



Ingo Euler, Siemens, Energy Management Division

He is the development engineer and primary innovator in the Energy Management Division. He had already been involved in numerous patent developments in this role for Siemens.

Greatest degree of efficiency with resistance

So far and yet so close ...

It is much more efficient to generate wind power at sea than on land. This is especially due to the fact that offshore wind is both stronger and, on top of that, more constant than on land. These are ideal prerequisites for the construction of offshore wind farms when it comes to generate energy from wind power. Yet offshore locations make high demands on the technologies used. This is where EBG comes into play. It has been part of the Miba Group since 2010 and develops custom-made high-power and high-voltage resistors for Siemens. Ingo Euler, Development Engineer at Siemens in the field of Technology & Innovation for Transmission Solutions in the Energy Management Division, lets us get a glimpse of the future.

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Energy Management Division





Interview

An interview with Ingo Euler

Mr. Euler, how did this collaboration come about?

In 2005, Siemens decided to start manufacturing multilevel voltage source converters for high-voltage direct current (HVDC) transmission. We have worked very closely with EBG since then. Sales and development go hand in hand. This is an advantage for the custom-made solutions that we require and has a positive impact on our collaboration. Even areas not part of EBG's direct core competencies are mastered. One example that comes to mind is the ULX series cable, which is tailored to our needs.

How was the collaboration?

Reliability of the components used is very important to us. Offshore wind farms, after all, are not exactly around the corner. If a converter part fails, for example, this always means costly maintenance work and lost time. Both are frustrating. Moreover, the weather at sea can sometimes be rough and repairs are often not possible for a while. In addition to a partner and its products being reliable, passion on its part is also important. I mean passion for solving problems. A desire to take new technological approaches. That is also what sets EBG apart. I believe it connects us. Any potential deviations are analyzed quickly. Improvement measures ensure that only components which have actually met the challenges are used. EBG's quality and development departments cooperate perfectly. Any complications that arise are met with the best support. It is very straightforward – a genuine partnership with the absolute focus on the project and the customer and ample scope to facilitate extraordinary results.

"Technologies for a Cleaner Planet" is a key topic for Miba as a whole. How does Siemens deal with this?

Our very field of work shows that this is an extremely important issue for us. We have set ourselves the target of transmitting the energy generated offshore over long distances to the mainland. As efficiently as possible, i.e., with as low losses as possible. For me, that is the epitome of sustainable power generation, combined with the responsible use of available resources. In this case, moving forward together refers to innovative technologies, on the one hand, and a better environment, on the other hand.

Andreas Zenkner, Siemens Team Leader at the SVC PLUS testing facility for reactive power compensation: His team works on developing power electronics components for HVDC PLUS and SVC PLUS applications.



An exciting dialog: Ingo Euler, Siemens, and Christian Lindner, EBG, with the power module for high-voltage direct current transmission.



Always a live wire

Our time is characterized by efficiency thinking. We are more careful with our resources and we apply increasingly intelligent energy generation processes. The use of wind power is the best example.

The strategies for utilizing wind in offshore areas are developed by inventive minds and accompanied by considerable success. This is not least confirmed by the collaboration between Siemens and EBG in the field of high-voltage direct current transmission, or HVDC. This collaboration is supported by a fascinating technology full of possibilities. It also has a number of applications in other areas than offshore wind farms. Siemens has achieved much in this regard. The company has been using multilevel voltage source converters (VSC) for more than ten years. EBG offers high-power and high-voltage resistors custom-made for these converters. The close partnership began in 2005, and there is still a lot to be done. Apart from the continuous improvement of said flat resistors, EBG is also working on the development of new types of chopper resistors, taking

a very special approach. It goes without saying that this innovation is being developed together with Siemens. It is interesting to note that the two companies have development and production departments in very close proximity to one another – an essential prerequisite for good collaboration between these two very important business areas. The short distances mean faster response times, not to mention the very special team spirit. This is how innovation plays out. This, in turn, fits with Siemens and with Miba: Never stand still. The limits of what is feasible and what is possible are always being pushed forward step by step. Always with the needs of future generations in mind, this being another strong driver for both development partners.

AN OVERVIEW OF MIBA'S PROJECT CONTRIBUTIONS: development of UPT and ULX series flat resistors, which play a major role in high-voltage direct current transmission.

