

Dear Ladies and Gentlemen,

I also would like to welcome you to the SUBMARINER Blue Biotechnology Cooperation Event: New Strategies and Future Perspectives.

As Dr. Andreßen just explained the northern part of Germany is for sure well known for its beautiful coasts and its strong touristic and maritime industries. But as you just heard it is also a stronghold of excellent science represented by reknowned research institutions.

These research institutes are – so to speak – embedded into a Cluster of some 500 companies being active in medical technology, pharma and biotechnology. Together they form one of the liveliest Life Science clusters within Germany – the Cluster Life Science Nord. Norgenta is the central project and service company of Schleswig-Holstein and Hamburg, whose mission is to represent, support and protect the interests of the Life Science community in our region, by creating a favorable business environment; supporting the development of business; and by promoting the region as an international hub for Life Science and Health Industry.

Dr. Andreßen gave some very interesting examples for the innovative power of the region and mentioned the importance of innovations for the life science industry. A good example for this is the Med Tech industry which is strongly driven by innovations: Approximately half of the revenues of the industry are generated by products that are younger than three years. This figure underlines the importance of innovations. On the other hand it also shows the immense pressure that companies have to come up with new products to defend their market shares. And this is not only true for companies but on a larger scale of

course also true for national economies like the German economy that is completely based on innovative products.

I would like to add another historical example that reflects the way how innovations can be generated or happen.

Probably most of you know the Med Tech company Dräger which is based in Lübeck. And even if you do not know them I am sure that you already benefited from their products – at least if you stayed in hospital or had a surgery.

Dräger is more than 120 years old and it all started with the solution of a major problem back in 1889:

Though it has been possible since the second half of the nineteenth century to fill steel tanks with high-pressure gas, it was not possible to remove the gas in a controlled and safe manner. And this was really a major problem, since beer tap systems used compressed carbon dioxide. If you can't control the flow of gas, you can't control the flow of beer and the tap systems did not really work.

Heinrich Dräger solved this problem and developed a completely new valve - the so called Lubeca valve. This new valve was able to reliably control the gas flow and hence made beer tapping possible. Definitely a major achievement.

The principle of pressure reduction and valve technology laid the foundation for the development of ventilation and respiration devices and in 1902 the first reliable anesthesia machine was introduced into the market. This machine was able to deliver a fixed mixture of oxygen and anesthetics to the patient and made anesthesia by gas possible. A major breakthrough in medical operations.

This is a very good example for the successful transfer of an invention into innovation. Necessary prerequisites for that were:

- Excellent science and craftsmanship,

- endurance (13 years from first patent to medical application)
- entrepreneurship.

But it is also a role model for the process of innovation that is somewhat outdated: a single genius developing breakthrough technology singlehanded in a 'garage'.

Today, we face much bigger problems on a global scale and we need other means to solve them:

- How can we guarantee a sufficient supply of high quality food to the world population?
- How can we solve the growing need for alternative energy supplies?
- How can we develop new treatments for fatal diseases?

Marine resources and marine biotechnology hold the promise to contribute to the answers to these questions. However, Marine biotechnology is a young discipline. To live up to the high expectations marine biotechnology needs:

- A strong public research landscape with sufficient support from funding agencies
- Systematic and efficient tools of knowledge and technology transfer from research institutions into the private sector
- The right mind set from companies and researchers that considers joint ventures and cooperations as the best way to solve problems - not as threats or a topic of minor importance (open Innovation!)
- Entrepreneurs who are willing to take the risk of development and a financial market that supports innovation and is not only focused on short term profit

- And last but not least – luck.

Norgenta aims to improve several of these components:

- With regard to a strong public research landscape: Within a Coordination and Support Action of the EU we are in the process of bringing national funding agencies and companies from all over Europe together at one table. The aim is to establish an ERA-NET for Marine Biotechnology that will facilitate strong basic and applied research in the field.
- With regard to systematic technology transfer: Again with support from the EU we are developing a regional development strategy called ‘Masterplan marine biotechnology Schleswig-Holstein’. Here we systematically analyze the strengths and opportunities that we already have in the region, e.g. innovative companies that already use and apply blue biotech like oceanBASIS, DuPont and Sea & Sun Technology. By the end of this year we will have a bundle of concrete recommendations how to improve the framework and landscape to exploit the opportunities of marine biotechnology. This regional strategy could serve as a blue print for other regions as well.
- And of course we try to strengthen the public awareness for marine biotechnology and the communication between all players in the field – for example by organizing this event. I am sure that this Blue Biotechnology Cooperation Event will be an excellent platform to create new connections for successful cooperations.

Therefore, I am again very happy to welcome you all here and hope that by the end of the Meeting we all will have **future perspectives** how blue biotechnology can contribute to solve major social and economic challenges and that we will end up with **new strategies** how we will translate these insights into action.

I wish you all interesting and fruitful 1,5 days and thank you for your attention.