Strong tailwind in one of Denmark's most important wind energy hubs

Aalborg and its port have become major players in the international wind energy industry, as a leading hub for production and blade testing. PES caught up with Michael Rosenkilde Lind, Chief Commercial Officer at Port of Aalborg to understand more about how it came to hold this position and the kind of industry partnerships it is able to facilitate.

PES: A warm welcome back to PES Wind, Michael. It would be good to focus this time on how Aalborg and the port area in particular is quickly becoming an integral part of the energy sector. As the front-running wind production hub, world-leading companies including Siemens Gamesa Renewable Energy, Bladt Industries, Blaest and many subcontractors have taken up positions there. What makes the location so attractive to them?

Michael Rosenkilde Lind: Thanks, it's a pleasure talking to you guys again! To understand why Aalborg and the region have become attractive for the wind energy sector, it is important to understand how Aalborg has undergone a transformation from a traditional industrial city to a vivid, international hub running on knowledge, science, and innovation.

Today, many of the city's large traditional manufacturing companies have transformed into frontrunning players operating within energy and green technologies.

While there are several reasons for this development, an important factor is Aalborg's logistic location, with great infrastructure and connections to the world via plane, road, rail, and sea.

And thanks to our historically well-established industry, Aalborg also has a high concentration of skilled workers. For instance, Bladt Industries has been located in Aalborg since 1965 and has now grown to be a wind energy subcontractor with hundreds of employees.

Another manifestation of the city's transformation is Aalborg University. The well-respected educational institution has positioned itself as one of the best engineering universities in the world, attracting students and scholars from all around the globe and engaging in partnerships with local companies.

So, it's actually a great cocktail of factors, such as an attractive geographical location combined with a skillful blue and white-collar workforce, as well as frontrunning knowledge that attracts international wind energy players to Aalborg.

PES: Today, Aalborg has the largest concentration of wind turbine blade testing facilities in the world. What role has Port of Aalborg played in that transformation?

MRL: Throughout history, industrial development has happened around logistical hotspots, and Aalborg is no exception.

For Port of Aalborg, our role has always been to support companies' growth by providing state-of-the-art logistics, production, and infrastructure facilities, while we also have the advantage of offering an almost infinite amount of space to expand and grow in our business park.

A great example is Blaest. The full-scale test center for turbine blades has been located in our area since 2006 and has grown significantly as blade lengths have exceeded well beyond 100 meters. Most recently in 2019, we helped Blaest with the construction of a new 5000 m^2 large test hall.

Moreover, we try to be a catalyst for a healthy business environment by uniting players across the public and private sectors in fruitful symbioses. So that's our role: being in the middle of development in the wind sector by fostering network, knowledge, and space to grow.

PES: So, on a global level, players in the wind energy industry turn to Aalborg when they require knowledge, developing technologies and skilled labour, right? A good example is an enormous project that has recently commenced involving steel producer Bladt Industries and the construction company Semco Maritime. Can you tell us a little about that?

MRL: Sure! Recently, we proudly announced that the local steel producer Bladt Industries and Semco Maritime will jointly manufacture massive substations for international offshore wind projects. Concretely, these substations will be manufactured right here at Port of Aalborg. This means that Bladt Industries is now expanding its facilities at the port area to handle the massive components.

The project once again reminds us how Aalborg has become a player in the international wind energy industry as a leading hub for production and blade testing.

PES: With the new site running to 110,000 m^2 in the port area, presumably a large amount of space needs to be dedicated to such a sizeable project, for both the assembly and storage of large parts. How are preparations for this going?

MRL: The project indeed requires space. The site is equivalent to almost 15 full-size football pitches with 60,000 m^2 used for manufacturing the actual stations and an additional 50,000 m^2 for storage and assembly.

The excavation work is already well underway. Right now, we are piloting the foundations that will eventually be used for the five substations.

Furthermore, we will increase the width of the quay road to 30 metres and completely asphalt it. It allows us to facilitate the transportation of the finished substations directly to the quayside without having to pass through the production area.

PES: So, it seems development projects and partnerships between municipalities, companies, educational institutions and other players are pretty commonplace at Port of Aalborg? Looking more broadly at the energy sector as a whole, both CCUS and P2X are also rooting in Aalborg with large development projects, correct?

MRL: Yes, that's right! The strong interests in green technologies have given birth to ambitious local partnerships and symbioses promoting P2X and CCUS. As a result, the European Commission will host the third edition of the CCUS Forum conference right here in Aalborg, since we have several promising projects underway.

Together with American energy company Fidelis New Energy, we recently revealed plans to establish Denmark's first large-scale facility right here at Port of Aalborg. The facility will have the capacity to receive a large amount of captured carbon dioxide, contributing to a considerable reduction of Denmark's emissions.

But the list of projects doesn't stop here. Also, Aalborg University recently moved a P2X plant to our area in preparation for scaling up the facility. In other words, things are moving quickly in Aalborg when it comes to CCUS and P2X!

PES: Besides being a hub for wind energy, Port of Aalborg is also focused on securing minimum waste of resources through symbioses. These are important for the green transition because they enable the reuse and recycling of resources such as energy, waste, and water. How are you embracing the concept of industrial symbiosis?

MRL: We believe that industrial symbiosis is key to achieving our ambitious climate targets and thus is an integrated part of our work. Based on the idea that one company's waste can be another company's resource, the entire region is actually characterised by a spiderweb of green industrial symbioses across sectors.

One of the most central players is the public utility company Aalborg Forsyning. Together with local companies, Aalborg Forsyning has made Aalborg renowned for its work with making district heating greener by utilising production-related surplus heating in our local district heating network.

Michael Rosenkilde Lind

Another example could be our partnership with cement producer Aalborg Portland, one of Denmark's largest CO_2 emitters, who recently launched an ambitious plan to reduce carbon emissions by 73% by 2030. Concretely, Aalborg Portland receives purified sand from

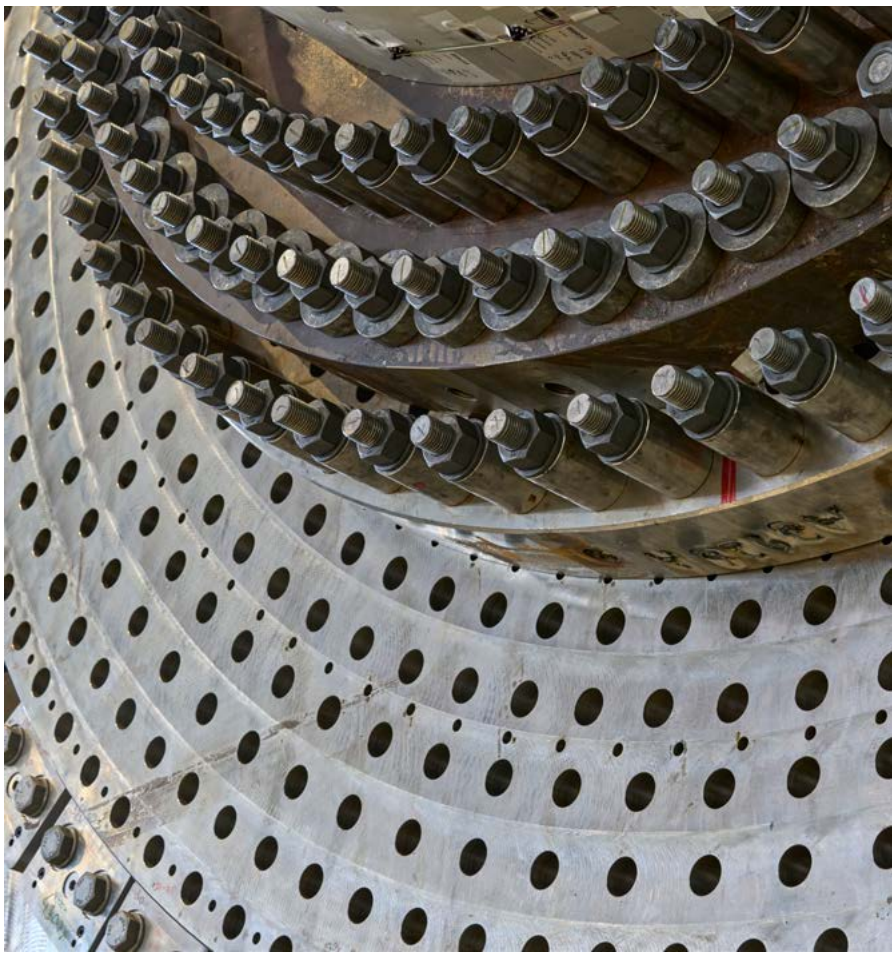
Thanks to the university, companies in Aalborg today have a large talent pool with competencies that are second to none when it comes to engineering and technology.

our regular dredging of the Limfjord, which is necessary for ships to access the fjord. In that way, the sand is utilised for production purposes instead of going to waste.

So besides facilitating these types of industrial symbioses, we also engage in them.

PES: Aalborg University has been ranked as the best engineering university in Europe six times in a row now and is one of the best in the world in wind turbine research. How does the Port of Aalborg use its relationship with the university to facilitate and foster collaborations between the university and the local companies? What are the advantages of this?

MRL: There is no doubt that the university is an important partner for us. Our role has been to facilitate the flow of knowledge from the university to our large network of companies and organisations, which has contributed to a chain reaction of events positively affecting the local business community.



Thanks to the university, companies in Aalborg today have a large talent pool with competencies that are second to none when it comes to engineering and technology. This has made Aalborg an attractive location, as demand for such knowledge has only increased in the wind energy sector.

Furthermore, the university has given rise to many new innovative start-ups that today have grown into an important part of the value chain in the industry.

PES: With several large development projects now being rooted at Port of Aalborg, what's next for the location in the green transition?

MRL: While we take pride in our activities with the numerous international companies in our area, we are also focused on our own projects.

Recently we finalised a 100-meter quay expansion through an innovative partnership model with our contractor and advisors. That helped us increase the carrying capacity by over 50%, while reducing carbon emissions by 30%.

Simultaneously, we are working on optimising our container terminal, which we took ownership of one year ago and now will offer greener and more efficient logistics solutions.

So, besides large external investments related to the wind energy industry, we have also initiated several interesting projects ourselves.

www.portofaalborg.com