planet.

With Denmark as the centre of gravity, our ambition is to invest in, support and advance some of the world's most promising quantum technologies. We focus on areas that can impact human and planetary health directly such as quantum algorithms and quantum sensing.

2025, marking our first year as an operational unit within Novo Holdings' Seed Investments team, has enabled us to do exactly this. We have made a strong and fast-paced start – one that I look forward to sharing on the following pages.

Building a connected and global quantum ecosystem

Building an entire ecosystem cannot be done in isolation, which is why we decided to launch the Novo Holdings Quantum Investments Team with a dual purpose of investing in and supporting the most promising local start-ups, and helping them to become global leaders in their fields. In addition, as the ecosystem develops, we will invest in leading, slightly more mature, companies globally and support them in connecting with relevant key stakeholders locally to the advantage of all involved stakeholders.

We are pleased to report that we have made our first two direct investments in the companies Sparrow Quantum (DK) and Phasecraft (UK). Further, we invested in the quantum-focused fund Quantonation (FR) and deep tech player Playground (US). Finally, we helped establish, and acted as cornerstone investors in 55 North, a DK-anchored pure-play quantum fund. Read more about our portfolio on

page 14. These activities were all carried out by the Novo Holdings Quantum Investments Team, who you can meet on page 24.

Mapping the future of quantum innovation

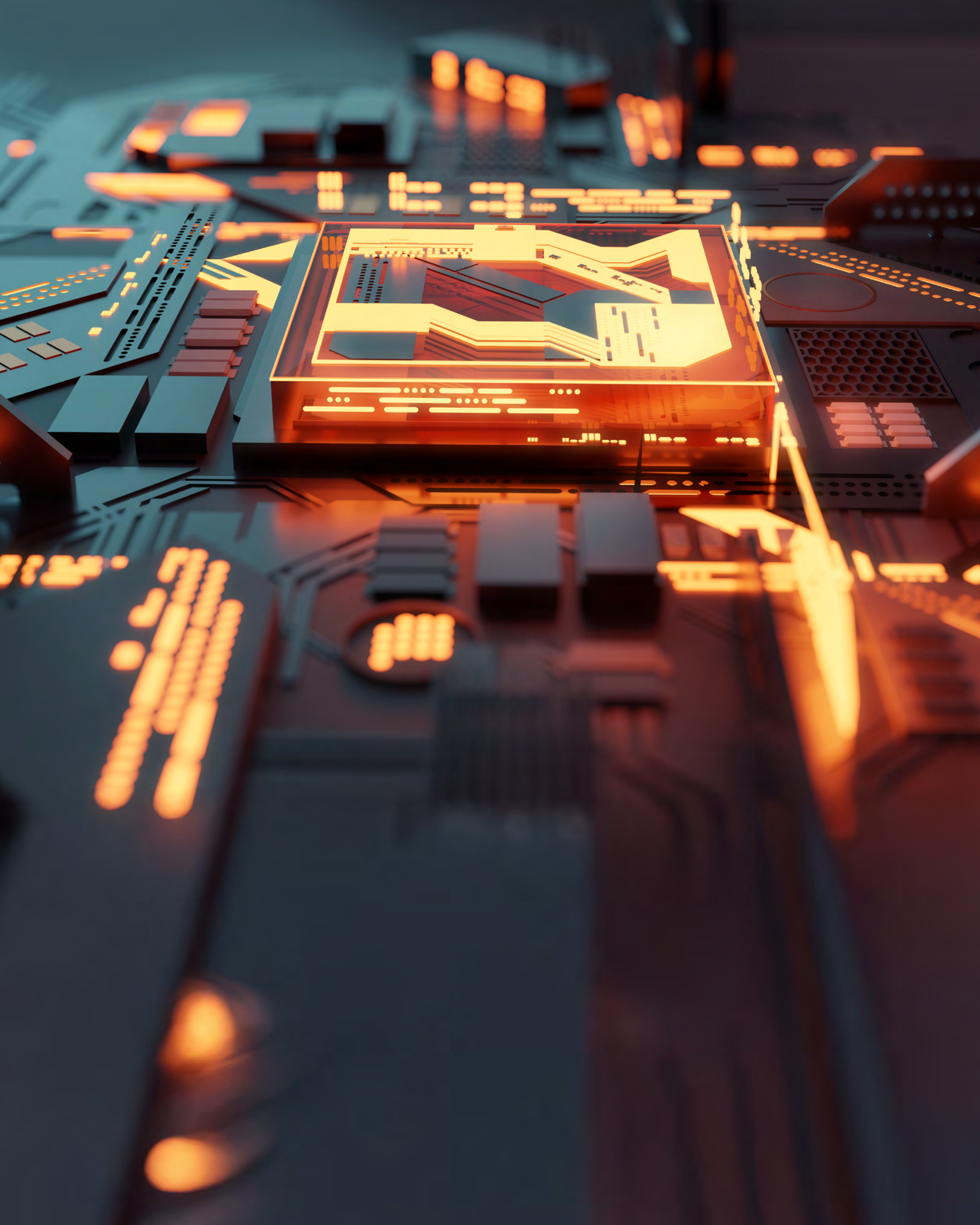
While we in 2024 and 2025 focused on processing the incoming dealflow, now is the time to delve into the mapping of the technologies that will guide our further investments. One area of particular interest to us is quantum sensing which we consider ripe for new investments, in particular due to the relative maturity of the technology and its recognised importance in positioning, navigation and timing.

We also believe that the combination of quantum computing and Artificial Intelligence (AI) offers major potential in the life sciences – from accelerating molecular simulations to optimising drug design and biomarker discovery. Together, they could significantly shorten development timelines and enhance precision in research.

We are confident that tangible quantum advantage for defined applications will be achieved before 2030, and at Novo Holdings we are committed to identifying and supporting the companies turning this potential into solutions that advance human and planetary health. The following pages highlight our progress and achievements in this rapidly evolving field.



Jeroen Bakker,
Partner, Novo Holdings
Quantum Investments



Investing in quantum's next era: assessing progress and potential

In recent years, the quantum sector has evolved from speculative promise into a more mature, though still emerging, field of investment. The trajectory has been shaped by waves of enthusiasm, technical breakthroughs, and a gradually deepening understanding of both opportunities and challenges. As of 2025, the quantum industry is widely seen as entering a new era – transitioning out of what many dubbed the Noisy Intermediate-Scale Quantum (NISQ) phase, towards a future where error correction, logical qubits and durable systems are more than theoretical goals.

Early rise and investment momentum

Throughout the early 2020s, quantum projects attracted the interest of deep tech venture capital and strategic tech players. McKinsey's Quantum Technology Monitor 2025 documents how the industry pivoted from purely increasing qubit counts to stabilising

qubits, suggesting that the market is beginning to view quantum more as infrastructure than experiment. In that same vein, the report forecasts that quantum computing revenues might jump from around USD 4 billion in 2024 to as much as USD 72 billion by 2035.

Several headline financings in 2025 underscore this momentum. Researchers at Harvard and MIT achieved a system capable of continuous two-hour operation by dynamically replacing lost atoms – an important advance toward stability in quantum circuits. Likewise, photonic quantum computing firms such as PsiQuantum secured USD 1 billion in Series E funding to develop million qubit-scale fault-tolerant photonic quantum computers and manufacture them in Chicago and Brisbane. QuEra raised more than USD 230 million to push neutral atom quantum hardware further, with backing from Google's Quantum AI and SoftBank Vision Fund.

Quantinuum, the spin-out from Honeywell, secured USD 600 million at a USD 10 billion valuation to accelerate its path toward universal, fault-tolerant systems. On the European front, Finland’s IQM closed a €275 million Series B with participation from 55 North – reportedly the largest quantum funding round in Europe to date – targeting expanded chip fabrication, cloud access, and error-corrected hardware.



On the software front, Classiq raised a USD 110 million Series C – the largest ever for a quantum software company – to automate quantum programming and build quantum

applications without requiring deep quantum expertise. Classiq technology leverages quantum circuit compilation technology to quickly synthesise quantum circuits with millions of gates and enable quantum programs to scale effortlessly on any quantum computer.

■ Into the “megaquop” era

One sign of the sector’s maturation is the notion that we are leaving the NISQ era and entering what might be called the “megaquop” era – quantum systems that incorporate error correction, perhaps double-digit logical qubit counts, and error rates that are 100 to 1,000 times better than in 2020. This conception rests on the recognition that raw qubit count alone is insufficient; durability, error suppression and algorithmic compatibility are now central. In short, hardware must evolve from “laboratory curiosity” into industrial infrastructure.

Within that shift, the commercial realm is also making strides. IonQ’s acquisition of Oxford Ionics for roughly USD 1.08 billion strengthens its trapped ion hardware expertise and signals ambitions to scale toward fault tolerance. Meanwhile, quantum secure communication (notably QKD) is entering more serious deployment, in part catalysed by Europe’s EuroQCI initiative and

national infrastructure programmes. The coming years are likely to see further convergence between computation and cryptographic applications.

■ Cautious optimism

Despite promising signals, structural challenges remain. Error correction and noise suppression continue to be major bottlenecks: scaling qubit counts without degrading coherence is nontrivial, and different hardware platforms (neutral atom, photonic, superconducting, trapped ion) face distinct trade-offs. Bridging algorithmic theory with hardware constraints is another urgent task, particularly for finding applications where quantum advantage is real and defensible.

From an investor’s lens, valuations remain speculative and fragile. Quantum firms often have high burn rates and limited near-term revenues, so investor scrutiny is intensifying. Some commercial players have seen revenue growth – for instance,

D-Wave’s Q2 2025 revenue rose about 42% year-on-year thanks to new system deployments. On the public markets, IonQ is reported to be eyeing a USD 2 billion fundraise to support expanding hardware and ecosystem investments.

As of 2025, the picture is one of cautious optimism: the quantum sector is evolving from exploratory experimentation toward scalable infrastructure. Hardware platforms are pushing beyond the constraints of NISQ, funding rounds are growing in size and ambition, and policies and national programmes are converging to treat quantum as a strategic domain. For investors, the coming years will be crucial: the winners will likely be those that combine deep technical credibility with disciplined capital stewardship and an eye toward real-world quantum advantage.

Quantum Highlights

Illustrating the significance and progress that quantum computers have seen over the past decades, this year’s Nobel Prize in Physics was awarded to John Clarke, Michel Devoret, and John Martinis “for the discovery of macroscopic quantum mechanical tunnelling and energy quantisation in an electric circuit.” The work carried out served as one of the building blocks of a superconducting quantum computer prototype, as developed by John Martinis, which ultimately became the first-generation quantum chip architecture on which Willow was built.

Shaping the Nordic quantum landscape: the collaborative vision of Novo Holdings and the Novo Nordisk Foundation

Denmark's role in quantum science can be traced back to Niels Bohr whose pioneering work in Copenhagen a century ago helped define the foundations of quantum theory and fostered a spirit of collaboration that still shapes Danish research. That legacy endures in the Niels Bohr Institute and in a network of universities, research centres, and start-ups now driving Denmark – and the wider Nordics – towards a new era of quantum innovation.

Novo Holdings' quantum investment strategy

Novo Holdings has taken a deliberate, long-term position in quantum technology, viewing the field as an emerging pillar of deep tech with major implications for human and planetary health. The Quantum Investments initiative mandate, approved by the Novo Nordisk Foundation in 2024 and backed by DKK 1.4 billion (around €188 million), is among the largest private commitments to quantum technology in the Nordic region.

The strategy combines direct investments and fund investments. Direct investments focus on technologies and applications with clear relevance to healthcare and the green transition – such as quantum sensing, molecular simulation, and bioinformatics tools that can transform how biological systems are modelled. Fund investments broaden exposure to the full quantum stack, including hardware, enabling components, and communications infrastructure, while building partnerships with specialised venture funds in Europe, North America, and Asia.

Novo Holdings aims to build a portfolio of 8–10 direct investments and several fund positions by 2030, with Denmark as its anchor but with a global outlook.

The Company's first fund commitment – Quantonation II, a Paris-based deep tech fund dedicated to quantum – marks its entry into an international network of co-investors and accelerators.

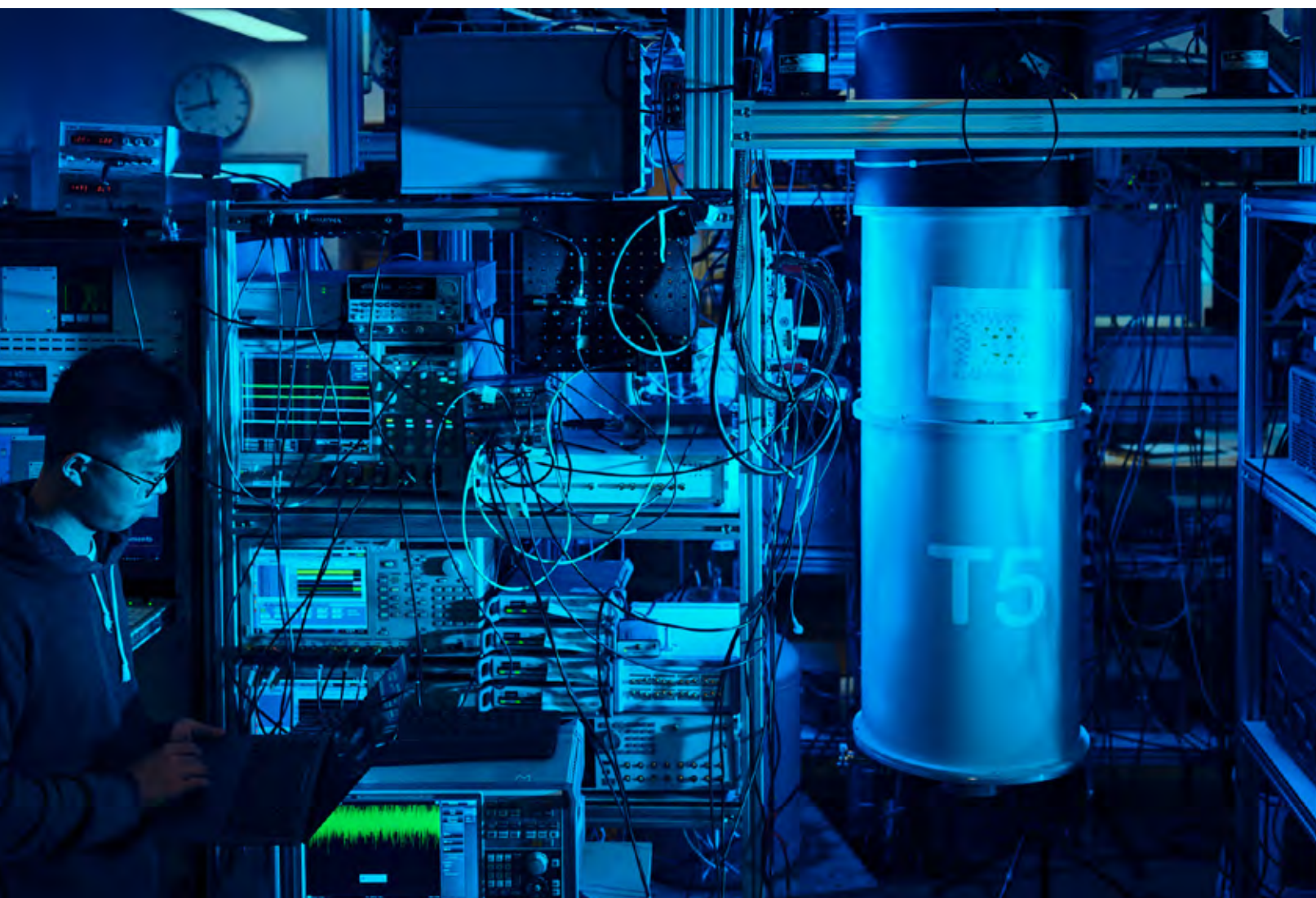
Crucially, Novo Holdings sees itself not just as an investor but as an ecosystem builder. Its close relationships with the Niels Bohr Institute, the Technical University of Denmark and other leading Nordic research institutions provide access to world-class expertise and facilities. This proximity allows Novo Holdings to bridge science and business, turning promising research into commercially viable ventures.

By focusing on areas where quantum physics meets life sciences – such as molecular modelling and environmental sensing – Novo Holdings aims to advance technologies that can meaningfully impact health, sustainability, and innovation across society.

The Novo Nordisk Foundation's role in building the Nordic quantum ecosystem

Since 2019 the Novo Nordisk Foundation has had a strategic focus on **developing quantum technologies to address important problems in the life sciences and advance pharma**. Since then, the Foundation has become a cornerstone in

translating Denmark's scientific excellence into a coherent, globally recognised quantum ecosystem. Its approach is highly strategic and extends well beyond grant-giving, encompassing investments in strategic lighthouses, infrastructure development, industrial partnerships, and regional coordination.



A key pillar of this work is the Novo Nordisk Foundation Quantum Computing Programme (NQCP), which aims to build a fault-tolerant generally applicable quantum computer, a so-called Level 3 quantum computer, that can solve life science-relevant problems. The Novo Nordisk Foundation has invested €267 million in this programme which began in 2022. As a part of NQCP, the Novo Nordisk Foundation established Quantum Foundry Copenhagen (QFC) in the form of a limited

liability company with the purpose of supplying state-of-the-art quantum materials and chips.

The creation of QuNorth – a joint venture between the Novo Nordisk Foundation and Denmark's Export and Investment Fund (EIFO) – marks a decisive step forward. With an €80 million investment, QuNorth is procuring a commercially accessible Level 2 quantum computer, named Magne, developed by Atom Computing and Microsoft. Installed in Denmark, Magne is expected to become operational late 2026 and will provide seamless access to tens of logical qubits, which are based on thousands of physical qubits, positioning it among the most advanced quantum systems in Europe and paving the way towards Level 3 machines. It will serve academia, industry, and start-ups across the Nordic region – anchoring a shared regional infrastructure that reduces dependence on foreign-based platforms and accelerates adaption of quantum computing across several areas.

Beyond hardware, the Novo Nordisk Foundation supports fundamental research, testbeds, innovation hubs, and translational programmes linking quantum technologies to life science and climate challenges. The BioInnovation Institute's Deep Tech Lab – Quantum, which also functions as a NATO

DIANA accelerator site, provides early-stage companies with facilities, mentors, and international networks. The Copenhagen Center for Biomedical Quantum Sensing and the Hybrid Quantum Chemistry Initiative likewise bridge quantum science with biomedical and chemical research.

Lene Oddershede, Chief Scientific Officer for Planetary Sciences & Technology at the Novo Nordisk Foundation, notes:

“Quantum technology is moving rapidly from research to real-world application, and it is essential that the Nordic region maintains and further strengthens its stronghold within this critical technology. This requires major and strategic investments in the development of flagship technology and the creation of a strong ecosystem that supports both academic excellence and industrial innovation.”



Lene Oddershede, Chief Scientific Officer for Planetary Sciences & Technology at the Novo Nordisk Foundation

Through such initiatives, the Novo Nordisk Foundation acts both as an enabler of public infrastructure and a catalyst for private investment. Its alignment with Novo Holdings ensures that scientific infrastructure, venture capital, and strategic direction reinforce one another. Anchored in Denmark but with an international reach, the Foundation's ambition is to further strengthen the development of the Nordics and Europe as global leaders within critical quantum technologies and their applications in the life sciences.

The Nordic quantum ecosystem: structure, strengths, and momentum

The Nordic region's progress in quantum technology rests on its tradition of research excellence and cross-border cooperation. The Nordic Quantum White Paper (2024), published by Nordita and NordForsk, called for a unified strategy to strengthen collaboration among Denmark, Finland, Sweden, and Norway. It urged investment in shared infrastructure, harmonised research funding, and joint initiatives to build critical mass.

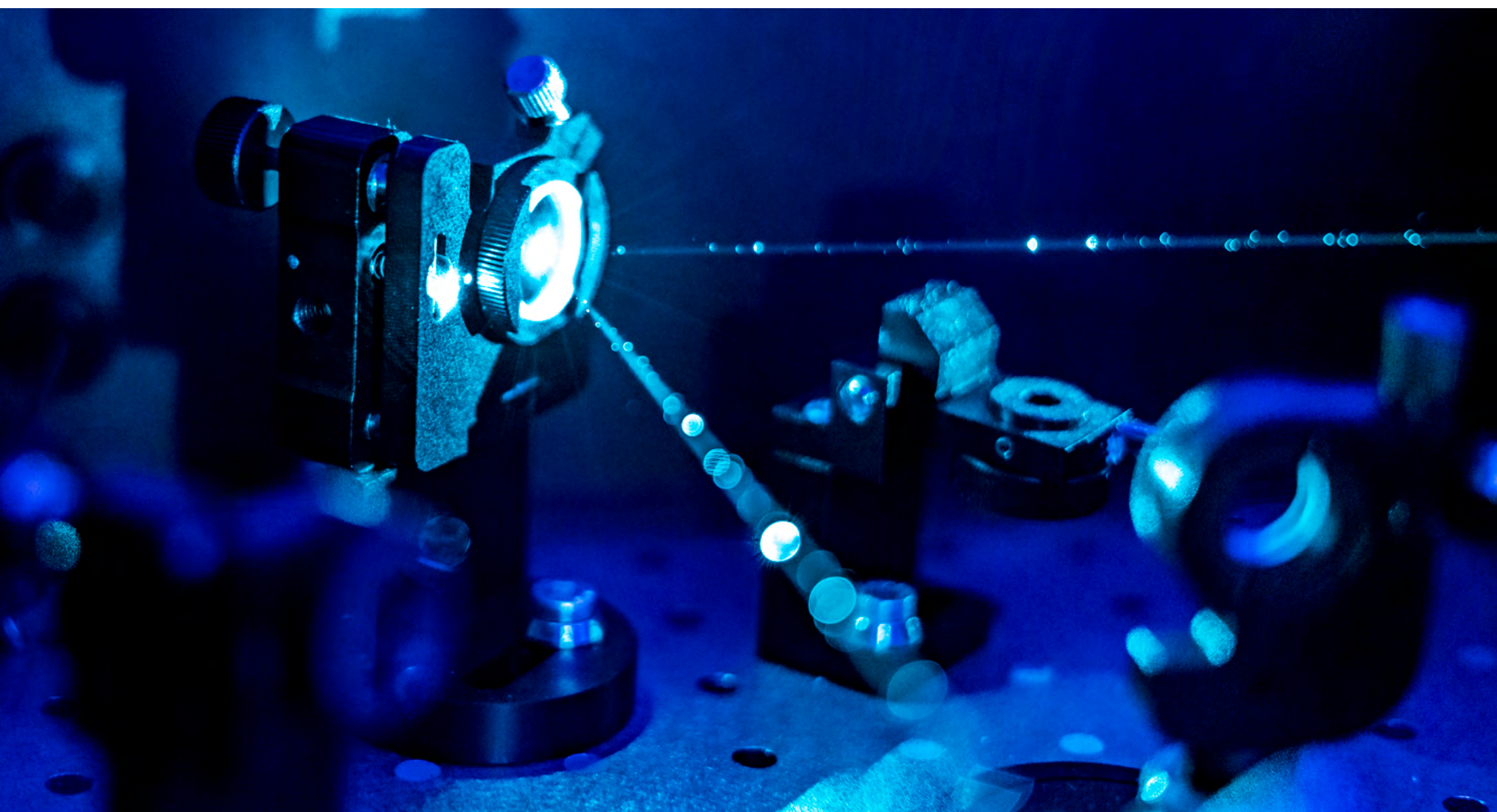
Since then, projects such as NordIQuEst and ReCIN have begun linking supercomputing centres, universities,

and quantum laboratories across national borders. These efforts aim to develop hybrid classical-quantum systems and expand Nordic participation in European programmes like EuroQCI.

Denmark acts as the regional anchor, supported by its National Strategy for Quantum Technology (2023). Quantum Denmark, housed in the new Niels Bohr Building, serves as a collaborative test centre for academia, start-ups, and industry. The Danish Quantum Community further connects researchers, investors, and companies through an expanding ecosystem map. Finland leads

in hardware development with companies such as IQM Quantum Computers and Bluefors, while Sweden contributes strong expertise in photonics and quantum algorithms through Chalmers University of Technology and KTH Royal Institute of Technology. Norway focuses on sensing and communications, drawing on its strengths in precision measurement.

Across the Nordics, shared advantages include world-class universities, deep industrial know-how, and a policy culture that encourages open collaboration. Challenges remain – venture capital availability, talent attraction, and



infrastructure scale – but momentum is clearly building. The establishment of QuNorth, the growth of accelerator programmes, and increasing European collaboration all point towards a region transitioning from early experimentation to coordinated industrial growth.

■ From legacy to leadership

The intertwined efforts of Novo Holdings, the Novo Nordisk Foundation, and a growing network of Nordic partners demonstrate how historical scientific strength can evolve into industrial leadership. Patient capital, public-private collaboration, and shared infrastructure are creating a coherent regional pathway into the global quantum race.

Denmark's century-old quantum heritage now meets a twenty-first-century ambition: to transform theory into technology, research into enterprise, and regional cooperation into international competitiveness. Anchored in science and guided by purpose, the Nordic quantum journey – supported by Novo Holdings and the Novo Nordisk Foundation – stands as both a continuation of Bohr's legacy and a statement of future intent.

Quantum Highlights

In December 2024, a major milestone towards widespread use of quantum computing was announced: Willow, Google's next generation quantum chip, was able to perform error correction below threshold. In other words, the larger a quantum chip becomes, the more resilient against noise it will be. This is a major step towards enabling a practical quantum advantage, namely, when a quantum computer can provide an actual benefit over a classical computer.

Portfolio overview



Sparrow Quantum

Sparrow Quantum is a photonic-quantum hardware company based in Copenhagen, Denmark, developing deterministic on-chip single-photon sources for scalable quantum computing, communications and sensing. In 2025 the Company raised €21.5 million in its Series A, with backing from PensionDanmark, EIFO and Novo Holdings among others. Novo Holdings' investment supports the scaling of Sparrow's chip production and R&D towards industrialisation. Learn more about Sparrow Quantum on page 17.



Phasecraft

Phasecraft is a quantum software company headquartered in the UK, specialising in hardware-agnostic quantum algorithms to bridge current noisy quantum devices toward practical applications. In September 2025, Novo Holdings co-led a USD 34 million Series B (alongside Plural and Playground Global), marking Novo Holdings' first direct quantum software investment. The financing will accelerate Phasecraft's development of ultra-efficient algorithms for materials, energy and life science challenges. Learn more about Phasecraft on page 19.



Quantonation II

Quantonation II is a specialist venture fund focused exclusively on quantum and deep physics start-ups. Novo Holdings made a strategic investment in the fund in 2025, aligning with its ambition to support quantum ecosystems via fund vehicles. Quantonation (registered in France) has deployed capital across a range of quantum ventures including Pasqal and others, and its second fund will continue this pure-play quantum mandate.



Playground Global IV

Playground Global IV is a venture capital fund based on the US west coast, with a thematic focus that includes the future of computing and deep technology. Playground has invested in quantum enterprises (e.g. PsiQuantum in its Fund III) and continues to prioritise quantum stack investments. Its participation in rounds alongside Novo Holdings and others helps validate quantum as a core pillar in its long-term thesis.



55 North

55 North is a Copenhagen-headquartered quantum venture fund with a stage-agnostic mandate to invest globally in quantum technologies. Novo Holdings and Denmark's EIFO act as cornerstone investors in its first fund, which had a first close of DKK 1 billion (€134 million) in 2025. The fund's vision is to accelerate the journey from lab to market, with Nordic anchoring and international reach. Learn more about 55 North on page 21.

THE NOVO HOLDINGS QUANTUM INVESTMENTS PORTFOLIO

Interview with Peter Lodahl, Chief Quantum Officer, Sparrow Quantum

Tell us a bit about yourself and Sparrow Quantum

I ran a research group at the Niels Bohr Institute for many years, doing fundamental research in the field of quantum technology. About 10 years ago we invented a new deterministic light matter interface. I realised this was something bigger than just university research. So, I launched Sparrow Quantum. It was a start-up at a time when quantum technology was still in its very early stages, which made it difficult to grow the company at the pace necessary for success. It has only been in the last 3 years or so that Sparrow

began to attract significant investment. Our competitive strength is our 20-plus years of deep research and the length of time we have been developing this technology.

What is the key innovation from Sparrow Quantum and how is it applied commercially?

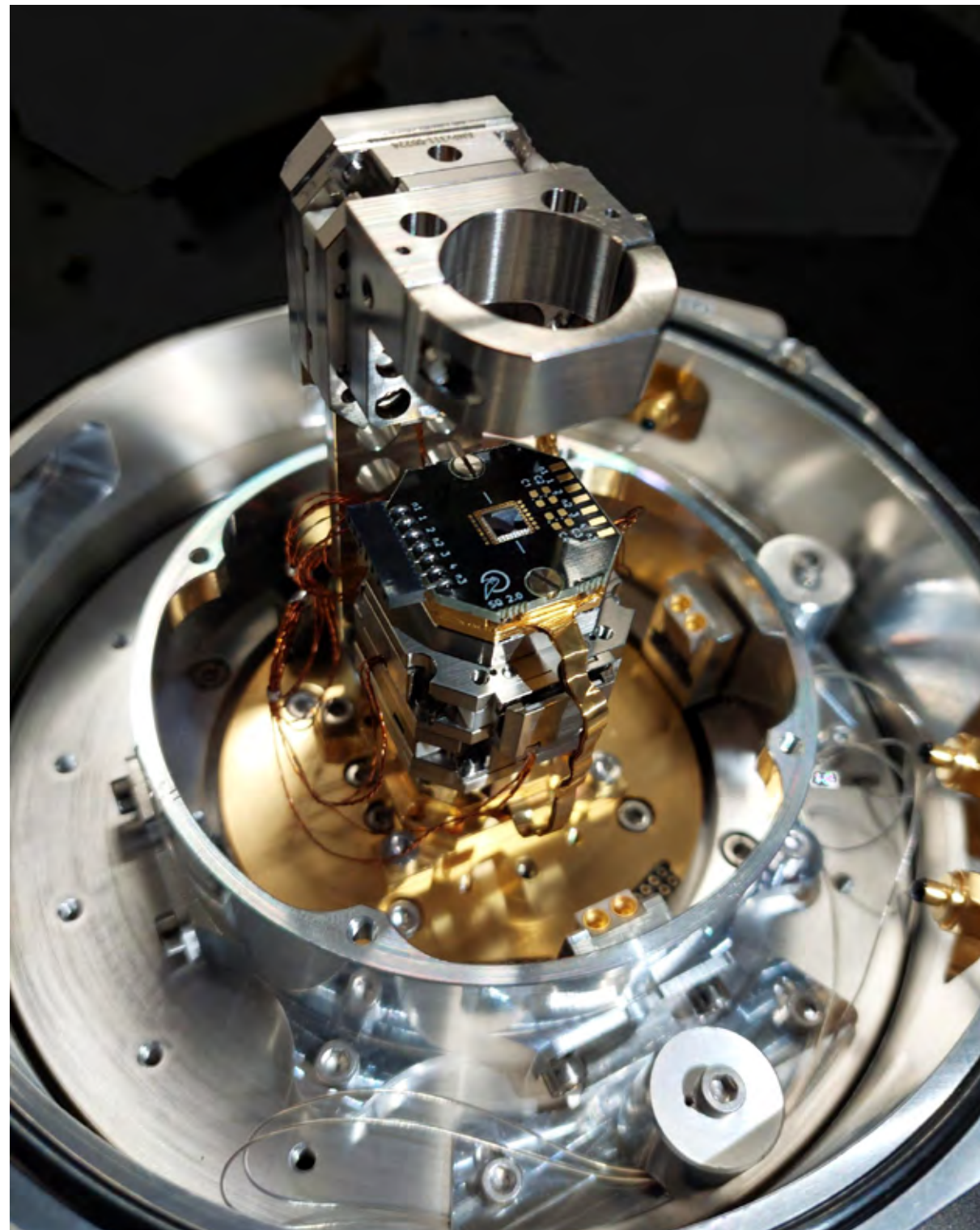
We have built a unique deterministic photonic chip which generates the world's most advanced single-photon and entangled-photon states. This chip technology can power photonic quantum computing, internet, communication, and sensing. We focus on building these high-performance components and partner with major companies who integrate the full quantum stack.

What are the company's ambitions for the future?

We have the best chip technology commercially available today. But the market is getting more competitive, so our focus right now is growing our company, scaling up in Denmark and Europe, and consolidating production at a pace that is competitive. Our aim is to consolidate our leadership position and grow our infrastructure, supply chain and production facility. Our



ultimate vision is to remain the best in this field, and so we have a very clear roadmap and blueprints for developing next-generation photonic chips.



What is the greatest challenge for your business?

We are working in an area that is generating considerable excitement. Many promises are being made, which may ultimately lead to disappointment. Yet there are huge opportunities here. I think sustainable growth is key. It's not just about getting more money; it's about consolidating and growing in a clever way at a sufficiently fast pace that is also competitive globally. We are number one for chip technology

but are not experts in other parts of the quantum stack. Leveraging our partnerships in Europe is therefore key – working with trusted partners in a flexible way to win an Olympic gold medal in quantum photonic technology!

What has been the impact of having Novo Holdings on board as investors?

The impact of Novo Holdings' investment and engagement in quantum has been very significant; it has put Sparrow Quantum on the map, helping to increase our brand value both nationally and internationally. Being part of the quantum ecosystem in Denmark has taken us to the next level.

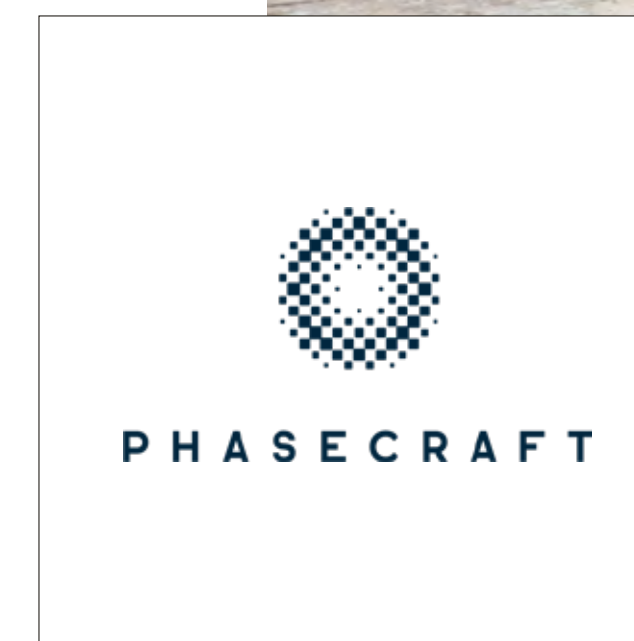
How do you see the broader quantum ecosystem developing in the coming years?

There are many ways to build quantum computers, but we are now seeing a narrowing of focus. The photonic approach offers unique opportunities in scaling to big machines and in years to come I think we will see this approach gain further traction. Denmark is where we are experts, so this is a great opportunity for us. Looking ahead, I think we will see Europe leading the way in the quantum internet – we have the Quantum Internet Alliance and the best researchers in this area. To make the biggest difference in quantum today you need to start with the strongest research teams, and this is where we excel.

THE NOVO HOLDINGS QUANTUM INVESTMENTS PORTFOLIO



Professors John Morton, Toby Cubitt and Ashley Montanaro



Interview with Ashley Montanaro, CEO, Phasecraft

Tell us a bit about yourself and Phasecraft

The company was founded in 2019 at an exciting time for quantum computing: hardware had improved over recent years, and quantum computers were on the cusp of outperforming some of the world's best supercomputers for specific problems. At the time I was (and still am) a professor in the School of Mathematics at

the University of Bristol, working on quantum algorithm theory for over 20 years. For quantum computing to achieve its true potential in the near term, progress in software needed to accelerate. Phasecraft was created to develop breakthrough quantum algorithms for materials and chemical design, pharmaceuticals and hard optimisation problems – areas in which standard computers

struggle and quantum computing has the potential to be transformative.

What is the key innovation from Phasecraft and how is this being applied commercially?

We are developing fundamentally new quantum algorithms – not just coding up off-the-shelf ideas. This enables us to dramatically reduce the cost of algorithms for solving specific problems in material and chemistry modelling. We are also developing solutions for plugging quantum computing into existing conventional workflows, gaining advantages now without reinventing half a century of proven hardware. We are at the stage of working with commercial partners to apply these innovations to real-world problems that matter to their businesses, and to develop them further to the point of commercial and practical quantum advantage.

What are the company's ambitions for the future?

We believe that quantum computing will deliver genuine scientific and R&D breakthroughs in the coming years. For example, developing the next lithium-ion batteries or radically improved drugs for specific conditions. We believe it will be algorithms that will enable this and want Phasecraft to be at the heart of these breakthroughs.

What is the greatest challenge for your business?

The greatest challenge for anyone is that building a quantum computer is difficult! Quantum computing is still at an early stage – like the 1940s or 1950s equivalent of standard computing. Trying to get quantum hardware to do something useful is

a massive challenge and so we need to make algorithms as efficient as possible. But not many people can do this kind of work; there are maybe only 100 people in the world that can develop new quantum algorithms. We have some amazing people on our team, but we need more people in the community that can do quantum algorithm design.

What has been the impact of having Novo Holdings on board as investors?

Novo Holdings is unique among investors, for both their long-term investment view and deep technical understanding. They have a great reputation which has made a difference to Phasecraft already. I think their links to the Danish ecosystem are going to be important to us going forward, as well as the many other opportunities they bring to the table.

How do you see the broader quantum ecosystem developing in the coming years?

One thing that has really surprised me about the quantum ecosystem is that I thought there would be very few quantum hardware companies by now, with the number of technologies whittled down to just one or two. But new companies are still appearing and there are still many different technology platforms in play. I think this is going to continue, and the amount of excitement around quantum is only going to increase as we see more breakthroughs in quantum software.

THE NOVO HOLDINGS QUANTUM INVESTMENTS PORTFOLIO



Dr Kai M. Hudek, Dr Helmut G. Katzgraber, Dr Owen R. Lozman FRSC



Interview with Owen Lozman, Managing Partner, 55 North

Tell us a bit about yourself and 55 North

I am a chemist by training. I worked for over 20 years in large corporate R&D teams, firstly doing research and then incubating technology-driven projects for internal start-ups. About 7 years ago I moved into venture and helped build one of the biggest and most successful semiconductor investment funds in the world. This year I was

approached about establishing a new fund with a focus exclusively on quantum technologies: Novo Holdings and EIFO (the Export & Investment Fund of Denmark) had put together an ambitious plan for quantum technology, which included a dedicated fund for this nascent area. This was an exciting opportunity which I could not miss, and we launched 55 North in the summer.

What is unique about 55 North?

Quantum research is still a long way from the standard, exit type models for venture capital funds, but there is so much opportunity. By having a dedicated focus on quantum, 55 North can leverage that opportunity. We have deep knowledge of the area, so we understand where the real value is – I think with a generalist fund it would be much more difficult to be successful in quantum. Yes, it's potentially high-risk to have this focus, but our team is very passionate about seeing quantum from the point of promise to really delivering. With Vsquared Ventures and Cambium Capital as our strategic VC partners, we have access to a broad network of global investors, expertise and dealflow beyond Denmark and Europe.



Owen Lozman, Managing Partner, 55 North

What will you be looking for in future investments?

We are looking to make great businesses, but it is a complex formula. Having the technology is necessary, but not sufficient on its own. We want to invest in and support awesome people who show promise that they can deliver; people who understand what the scientific problems are and can turn their solutions into a commercial success. Curiosity-driven research is for academia; our job is to support ideas that can ultimately deliver return on investment.

What are 55 North's ambitions for the future?

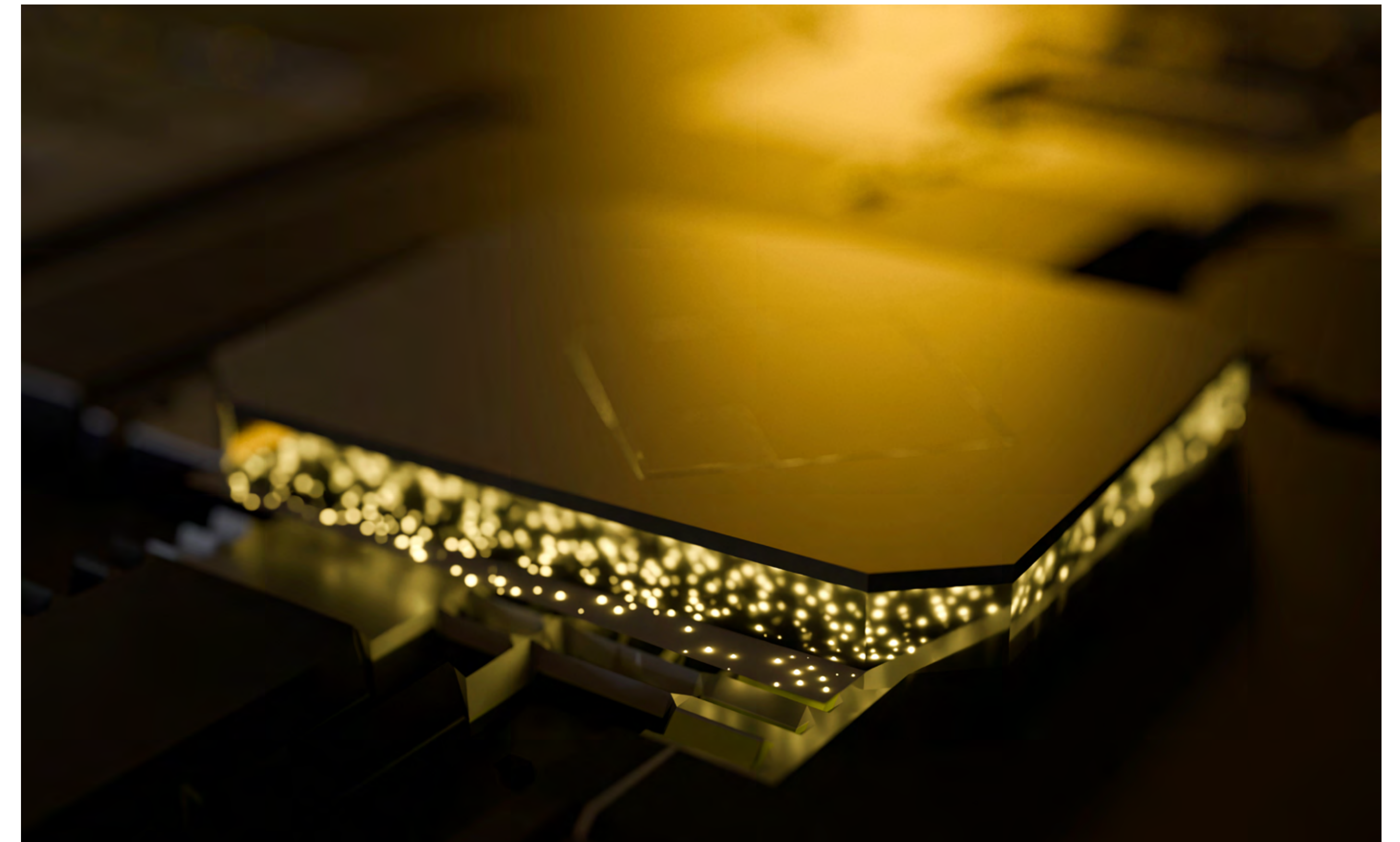
Short-term we want to get good deals done with teams that we can be proud of and raise more money to bolster the fund to improve operational effectiveness. Of course I would like to see the fund grow exponentially. Long-term we want to be the best investor on every successful quantum company's cap table. We want to be the go-to quantum fund, that companies turn to for support – the household name in quantum investments.

What has been the impact of having Novo Holdings on board as investors?

Novo Holdings is a group of very experienced professionals who know what works well as they have the benefit of experience. Their support meant that we were able to get 55 North up and running quickly, and it has helped us develop a framework for success.

How do you see the broader quantum ecosystem developing in the coming years?

The ecosystem has been quickly moving away from curiosity-driven research into more applied research and we are seeing more companies being formed and larger funding rounds take place. As the technology matures the paradigm is shifting in terms of where the research is heading and where the finance is going. Enabling infrastructure is becoming more relevant to address the bottlenecks in quantum. Scaling the technology is both a challenge and an opportunity, which could lead to a focus on one or two companies that can really deliver some of those solutions. And that is quite exciting for us.



The Novo Holdings Quantum Investments Team

The Novo Holdings Quantum Investments Team combines expertise from science, finance, and technology. Together, they identify and support the most promising opportunities within quantum, helping to build a Nordic-centred ecosystem with global reach.



Jeroen Bakker,

Partner, Novo Holdings Quantum Investments

What is your background?

I hold a BSc in Life Science & Technology from TU Delft, an MSc in Biomedical Sciences from Leiden University, and a PhD in Immunology from the Amsterdam Medical Center. My research included work on Type 1 Diabetes at the La Jolla Institute in San Diego and innate immunity at the University of Iowa. I also worked in drug discovery at Syntaxin Ltd in Oxford.

What is your role in The Novo Holdings Quantum Investments Team?

I lead the quantum team, focusing on both direct and fund investments. My work spans developing our investment strategy,

assessing opportunities, and promoting understanding of quantum technology's potential across Novo Holdings and the biotech sector.

Where have you worked before?

After my PhD, I joined M Ventures, Merck KGaA's corporate venture arm, as the firm expanded into technology investing. I moved to Denmark in 2018 to join Novo Holdings' Seeds Investments team, helping to establish biotech companies such as Adcendo, Commit Biologics, and Rappta Therapeutics, on whose boards I still serve.

What attracted you to quantum and Novo Holdings?

At Seeds Investments, we explored technologies beyond AI that could advance biotech, and quantum computing quickly stood out – though it was still early. With the field's progress and the Novo Nordisk Foundation's long-term vision, Novo Holdings is now well positioned to shape quantum technology. The combination of scientific insight, long-term capital, and purpose-driven leadership is rare and uniquely powerful here.



■ Daniel Rasmussen

Principal

What is your background?

I hold a master's degree in finance and accounting from Copenhagen Business School.

What is your role in The Novo Holdings Quantum Investments Team?

I am responsible for our fund investment strategy, identifying and partnering with leading fund managers who complement our own efforts in quantum and deep tech.

Where have you worked before?

I began my career in investment banking, advising mid-sized technology companies on mergers and acquisitions. I then spent several years with Verdane, a Nordic growth

equity fund, investing in and developing companies across software and industrial technology. Before joining Novo Holdings, I was an investor with BASF Venture Capital, the corporate venture arm of the world's largest chemical company, where I focused on frontier technologies with the potential to transform the chemical industry – one of them being quantum technology.

What attracted you to quantum and Novo Holdings?

I am drawn to quantum technology for its potential to address some of the most complex challenges in human and planetary health, pushing the boundaries of what science and technology can achieve. Novo Holdings attracted me for its blend of scientific depth and financial expertise, paired with a long-term investment horizon. The combination of a technical team with deep life science experience, dedicated quantum expertise, and the backing of the Novo Nordisk Foundation creates an exceptional environment for breakthrough technologies to mature.



■ Theodor Lundberg

Associate

What is your background?

I hold an MRes and PhD in Quantum Computing from the University of Cambridge, where I was one of 24 PhD students worldwide to receive an IBM PhD Fellowship. Before that, I studied physics and computer science at the University of Copenhagen, with periods abroad at Harvard University and UC Berkeley.

What is your role in The Novo Holdings Quantum Investments Team?

Within the quantum team, I focus on direct investment activities – identifying and supporting promising quantum start-ups developing applications for

human and planetary health. Given my background, I often lead the technical due diligence of the opportunities we assess.

Where have you worked before?

Before joining Novo Holdings, I helped build and incubate AI and software companies at Sutter Hill Ventures, supporting portfolio companies such as Reve, Observe, Lacework, and EdgeGuardian. Earlier in my career, I spent shorter periods at Boston Consulting Group and IBM Research.

What attracted you to quantum and Novo Holdings?

After spending much of the past decade abroad – first in quantum research and later in venture capital – I saw an exciting opportunity to combine these experiences and return home to Denmark. Novo Holdings' growing focus on quantum technologies made it a perfect fit.

About Novo Holdings A/S

Novo Holdings is a holding and investment company that is responsible for managing the assets and the wealth of the Novo Nordisk Foundation. The purpose of Novo Holdings is to improve people's health and the sustainability of society and the planet by generating attractive long-term returns on the assets of the Novo Nordisk Foundation.

Wholly owned by the Novo Nordisk Foundation, Novo Holdings is the controlling shareholder of Novo Nordisk and Novonesis and manages an investment portfolio with a long-term return perspective. In addition to managing a broad portfolio of equities, bonds, real estate, infrastructure and private equity assets, Novo Holdings is a world-leading life sciences investor. Through its Seed, Venture, Growth, Planetary Health Investments and Principal Investments teams, Novo Holdings invests in life science companies at all stages of development.

As of year-end 2024, Novo Holdings had total assets of EUR 142 billion.