

# NINa-News

North German Initiative  
Nanotechnology SH

No. 22 | August 2023

[www.nina-sh.de](http://www.nina-sh.de)

## Dear Reader

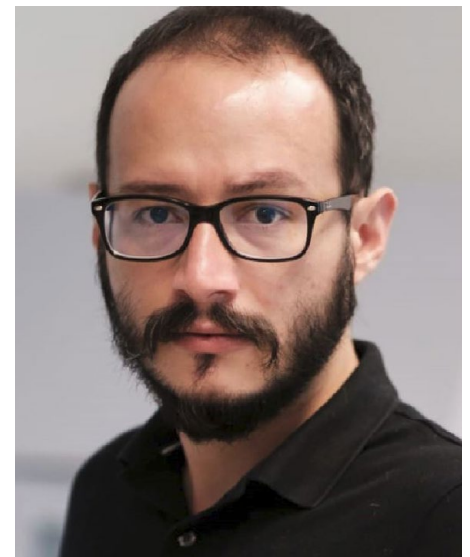
International collaboration is of great importance in current nanotechnology research and has a positive impact on both the research results and the researchers themselves. Therefore, collaboration in nanotechnology is one of the main pillars of the European Union's research strategy, which is currently being implemented within the framework of Horizon Europe. Thus, international cooperation enables a more comprehensive understanding of nanotechnology and its applications in the respective industries and societies, maximizes the scientific return on invested funds, and increases the visibility of researchers and institutions.

The pooling of human and financial resources, as well as organizational and scientific synergies, allows researchers to work on complex challenges beyond regional limitations, leading to innovative solutions to relevant problems in today's world. The

innovation potential of collaborations facilitated by initiatives such as NINa play a crucial role in accelerating the creation and sustainable success of nanotechnology-based start-ups and SMEs in the European region.

In addition, cooperation in current nanotechnology research in the Baltic Sea region benefits scientific progress and is of great value in promoting and supporting young researchers. Through regional and international partnerships, they learn about research cultures and methods. This enables them to take a leadership role in nanotechnology solutions to nurture the next generation of scientists and decision makers.

[Adam Mickiewicz University](#) has a long tradition of collaboration and scientific excellence in Poland. Currently, almost 40% of scientific articles published by the University are published in collaboration with international institutions. International and cross-se-



Dr. Emerson Coy

tor collaboration needs to be further promoted among young scientists in order to further expand the reach and impact of research in nanotechnology. This is a task that NINA has accomplished with excellence over the past decade, thereby undoubtedly positively impacting the scientific and industrial quality of nanotechnology in the Baltic Sea region.

Dr. hab. eng. Emerson Coy,  
Professor Adam Mickiewicz University



*The Adam Mickiewicz University in the city of Poznan is one of ten Polish elite universities which won the award „Research University Initiative for Excellence“*

Wir fördern Wirtschaft



Landesprogramm Wirtschaft: Gefördert durch die Europäische Union - Europäischer Fonds für regionale Entwicklung (EFRE), den Bund und das Land Schleswig-Holstein

Schleswig-Holstein. Der echte Norden.



# The most modern chip factory in northern Germany

Vishay Intertechnology is building a new 300 mm wafer fab in Itzehoe to supply the automotive industry. Starting in 2026, the new facility will nearly double current production capacity. By increasing MOSFET production, Vishay is making an important contribution to global wafer supply security.

Already today, the [Vishay fab in Itzehoe](#), with its 200 mm technology and around 500 employees, is the most modern plant in the Group. Eight years ago, the Group concentrated the production of its automotive MOSFETs entirely in Itzehoe, where wafers made of high-purity silicon are processed 362 days a year on the premises of the Fraunhofer Institute for Silicon Technology. By building a second high-tech fab for the new 300 mm technology, Vishay is making the largest investment in its history and creating 150 additional jobs. The expansion became necessary because the company had reached the limits of its production capacity.

In the process, the most modern chip factory in northern Germany is being built in record time: in July 2022, the purchase agreement between the city of Itzehoe and [Vishay](#) for an additional three-hectare plot of land was signed. In March 2023,

the symbolic groundbreaking ceremony took place and in July, the rough construction for the new 300 mm wafer fab commenced. Manufacturing will start at the beginning of 2026.

As semiconductor components are needed in ever greater quantities in our technologized world, larger wafers offer economies of scale: a wafer passes through up to 250 process steps in [Vishay's](#) clean room within five to twelve weeks. The current 200 mm diameter wafers then carry around 200,000 individual components. By contrast, the 300 mm wafers that will be processed in the new fab will contain up to 400,000 components.

Nanotechnology has become an indispensable part of modern semiconductor manufacturing. Here, the minimum structure size is a decisive factor. For today's chip manufacturers, this is in the nanometer range.



The DNA of tech.™

The new facility and the start of 300 mm wafer technology will enable [Vishay](#) to further develop and expand its modern, up to 180 nm fine production.

Especially for customers in the automotive industry, [Vishay Itzehoe](#) is a reliable and important partner. Itzehoe products are used, among other things, in start/stop generators, engine control systems, entertainment systems and anti-lock braking systems. From the automotive industry also came the urgent call for more microchips from Germany. [Vishay](#) is proud that the construction of the new factory will help Europe become less dependent on producers in other parts of the world and on vulnerable supply chains.



Illustration of the new 300mm fab in Itzehoe





# Energieküste

## Energy Coast - sustainability to follow

On the Energy Coast, the energy turnaround is picking up more and more speed. Whether it's green hydrogen from offshore wind energy, the West Coast Pipeline or plans to locate the Northvolt Gigafactory for battery cells - big and small highlights in climate protection are around every corner. The umbrella brand and platform for Schleswig-Holstein's West Coast works together with politics, business and research. And brings the successes of the pioneers in renewable energy to the attention of the whole of Europe.

The initiators of the [Energy Coast](#), the West Coast Regional Cooperation, were able to celebrate their successful [Energy Coast](#) project on its 10th anniversary at the end of last year. After only two years, the umbrella brand of the cooperation has established itself and has achieved remarkable results. „We now unite 36 innovative energy turnaround creators with their projects, including GP Joule, Fraunhofer IFAM, AquaVentus and Customcells,“ says Florian Lorenzen, Chairman of the West Coast Regional Cooperation and District Administrator of the Nordfriesland district. „There is a lot of interest from new partners. As a network, we bring needs together and promote synergies.“ In addition to Nordfriesland, the districts of Dithmarschen, Steinburg and Pinneberg are also involved in the West Coast Cooperation.

International trade fairs with high-profile panel discussions on red-hot topics, „Meet the Need“ networking events, groundbreaking trade conferences, an innovative website, cooperations and multi-layered communication measures - the umbrella brand is at the forefront of the green industry of the future. „The [Energy Coast](#) conveys a target image and a spirit of how the economy and society can look and flourish under the premise of 100 percent renewables,“ explains project manager Kirsten Voss. „Everyone wants to use green energy. We're helping to make it happen as quickly as possible.“

The region produces more green energy than it consumes - with a strong upward trend by design. Pipeline expansion is therefore a key topic, as it is at the [Energy Coast](#) Infrastructure Forums: twice a year, more than 100 regional players exchange ideas about new gas, electricity and hydrogen networks between Brunsbüttel, Heide and along the entire west coast. From there, the infrastructure continues down to the more southerly regions of the republic.

The [Energy Coast](#) is financed with means of the regional budget west coast, supported from the national program economics, and the four districts of the regional co-operation. Further information is available at [www.energiekueste.eu](http://www.energiekueste.eu).

*The west coast of Schleswig-Holstein is Germany's future region for renewable energies. Here, experts, researchers, creative minds and energy enthusiasts build a highly innovative energy system using existing resources.*





# 10 years NINa SH - Knowledge creates Economy

August 18, 2023 | 14:30 - 17:00 | Haus der Wirtschaft, Bergstraße 2, 24103 Kiel

Since its founding in 2013, NINa SH has worked dedicatedly to promote science and innovation in the field of nanotechnology - helping to strengthen the economy not only in Schleswig-Holstein. [We now want to celebrate the tenth anniversary of the NINa SH association and invite you to share this milestone with us.](#)

We look with pride at the growth of our initiative, initially limited to Schleswig-Holstein and Hamburg, into a very active network for nanotechnology and new materials in the entire Baltic Sea region. By networking research, business and politics, NINa SH makes an important contribution to technology transfer and the innovative capacity of the region.

The anniversary celebration is an opportunity not only to honor the past and thank all supporters, but

also to take a look into the future. And of course, as a NINa SH event, there will be space for networking, exchange and discussion with the aim of jointly raising nanotechnological innovation potential to strengthen the region.

The event offers a diverse program with contributions from high-ranking representatives from politics and business development. In addition, renowned experts from science and industry will give inspiring presentations in the fields of nanotechnology and innovation management.

We are very pleased to welcome you to our anniversary celebration "10 years NINa SH e.V. - Knowledge creates Economy" and to celebrate this special occasion together. [Register for free via the NINa SH website until August 10!](#)

## Review: sixth NIBS conference in Sonderburg

From July 3-5, 2023, the sixth edition of the international conference series "[Nanotechnology and Innovation in the Baltic Sea Region](#)" (NIBS) took place in Sonderburg, Denmark. The [NIBS conference](#) provided an ideal platform for scientists, companies and other stakeholders in the field of nanotechnology to increase their visibility and initiate new projects or start-ups.

A special highlight was the presentation of the Young Researcher Award, which this year went to Jan Schardt from Kiel University. The award recognized his outstanding work as a young researcher. Another highlight of the [NIBS conference](#) was the discussion in the Entrepreneurship Forum on the topic "From lab to fab. What it takes to do a business out of university research."

This discussion emphasized the importance of translating university research into entrepreneurial ventures and provided valuable insights for those who want to develop successful businesses from their research results.

The [NIBS conference](#) once again underlined its importance as a key platform for international exchange to unlock the full innovation potential of nanotechnology in the Baltic Sea region, focusing on relevant thematic areas such as energy, environment, medicine and new materials. We are already looking forward to the upcoming edition of the [NIBS conference](#), which is expected to take place in Tartu, Estonia, next year. Tartu is known for its excellent research facilities and its active role in promoting nanotechnology.



### Imprint

Publisher: Norddeutsche Initiative  
Nanotechnologie Schleswig-Holstein e.V.  
[www.NINa-SH.de](http://www.NINa-SH.de)  
E-Mail: [info@nina-sh.de](mailto:info@nina-sh.de)

Prof. Dr. Franz Faupel  
Lehrstuhl für Materialverbunde  
Institut für Materialwissenschaft  
Kaiserstraße 2  
24143 Kiel, Germany

NINa SH e.V. is a registered society based in Kiel, Germany.  
Registration number: VR 6231 KI  
Creditor identification number: DE75ZZZ00001501537  
Responsible in the sense of German press law:  
The board of directors.