



Kjartan Ross - The wind sector has a strong position in Aalborg with key players in the industry

# A place where knowledge, innovation and people thrive

Denmark is home to innovative, world-leading companies such as Novo Nordisk, Vestas, and Danfoss. But did you know that one of the world's leading manufacturing hubs for the wind energy sector is located in the Nordic country? Take a trip with us to Aalborg in the northern part of Denmark, a place where knowledge, innovation and world-leading wind players thrive in unique coexistence.

The shining sun is making the water in the fjord glitter as we pass the Limfjord bridge on our way from Aalborg Airport to the city centre. The bridge connects the northern and southern part of Aalborg and from the bridge, we have a unique view of the city's new waterfront that made international headlines as one of the main attractions when The New York Times placed Aalborg in their top 10 of places to visit a few years ago.

Located in the northern part of Denmark, Aalborg is a small metropolis with a vibrant city life close to the nature and waters of the Limfjord, winding through the city centre. Home of the world-renowned architect behind Sydney Opera House, Jørn Utzon, Aalborg has an internationally acclaimed scene of cultural institutions such as Coop Himmelb(l)au's House of Music and Alvaro Alto's Kunsten Museum of Modern Art.

However, it is not the city's look, life or cultural possibilities that have made us take the short trip via Amsterdam to Aalborg Airport.

Through decades, Denmark has been seen as a pioneering country when it comes to green transition, and the wind sector in particular has been strongly rooted in the country.

Wind energy accounted for an astounding 46 percent of the total internal Danish electricity consumption in 2020, and looking at the wind industry from abroad, several world-leading manufacturers are also making massive investments in Denmark.

The latter is especially prominent in Aalborg which has turned into a true international hub for manufacturing and test of wind turbines.

## **World-leading wind energy players and innovation**

Arriving at the large business area in the eastern part of the city, the first thing you will notice is the vast expanse of wind turbine blades stored in the area. Here, we meet Kjartan Ross, Chief Commercial Officer at Port of Aalborg. Kjartan Ross is also a representative of the secretariat running Forefront Aalborg, a business ecosystem for especially the wind sector where small, large, private, and public players through joint efforts and knowledge sharing continuously push the boundaries for what can be achieved.

Kjartan Ross, tells us about Forefront Aalborg. 'Forefront Aalborg is a platform for



BLAEST's new testhall was commissioned back in 2020 nearly doubling the test centre's capacity

gathering key players around Aalborg's core business areas. The aim is to create competitiveness and growth by combining business purposes with knowledge, partnerships, and sustainability. One of the business areas is Aalborg Renewables which best can be described as the Silicon Valley of the wind industry.

In general, the wind sector has a strong position in Aalborg with key players in the industry. That holds true to players directly occupied with manufacturing such as Siemens Gamesa and other businesses in the heavy industry that contribute to strong supply chains in the sector. We are therefore also leading within test and development of new technology for the wind industry. For instance, Aalborg has the highest concentration of blade testing facilities in the world'

Among the large wind energy players, you get access to via Forefront Aalborg, is BLAEST. the world-leading centre for testing of wind turbine blades with facilities for the testing of blades with a length longer than 100 metres.

Situated just two kilometres off BLAEST's test facilities we find Siemens Gamesa Renewable Energy that employs almost 1,600 workers at their blade factory in Aalborg. Apart from manufacturing, the factory also houses a huge blade test centre which was recently expanded with the



world's largest blade test stand back in 2019.

In addition, the wind group has chosen Aalborg as the location for the development of its hitherto largest wind turbine blade, measuring a full 108 metres, and on the day of our visit the turbine blade was mounted in the stand reminding us of the incredible size of these constructions. Meanwhile, the Siemens Gamesa Renewable Energy's Aalborg factory has once again attracted the attention of the global wind industry with the production of the world's first recyclable offshore wind turbine blades called RecyclableBlade.

Not far from Aalborg, you also find Test Centre Østerild. The test centre is located on the windy west coast and comprises nine outdoor testing sites for the largest offshore wind turbines in the world.

#### Access to a world of knowledge and workforce with leading skills

Forefront Aalborg not only gives access to cooperation and corporate network. Another crucial part of the platform is the cooperation with research and educational institutions, including Europe's best engineering university, Aalborg University, which has also previously been rated Best in Europe within Sustainable Development Goal #7 'Affordable and clean energy'.

'The global wind energy sector is growing rapidly, and the growth is expected to increase in the coming years. This has raised the competition on the global market where companies battle to come up with new innovative ideas to meet the growing demand for wind energy solutions. The access to leading international research

More than 40 percent of Danes have obtained a higher educational degree, while almost 35 percent have completed a vocational education.

environments offered by Aalborg Renewables is therefore of great importance to the business competition, both with regard to knowledge and innovation as well as skilled workforce,' explains Kjartan Ross.

Aalborg is also home to a strong materials industry with the processing and reutilization of steel and composites at its core, driven by a diverse group of capable materials sector players such as Bladt Industries, one of the world's largest manufacturers of offshore wind turbine foundations. So, besides the internationally acknowledged Aalborg University, businesses in the area also benefit from the skilled workforce coming from vocational education institutions within sectors such as maritime, production, and construction.

#### Gate to great

Over the years, Aalborg's success within the wind sector and other fields has gained global attention and resulted in investments from all parts of the world. And the international businesses generally thrive in the city. Today, more than 25 percent of the citizens in the private sector are occupied in a business owned by international players, and according to Kjartan Ross, the percentage will increase:

'If we are to facilitate leading environments and clustering e.g. Aalborg Renewables, it requires that we can create the right settings for the development and growth of the businesses already present. It also requires that we are able to attract new innovative businesses and players from all over the world who can contribute to the strengthening of our skills and synergies, he says and emphasises that Forefront is more than ready to help international businesses fit in and settle down:

We stand by to assist and are ready to be your company's gate to great. Whether you wish

to buy land, move into existing facilities, or require specialised solutions, we are ready. Both the Port of Aalborg and the NOVI Science Park often invest in creating new facilities, some even tailored to your specific needs. Furthermore, there are several service companies in Aalborg that can assist with the outsourcing of e.g. storage capacity, cargo handling, packaging or maintenance. Finally, we at Forefront can assist you with direct contacts relevant for your specific business at the globally recognised Aalborg University as well as other educational institutions, located only a few miles from the business park.'

Manufacturing companies in particular have turned their eyes to Denmark where employee productivity and efficiency are at the absolute top according to IMD World Talent Report 2019.

#### World class logistics

Initially, we arrived in Aalborg via the airport, however, there are several other ways of arriving to the city. If we take a closer look at passenger transport, it is worth noting the city's close proximity to the motorway, connecting the city with all parts of the country within just a few hours reach. Adding to that, the framework for train and bus traffic is also great with Aalborg Municipality investing heavily in new green means of transportation, such as driverless electric busses and an emission free ferry that will be in operation next year.

The same multimodal framework is key in freight transport, making Aalborg the ideal place for export business. Via the different ports, the area is connected to the whole world with strong lines to Scandinavia and the North Atlantic, while the city's several railway terminals grant access to 4,000 railway hubs in Europe.

'Our logistic setup is a position of strength and crucial in setting up the framework necessary for the businesses to thrive and develop. We are pleased to see that investments are continuously being made in infrastructure and most recently, the Danish state has decided to contribute with funding for a new road connection over the fjord which will only strengthen our setup further,' concludes Kjartan Ross.

That also sums up our trip to Aalborg, a place where we have seen for ourselves how leading wind players benefit from the frontrunning business environment, innovative knowledge, skilled workforce, and appealing surroundings. And we already look forward to visiting the northern part of Denmark again!



With the rapid development of blade sizes, it is important for the local wind industry to have direct access to the port

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