**The world’s largest machine is set for an upgrade**

The electrical power system is humanity’s largest machine! You depend on it every time you use your hair dryer, plug in your electric car or charge your phone. For 120 years this machine has performed outstandingly, but in the last ten years everything has changed: more extreme weather, electrification of society and exponential growth in variable renewable power production (solar and wind) require a much more dynamic power grid.

Like everything else, the power grid must be digitized to meet the challenges of the 21st century.

We can easily upgrade the power grid by connecting sensors directly to the power lines. Real-time information from Heimdall’s neurons mounted on the power grid will contribute to increased capacity, lower grid tariffs and fewer power outages.

Heimdall Power is financed by its industrial owners BKK, Hafslund E-CO and Lyse. In addition, early owners Investinor and Sarsia Seed are using their long experience to help move the company forward. Saga Pure and KLP became owners in the last round in the spring of 2021.

Heimdall Power’s unique sensors will monitor the power grid and give notice of faults before they occur. The neuron contains sensors that send real-time data back to the grid company.

“Our neurons provide information about the condition of the power lines by measuring temperature, vibration and line sag. They can, for example, notify the grid company of snow and ice on the lines. The company can send out crews to do maintenance before the power line falls down and causes a power outage. The grid companies can save large amounts of money by using our neurons in the high-voltage network,” says Brage W. Johansen, CEO of Heimdall Power.

**Important for the green transition**  
“We have great faith in the technology and the project. This will be an important piece in the green transition, where we will electrify more parts of society,” says Ørjan Aukland, head of M&A and Lyse Investeringer at Lyse.

“We are always looking for good solutions that can improve our services, and there is undoubtedly huge potential here. What is even more exciting about this neuron is that it can make the network more robust and simultaneously cheaper to use by our customers. This will be an important component in the process of making our society renewable and fully electric,” says Toril Benum, Executive Vice President of Ny Energi at Hafslund E-CO.

**Reduces the need to build new lines**Heimdall Power’s solution also provides the grid companies with other very important information.   
“The neurons can tell us how much capacity is available in our grid. Consequently, we can plan to utilize the capacity in the network better, which in turn can reduce the need to invest in new power lines,” explains Ingrid von Streng Velken, Executive Vice President for Innovation and Development at BKK. This can give rise to lower grid tariffs in the long run.   
  
Heimdall Power’s solution will provide society with a better power grid and greater predictability.   
“The neuron enables us to go from believing to knowing. The grid companies can save large amounts of money by investing correctly, and postpone expensive investments until there is an actual need. Calculations show that one kilometer of newly built high-voltage network costs around four million,” says von Streng Velken.

**Long-term investors**Together with Sarsia Seed, Investinor has been a shareholder in Heimdall Power since 2017.

“We are very pleased to have three strong industrial partners onboard, and it is a mark of quality for the company that industry players have such faith in the product. We believe that Heimdall Power has great global potential because the power grid outside Norway faces the same challenges that we have,” says Patrick Sandahl, Investment Director at Investinor.

Heimdall is now building up production capacity to be able to deliver on large projects. The three companies hope Norwegian grid companies see the value of the neuron.   
“The opportunities provided by these sensors should be of interest to all grid companies, and can provide enormous savings for Norwegian society. In a few years, I hope we will see the neurons on power grids in Europe, the U.S. and Asia,” says Board Chair Jon Berg, who represents Sarsia Seed.

**The forgotten investment area**According to BNEF, more than USD 15 trillion will be invested in renewable energy by 2050. Many ESG investors are consequently focusing on new renewable production and storage. What many have not realized is that about the same amount must be invested in the power grid. ”For Saga Pure, Heimdall Power was an attractive opportunity to take part in this development,” says Jørgen Festervoll, VP of Renewable Opportunities at Saga Pure.

**Norwegian-made**The company has several installations in several European countries, most of them in the Norwegian power grid. While the neurons are developed and produced in Norway, the company sees exciting international opportunities on the horizon.

“We clearly see exciting opportunities to launch internationally,” says Johansen, who has already signed letters of intent with major grid companies and won his first major international contract.

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**About BKK**

Western Norway’s largest power company, BKK has 28 hydropower plants, 221,000 grid customers, 16,500 km of power grid, 1,100 employees and 74,000 fast charger customers. Owned by Statkraft, Bergen Municipality and 18 other Western Norway municipalities and small utilities, it posted revenues of NOK 5 billion and invested NOK 2 billion in 2018. Its subsidiary, BKK Spring, has set aside NOK 130 million to invest in start-up companies.

**About Hafslund**

Norway’s largest integrated power group, Hafslund E-CO consists of Norway’s largest grid company, Hafslund Nett, with around 720,000 customers and Norway’s second largest power producer, E-CO Energi. With an annual average production of around 13 TWh, E-CO Energi produces renewable energy equal to the energy consumption of 650,000 households.  Through the business area Ny Energi, Hafslund E-Co is utilizing innovation and business development to create the electrification solutions of the future. A decision was recently made to merge Hafslund E-CO and Eidsiva Energi in order to create two even larger, and stronger, environments within power production and grid operations. “After the merger, the companies will have approximately 900,000 grid customers and an annual power production of more than 17 TWh.”

**About Lyse**

Lyse is an industrial group active in the following the business areas: energy, telecommunications/technology and electricity grids. Owned by 16 municipalities in southern Rogaland, the values it creates are used for growth and community building.

Lyse will help make southern Rogaland a pioneering region in electrification, digitalization and smart solutions. Through the investment fund Lyse Investeringer, we invest in sustainable early-stage companies operating within technology and renewable energy.

**About Investinor**

Investinor contributes to increased value creation by offering risk capital to internationally oriented competitive companies, primarily new establishments. Investinor was established by the Norwegian government in 2009 in order to take a position in companies in the venture phase. The company always takes a minority position in its investments (less than 50%) and always invests together with private investors. Investinor manages NOK 4.2 billion and aims to be a door opener to the Norwegian venture market for international investors.

**About Sarsia Seed**

Sarsia is a leading early-stage management environment based in Bergen.  Sarsia Seed II is a Venture Fund managed by Sarsia, which invests in the early stages of Norwegian technology companies in the following sectors: Energy/Sustainability and Biotechnology/Life Science.  Sarsia invests in companies with a strong technology base that can help accelerate the transition to more sustainable industry and energy consumption.  Sarsia invests in entrepreneurs and groundbreaking innovations with the potential to create great value for individuals, society, industry and investors.  Sarsia has NOK 850 million under management in two funds. This investment portfolio of over 30 companies has in total created over NOK 2 billion in shareholder value, while Sarsia has been a leading investor.

**About Saga Pure**

Saga Pure is the first and only investment company listed on the Oslo Stock Exchange that is 100% dedicated to investments in sustainability. Backed by a strong team of financial and technological expertise, Saga Pure is committed to identifying and accelerating the best green initiatives of today and the future. Our tools are capital, competence and connections, providing the necessary resources to the companies that we consider to be the number one in their category today, or who have the potential to be number one tomorrow. This means taking positions in both listed and private companies. We operate as investors and as business developers, through active ownership.

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**For more information, please see** [**www.heimdallpower.com**](http://www.heimdallpower.com)**, follow Heimdall Power on Linkedin  
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