

Transformation and Internationalisation – NRW.Europa

Successful, digital, sustainable and resilient –
with new partners, markets and innovative products



Editorial

Alongside sustainability and resilience, internationalisation, innovation, digitalisation and funding are currently the topics with which growth-oriented companies and research players are getting to grips. NRW.Europa has developed customised services specifically for them.

Since 2008, the NRW.Europa team has assisted with around 14,000 enquiries from small and medium-sized enterprises in areas such as innovation, funding/ financing and other EU topics, welcomed 20,000 participants to events and helped to conclude 800 cooperation agreements. The target groups profit from services that are customised specifically to their requirements. In addition to information on current topics such as EU taxonomy or supply chains, these also include networking activities (e.g. partner search, international delegations, matchmaking formats) and individual, in-depth consulting. The outcome is international research or technology partnerships and foreign investments.

Since January 2022, NRW.Europa has offered its clients from North Rhine-Westphalia even more comprehensive and free advisory services than to date. In line with the state's foreign trade strategy, the existing consortium, comprising ZENIT GmbH and NRW.BANK, has been expanded to include NRW.Global Business GmbH and IHK NRW e. V. as associated partners. Through this expansion and the broad-based Stakeholder Network, there is now even more transparency and outreach in the support of important players in business and science.

The NRW.Europa project is financed by the EU, the Ministry of Culture and Science and the Ministry of Economic Affairs, Industry, Climate Action and Energy in North Rhine-Westphalia, and NRW.BANK. The consortium is embedded in the Enterprise Europe Network, with around 600 partners in 60 countries the largest consulting and technology transfer network worldwide.



Petra Milesevic
NRW.Europa Project Manager
NRW.BANK

“In times of difficult economic conditions, it is tremendously important that SMEs become resilient. Diversified supply chains, access to new technologies and revisiting business models are therefore precisely the services that the Enterprise Europe Network offers and is in this way responding to current challenges.”



Tim Schüürmann
NRW.Europa Coordinator
ZENIT GmbH

“Especially in challenging times like these, many companies have to rely on financial support. We advise them on their path to international markets and explore whether and which public funding and financing instruments are suitable and available.”

Contents

02

Editorial

04

Case Study: Consulting for Start-ups

Alpha Leverkusen UG

Next generation: UV nail varnish with less chemicals



06

Case Study: Internationalisation | Cooperation

Green Textile Solutions

Good for humans and the environment



08

Case Study: Funding Advice

Bültmann GmbH

Permanent magnet heater for greater energy efficiency



10

Case Study: Funding Advice

CNM Technologies GmbH

From research to application



12

We are part of it because ...

ZENIT GmbH, NRW.BANK, NRW.Global Business GmbH and IHK NRW e. V.

14

Case Study: Internationalisation | Supplier Search

Portance

Sustainable, made in Europe and doesn't smell



16

NRW.Europa Services – Sustainability and Circular Economy

First audit, then new know-how

18

Case Study: Innovation Management

AdaptVerticalMills • Gesellschaft für Adaptive Vertikale Wind- und Wasserkraftanlagen UG

From idea to fundable business model



20

Case Study: Funding Advice

Coatema® Coating Machinery GmbH

More efficient production and higher energy yield through AI



22

NRW.Europa

Your regional partner on the way to transformation and internationalisation

Service portfolio

NRW.Europa Services

Contact

Next generation: UV nail varnish with less chemicals

Something that is rather a closed book for men is part of everyday life for many women: regular visits to the nail salon or painting their nails at home. According to the German Federal Statistical Office, the annual market volume is currently just under €2bn – and increasing. Nail modelling with Shellac, gel or a conventional nail varnish usually involves a lot of chemicals. Sabine Oberpriller wants to make this more sustainable. To do so, she is using a grant from the State of North Rhine-Westphalia and working with Hochschule Niederrhein University of Applied Sciences.

Since September 2021, she has been working with the university to develop an inexpensive formula for the varnish and then to enter the pilot phase with field tests. Once the results have been evaluated and the product has been optimised and is ready for the marketplace, advertising and sales will be on the agenda. She will do this with Bestseller Marketing, her own advertising agency.

The results of the partnership have so far exceeded expectations: it has been possible to substitute many of the ingredients with sustainable bio-based alternatives. What's more, all the substances used in the trial product are made in Europe, certified, non-toxic, solvent-free and do not involve animal testing.

Since there is considerable market potential for a high-quality UV nail varnish that is environmentally friendly and easy to apply, Sabine Oberpriller, who originates from Leverkusen, sees a great opportunity for building up a new line of business, which also includes founding a new company. She already has a name for both the product and the firm: Alpha Leverkusen. The brand name bears a message: a good idea does not necessarily have to be associated with large cities, as is the case with major brands such as "L'Oréal Paris", for example, or newcomers such as "Und Gretel Berlin".

Sustainability is not, however, limited to environmentally friendly ingredients, which is why the innovative label also wants to include product design and the use of a

rechargeable LED lamp in its environmentally friendly thinking. The aim is for as many as possible of the durable materials used for the bottle and the LED appliance to be manufactured with resource efficiency in mind.

Advice on funding and internationalisation

During her search for financing and funding possibilities for the next stages of the product's development, at the beginning of 2021 Sabine Oberpriller approached NRW.Europa's funding experts. After an in-depth discussion about requirements, specifications and further steps, the team recommended the MID Analysis voucher within the Mittelstand Innovativ & Digital programme of the State of North Rhine-Westphalia and helped her to submit an application.

In January 2022, Alpha Leverkusen received an award for its development in the framework of the Innovation Prize of Netzwerk ZENIT e. V., which drew a lot of attention to the young company.

Sabine Oberpriller is currently using the NRW.Europa team's services again. Via one of the Enterprise Europe Network's international databases, she is looking for a manufacturer for a particular lamp for drying varnish as well as special nail varnish bottles. The team has also brokered an enquiry received via the database from a natural cosmetics company in Sweden.



Alpha Leverkusen

<https://alpha-leverkusen.com/>



NRW.Europa contact:
ZENIT consultant Sabrina Wodrich
sw@zenit.de





The annual market for nail varnish and associated products is around €2bn.



At Hochschule Niederrhein University of Applied Sciences, scientists are working on the formula for the innovative nail varnish.

In January 2022, start-up entrepreneur Sabine Oberpriller was pleased to receive an award in the framework of the Innovation Prize of Netzwerk ZENIT e. V.



“The support provided by the NRW.Europa experts, from identifying the right funding programme to helping us to submit an application, has been crucial in enabling us to get our innovation off the ground with the help of Hochschule Niederrhein University of Applied Sciences. We are looking forward to further cooperation and to initiating cross-border contacts to market our product.”



Sabine Oberpriller
Managing Director
Alpha Leverkusen

Good for humans and the environment

Green Textile Solutions, a company based in Bonn, not only wants to address shortcomings in the production of textiles for the medical and care sector. Its sustainable products are also intended to help hospitals, care facilities and industrial laundries fulfil the criteria of the Green Deal. For example, a ban on microplastics, which are a major problem in workwear, will soon take effect. The NRW.Europa team provided the right contacts.

Dalia Hasan is certain: “With our purchasing behaviour, changing things for the better lies in our own hands. When buyers decide to order sustainable products, for example, it triggers a domino effect.” She founded her company in 2017 after a trip around the world, during which she saw a lot of hardship in conjunction with the production of textiles. For her, however, sustainability begins even before manufacturing, so it is no surprise that her products are made of 100 percent natural fibres. They grow in India, and only those are used that require little water and fertiliser to thrive. Apart from the materials, using solar energy in production and paying local employees a fair wage are also important to her.

“It was difficult at first, but the awareness that more climate protection and fairness are needed is gradually growing,” says the young entrepreneur. Among other things, requirements set down by the Federal Government and the EU are giving her company some tailwind. For example, the ban on microplastics, which are released in enormous quantities in industrial laundries via the polyester in workwear, is regulated by the Green Deal in its Supply Chain Law.

Warp and woof: contacts

Before the first customers could be persuaded that forgoing synthetic fibres not only helps to comply with

environmental standards but also benefits employees because it reduces textile allergies, it was a matter of identifying and convincing potential target groups. Having the right contacts proved to be one of the key success factors. Here, the NRW.Europa team was able to assist, among other things, by referring Dalia Hasan to Health Care Without Harm, a globally operating non-governmental organisation that aims to protect health and make the health care system more sustainable. Together, they conducted a feasibility study on the use of surgical textiles for University Hospital Bonn.

A further topic of discussion was the business model. To present the business idea and get to know potential cooperation partners, Dalia Hasan took part in various NRW.Europa events, such as the Healthcare Brokerage Event at MEDICA and the Peers4Growth workshop. The latter, an established format, took place within the ruhrSUMMIT in June 2022 and is an excellent opportunity to develop internationalisation strategies.

Contact to Enterprise Europe Network partners in Sweden and the Netherlands proved to be particularly conducive. These were able, for example, to approach industrial laundries, hospitals and multipliers interested in the products by sending them clothing samples.

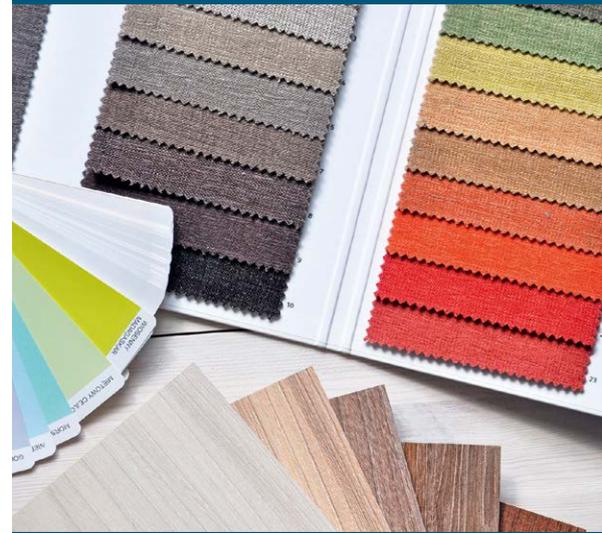


<https://www.greentextilesolutions.com>



NRW.Europa contact:
ZENIT consultants Juan Carmona-Schneider and Rim Stroeks
rs@zenit.de





All the start-up's products are made of 100 percent natural fibres.



Together with a partner, the start-up conducted a feasibility study on the use of surgical textiles on behalf of University Hospital Bonn.

Forgoing synthetic fibres not only helps to comply with environmental standards. It also benefits employees because it reduces textile allergies.

“The contacts arranged by the NRW.Europa team have helped us to find important partners in Germany and abroad. Especially for young companies that want to operate internationally, having the Network's support behind them is extremely valuable.”



Dalia Hasan
Managing Director
Green Textile Solutions

Permanent magnet heater for greater energy efficiency

Bültmann, a mechanical engineering and plant construction company, wants to develop a new line of business around the topic of energy, together with Beck Maschinenfabrik, its sister company. To do this, it can utilise funding from the REACT-EU programme. The aim is to develop a demonstrator which shows that it is possible to use strong permanent magnets to generate sufficient magnetic fields to heat aluminium blocks for forming processes – and thus independently of gas.

Technical innovations have been Bültmann's everyday business for half a century. While Bültmann concentrates on sales, development and design, Beck takes care of assembly, commissioning and service. From Neuenrade in the Sauerland, the group offers customised solutions for metal-processing companies worldwide, i.e. special, fully automated machines and equipment for the tube, bar and profile industry. Among their customers are the semi-finished products industry, vehicle manufacturers and automotive suppliers.

Since a reliable gas supply can no longer be taken for granted, energy efficiency is playing an increasingly important role in the metal industry, policymakers' climate targets are ambitious and Bültmann wants to develop a new line of business, exploring the idea of the permanent magnet heater is a very topical issue for the company. Not only technically is the idea a world first. The expected improvement in efficiency is also enormous. In comparison to the state of the art, the stronger penetration of the magnetic field into the material to be heated allows more homogeneous radial heating. Among other things, this reduces losses through heat dissipation. In addition, precise and optimised temperature profiles raise extrusion line productivity.

With their experience in conducting research projects and having known the NRW.Europa funding and

technology experts for almost 20 years, cooperation was only a small step away. Close collaboration on the innovative heating process with permanent magnets began back in 2016, when an application for funding for a feasibility study was submitted to the German Federal Environmental Foundation.

Technology assessment and funding advice

To develop a prototype, first of all various technical solutions were discussed. The next question was which research and development programme came into consideration that would mitigate the risk. Since Horizon 2020, the previous EU framework programme, had ended, but the new one, Horizon Europe, had not yet started, the NRW.Europa consultants concentrated on REACT-EU. The EU launched this recovery assistance programme in 2021 to cushion the economic and social impacts of the COVID-19 pandemic. The State of North Rhine-Westphalia used these structural funds to launch a call for proposals and fund projects in the field of environment and energy.

Those responsible at Bültmann for the funding application with its various work packages and milestones received intensive coaching. The application itself was checked thoroughly by the NRW.Europa team in terms of structure and content, and the state approved it. The project started at the beginning of 2022.





Not only technically is the idea of the permanent magnet heater a world first. The expected improvement in efficiency is also enormous.



The family business, founded in 1972, is now run by the second generation: Petra Bültmann-Steffin, Managing Director, is responsible for 120 employees.

Fully automatic disc separation systems for tubes and thin bars.



“The NRW.Europa team has accompanied and advised us for almost 20 years. We are very happy to make use of their business development and funding know-how and can recommend this to all other innovative companies.”



Petra Bültmann-Steffin
Managing Director
Bültmann GmbH

From research to application

CNM Technologies GmbH in Bielefeld has been working since 2011 to make the world's thinnest polymer films usable in the pharmaceutical industry, medical technology, electronics, the energy sector and nanotechnology, among other things. It finances this work with equity as well as venture capital from various investors and through numerous research projects. The funding experts in the NRW.Europa team were able to help them secure a project that is concerned with battery and fuel cell applications.

Anyone dealing with materials that cannot even be seen under a normal electron microscope requires a lot of patience and passion until these products arrive in the real world. Dr Albert Schnieders, who earned his doctoral degree in physics, is convinced of the future of carbon nanomembranes, or CNMs, and so founding CNM Technologies GmbH in 2011 was a logical step for him. He sees enormous potential, above all in conjunction with water applications. The membrane was developed at the University of Bielefeld. To make it usable, however, a kind of carrier film is needed which, among other things, ensures that the membrane – which is only a millionth of a millimetre thick – remains stable. This was developed and patented by CNM Technologies.

What can be done with the membrane in two specific applications is currently being explored within the Horizon 2020 research project “Water separation revolutionised by ultrathin carbon nanomembranes”, which started in August 2020. The research work focuses on filtering possibilities for ultrapure water and beverage concentrates. For the former, the CNMs should work like sieves for molecules and filter out water with as few dissolved substances as possible, such as salts and impurities. The second area is concerned with the “cold concentration” of liquids such as juices or coffee without the thermal processing usual today. This could save a lot of energy, and the new process should also significantly reduce transport volumes.

“We see vast potential in the application of CNMs in practice, in conjunction with sustainability, too. Of course, filter membranes already exist. But we want ours to be far better and economically attractive for the end user,” says Schnieders.

NRW.Europa helped to secure funding

Shortly after the start of the water project, Schnieders used the NRW.Europa team's detailed advice on the “FET Innovation Launchpad” funding programme, whose aim it is to make research results from ongoing or recently completed EU projects ready for the market. Having submitted a successful application, CNM Technologies was able to evaluate the potential of CNM composite membranes in battery and fuel cell applications for nine months under the project name CEnergy. This included examining exactly where the problems in the sector lie, experimenting, and compiling a feasibility study.

Because CNMs have high proton and lithium-ion permeability and contribute to doubling the lifetime of symmetrical Li-metal cells, CNM Technologies believes that they have tremendous potential and will secure the company an excellent position for the future.

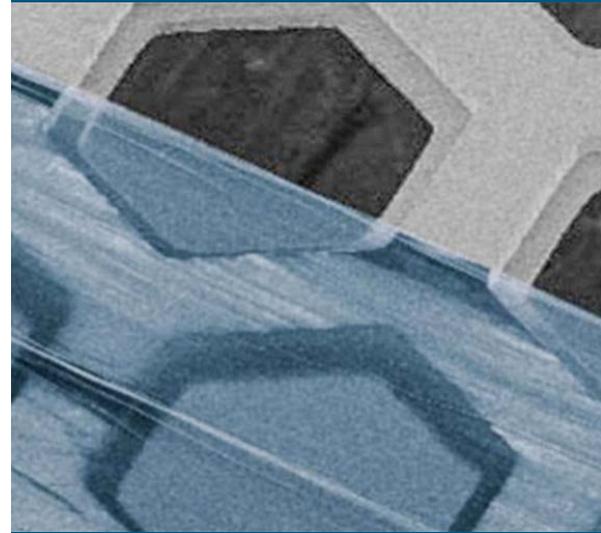




At CNM Technologies in Bielefeld, Albert Schnieders (right) and his team are working to make the world's thinnest polymer films usable for industrial applications.



CNM filter membranes can be produced in a roll-to-roll process, which is scalable for future production.



“I am already looking forward to further support and advice from NRW.Europa for follow-up project applications. For deep-tech companies like us, there are funding programmes that the team knows like the back of their hands, and this will help us to take the next steps and achieve our goal of becoming an important part of the value chain in carbon nanomembrane applications.”



Dr Albert Schnieders
Managing Director
CNM Technologies GmbH

We are part of it because ...



ZENIT

... we began helping small and medium-sized enterprises to turn good ideas into successful products and services back in the mid-1980s, strengthening North Rhine-Westphalia as a business location in the process. As the State of North Rhine-Westphalia's agency for innovation and European affairs, each year we accompany the innovation projects of around 3,500 primarily technology-oriented companies. We do this, for example, in our five specialist fields: digitalisation, AI and Industry 4.0, sustainability and circular economy, HR development, public procurement of innovations, and health, medical technology and life sciences.

Integrated in European networks from the very outset, networking is part of our inherent self-perception. Not only are we the consortium leader of NRW.Europa, this philosophy is also reflected in our shareholder structure. With the State of North Rhine-Westphalia, a group of banks and Netzwerk ZENIT e. V., we bring together all the partners required to develop practice-oriented solutions for ever-changing challenges, strengthen cooperation between business and science, and accompany companies on their path to transformation and internationalisation.

www.zenit.de



NRW.BANK
Wir fördern Ideen

... together with our partners in the NRW.Europa consortium, we want to empower North Rhine-Westphalia even more.

As the promotional bank for North Rhine-Westphalia, NRW.BANK assists the state with its structural and economic policy tasks, for instance by providing promotional loans for companies. In the last 20 years, over 900,000 projects have been funded, many of them in the business sector. The bank also offers promotional funds and financial instruments for internationalisation projects.

Companies that put projects into practice abroad strengthen their market position and thus also the economy in North Rhine-Westphalia. As the EU Funding/Foreign Trade & Investment Promotion Department of NRW.BANK, our aim within the NRW.Europa consortium is not only to contribute to a competitive, sustainable and future-oriented business landscape but also to further strengthen it over the longer term. With publications and events, we support SMEs on their international journey and provide information on public funding. With an individual approach, we show companies which customised funding and financing options are available at state, federal and EU level as well as in the target country of their project for their planned foreign trade activities.

www.nrwbank.de



... with the EEN we can complement our core activities in an ideal way. As the state-owned foreign trade promotion company, we are the first point of contact for all companies when it comes to investment projects and settling in North Rhine-Westphalia, developing growth markets and networking with international business partners. As Germany's leading business location, the state is in demand among foreign investors worldwide as well as home to numerous companies with global growth potential.

With our international offices abroad, we are represented in the markets of the future around the world and, with this extensive network, facilitate a direct dialogue with companies and investors who want to benefit from the advantages of North Rhine-Westphalia in both directions. Through our cooperation with the Enterprise Europe Network, we offer these clients extensive, sound and expert advice on how to make the most of opportunities in NRW and throughout the world.

www.nrwglobalbusiness.com/de



... we have a common goal in the NRW.Europa consortium: to strengthen and support small and medium-sized enterprises on their path to internationalisation.

This requires the pooling of expertise and the use of the synergies within the network of foreign trade stakeholders. In the field of foreign trade promotion, the 16 chambers of commerce and industry (CCIs) in NRW bring many years of practical expertise in supporting their member companies: around two thirds of NRW's firms with almost six million employees are organised in the CCIs.

With numerous specialist events and a broad range of information and advisory services, particularly in the field of customs and foreign trade law as well as market information, the chambers accompany enterprises in their foreign business activities as a reliable partner. In addition, the global network, consisting of CCIs and the German Chambers of Commerce Abroad, which are represented in 150 locations in 93 countries, contributes country-specific know-how across the world.

www.ihk-nrw.de

Sustainable, made in Europe and doesn't smell

According to the EU, washing, drying and ironing clothes is one of the three main factors that contribute to CO₂ emissions associated with clothing. Dominic Hammann has resolved to change this. With his sportswear label "Portance", he not only wants to save energy, water and waste but also say "Goodbye" to smelly sports gear. For the production and processing of suitable fabrics, he looked specifically for European manufacturers.

With his decision in 2021, he was already sending a clear message. And the company's name also distinguishes it from large players in the sports textiles market. Portance is French and means 'lift', a state of mind that is the Essen-based entrepreneur and weight-lifting fan's motto. "Our ambition is to make the transition between everyday working life and sports activities smooth and fluid, and to be able to offer something more in terms of function, lightness, effortlessness and high-quality materials instead of standard sports fashion." To achieve this, in the spring of 2022 he launched a successful crowdfunding campaign. The first products were delivered to eager customers at the beginning of October.

What convinced them was product features that are far from run-of-the-mill, functionality, design, quality and the promise of never being smelly again – despite continuing to sweat. Fuze™ biotechnology is the answer. When the organic cotton is processed, a fine, chemical-free mist is applied that leaves the mildew and bacteria responsible for unpleasant odours no chance whatsoever. "Not only is this a huge advantage in the gym, which is generally teeming with bacteria, above all it means vast potential savings as far as washing is concerned because this is no longer necessary after every workout. Simply hang your clothes on the line, take them down after 20 minutes once they are dry, and enjoy the fact that this will make your sports gear last longer," says Dominic Hammann, explaining one of the product's many advantages. At the present time, five

unisex articles are available, but many more are in the planning – depending, of course, on how demand develops.

But even as the product range becomes more and more diversified, the aim is to preserve what Portance stands for: smart and sustainable athletic wear, produced in line with the exacting sustainability criteria of the Global Organic Textile Standard (GOTS).

Suppliers found via the Network

Manufacturing fabrics and products in Europe was Dominic Hammann's goal right from the start, but as someone from outside the industry he did not have the right contacts. That changed with the ruhrSUMMIT start-up event, where he met the NRW.Europa team for the first time. Things then took more concrete shape in 2021 when he participated in the Fashion Match Supply online matchmaking event. This was organised by the Enterprise Europe Network and attended by 500 delegates from 36 countries, who held 465 bilateral meetings. The result was a contact to Poland and identification of a factory near Warsaw that met Dominic Hammann's requirements perfectly.

Through the Smart & Technical Textiles matchmaking event in early 2022, he also found a company in Lithuania that processes extremely fine cotton to produce very high-quality fabrics.



portance

<https://www.portance.de>



NRW.Europa contact:
ZENIT consultant Gregor Stolarczyk
gs@zenit.de





Vigorous exercise without unpleasant odours.



Portance stands for hand-crafted tailoring made in Europe.

The family-run partner factory is specialised in sportswear and employs staff from different generations. Like the father and son in this picture, who are responsible for cutting the fabric.



“ I can only advise every start-up entrepreneur to use the Network. Without the NRW.Europa team, we would not have found the European suppliers for our high-quality sportswear. We are convinced that good networking is the warp and woof of success.”



Dominic Hammann
 Founder and Managing Director
 Portance



First audit, then new know-how



The sustainable products, services and business models of and for resilient companies are the cornerstones of a business world geared to a circular economy. The NRW.Europa team knows the most important funding programmes and has developed a Circular Economy Audit Tool as an entry point for its consulting services.

The audit makes it easier to get to grips with the circular economy, especially for small and medium-sized manufacturing companies. It can be completed in 10 minutes, and the analysis immediately afterwards provides an indication of the company's strengths and weaknesses.

This forms the basis for classic technology consulting in several stages (state of the art, market, competition, green technology transfer, technology substitution, etc.) and research into possible technology and innovation funding programmes. The team can also help companies to enter international markets and network with new B2B partners abroad, should they so wish.

Consulting services can relate specifically to production, e.g. resource optimisation and innovation processes, or be broader, i.e. in terms of the overall business environment as well as sustainability and transformation. Social, economic and ecological aspects of sustainability come together here, and the NRW.Europa team examines the environment in which a company is active – or should be or would like to be. Keywords in conjunction with this are "impact" and "stakeholder analysis". This procedure is based on the ISO 26000 standard, which provides guidance on the social responsibility of businesses and organisations.

Guidance and capacity-building in relation to sustainability

- Information on and awareness raising towards sustainability-related topics and methods
- Individual guidance, advice and relevance assessment:
 - EU norms and directives, such as the Corporate Sustainability Reporting Directive, European Sustainability Reporting Standards
 - EU Taxonomy Regulation and Supply Chain Due Diligence Act (SCDDA)
 - Sustainability standards and framework (e.g. ISO 26000, Germany's Sustainability Code, United Nations Global Compact)
 - Information on individual stakeholder analyses and stakeholder management
- Sustainability-related technology and innovation consulting:
 - CE Audit Tool with a focus on production and processes
 - Information on and access to funding and finance for sustainability projects, together with NRW.BANK
 - Capacity-building for sustainability-based and circular business models
 - Technology scouting
 - Assistance with green technology transfer from universities to small and medium-sized enterprises
 - Technology assessments from the perspective of sustainability and recommendations on possible technology substitutions
 - Networking with international technology and business partners

“A really fascinating tool that addresses many questions related to concrete starting points for implementing circular economy strategies. So a great instrument as a means of orientation and for planning the next steps. I also find the presentation of the results very helpful, and it forms a good basis for the next stage.”

Patrick Bottermann

Head of Sustainable Business and Entrepreneurship
Collaborating Centre on Sustainable Consumption and
Production gGmbH (CSCP)

“ZENIT has always been an important partner for us. The CE Audit Tool is a logical further step in our business relationship as we enter the circular economy. The tool is a good instrument for identifying further potential and then using it.”

Matthias Poschmann

Managing Director
poschmann kunststofftechnik GmbH & Co. KG

“The questions in the audit help you to think thoroughly again about whether you have really paid sufficient attention to all aspects of modern corporate positioning.”

Wolfgang B. Thörner

Managing Director
WBT-Industrie Elektromechanische Produkte GmbH

“The circular economy is something which is an important building block along the path to climate neutrality. Above all implementation in small and medium-sized companies is important for its success. There is a need to create awareness at all levels (management, sales, logistics, purchasing, etc.) of the advantages that the circular economy also has for one’s own company. The questionnaire is a very good instrument that makes it easier for small and medium-sized firms to enter the circular economy. And this from both ecological as well as business perspectives.”

Dr Jochen Theloke

Managing Director
Gesellschaft Energie und Umwelt (GEU) at
VDI – Association of German Engineers

“Using the tool is child’s play, and it has helped me to gain a very diversified insight into the different application areas of the circular economy. Virtually all business areas are thoroughly scrutinised. It’s a valuable tool for a manufacturing SME.”

Niclas Beutler

Managing Director
Nature Compound GmbH

The circular economy philosophy is simple and convincing.

Instead of throwing products away at the end of their useful life, it aims to preserve the value of the raw materials they contain in the best possible way. This means that to retain the value of recyclable materials, it is necessary to develop products that produce fewer to no emissions both during production as well as after storage, transport and use.

For entrepreneurs (regardless of their sector), there are in principle only three main questions when deciding whether to introduce new topics such as the circular economy into their own company:

- Am I obliged to do this? (Legal requirements?)
- Am I able to do this? (If yes, how? And associated with this is ...)
- What does it bring me? (Not only in terms of money but also ...)

Although sustainability is playing an increasingly important role in the approval of state, federal and EU funding, among other things, so far only a very small number of companies have developed a viable strategy for this complex topic.

>> <https://nrweuropa.de/CEA.html>

From idea to fundable business model

If not now, then when is the ideal time for wind turbines that are also suitable for off-grid, decentralised locations? But securing the necessary funding and attracting investors is not so easy – despite the present times and circumstances that demand climate neutrality and sustainability. That is why the start-up entrepreneurs behind AdaptVerticalMills made extensive use of innovation management services to finetune their business idea and convince potential backers.

“Autonomous, modular and decentralised”. This is how the turbines designed by AdaptVerticalMills Gesellschaft für Adaptive Vertikale Wind- und Wasserkraftanlagen UG, an as yet small company from Meerbusch, should be.

“We see ourselves as a supplement to existing wind power systems on already developed land with infrastructure in place. This can succeed with vertical turbines based on the principle of ‘ACT’s Swinging Rotor’. We are thinking in terms of lightweight construction and modules with an output of around 50 kW,” explains Andreas C. Theil, the company’s founder, adding that the newly devised construction principle with flexible, elastic rotor blades, for which a patent has been filed, allows power generation already to begin at wind speeds of about 2 to 3 m/s. This means that the wind turbines produce energy much more consistently and evenly. With a maximum height of 36 metres, they are also far smaller than conventional turbines, which would significantly shorten approval procedures, he says.

In 2021, a few months after setting up his company, Andreas C. Theil contacted the NRW.Europa team because it had become clear that the business needed a sound foundation in order to interest investors in the project. In innovation consultant Bernd Meyer he found someone who was immediately convinced of the idea’s market potential.

A good idea is the basis – then it is all about getting it right and about structure

“If you want to convince people and assert yourself in the marketplace, you need a good concept and the right timing,” says Meyer, who assembled suitable consulting modules together with AdaptVerticalMills. First on the agenda was defining and structuring the technological development in the narrower sense. This involved general proof of technological feasibility as well as the basics of the business model in terms of customer benefits and market segments. In the course of several meetings, the financial requirements were calculated and decision criteria for the continuation or termination of various prototypes and phases developed in order to make the next steps as concrete as possible. “This is the basis for convincing investors, business angels and banks to finance the next stage or phase or else for stopping the project,” as Meyer knows from his many years of practical experience as a consultant.

Developing the business model, technical feasibility considerations and defining milestones were key to the progress that the project has made since then. In February 2022, the district authority (Rhein-Kreis Neuss) awarded the start-up funds to build a prototype on a scale of 1:10, and since July 2022 the Global Entrepreneurship Centre has also funded the idea.



ADAPT VERTICAL MILLS

<https://www.adaptverticalmills.com/>



NRW.Europa contact:
ZENIT consultant Bernd Meyer
bm@zenit.de





The vertical turbines are based on the principle of ACT's 'Swinging Rotor' and designed for an output of about 50 kW.



Small team with big plans: Urs M. Koeck, Andreas C. Theil and Victor J. Jürgensohn see their company as a supplement to existing wind power systems.

Autonomous, modular, decentralised and far smaller than the turbines we are familiar with today is how the turbines from the start-up in Meerbusch should be.



“The NRW.Europa team not only helped us to apply for public funding. What was even more important was laying the foundation for attracting investors' interest by developing the business model, checking the technical feasibility and defining milestones.”



Andreas C. Theil
Founder and Managing Director
AdaptVerticalMills

More efficient production and greater energy yield from photovoltaic films

Photovoltaic films that produce electricity are thin, light and flexible. Flex2Energy, an EU-funded project, has resolved to optimise both their production and energy efficiency. The NRW.Europa team helped Coatema® Coating Machinery GmbH, coating specialists from Dormagen, to formulate the contract – a complex task.

By means of an innovative prototype plant, 15 European partners want to bring not only production speed and efficiency to a new technical level but also the films themselves as the end product. The basis is a special roll-to-roll production line that will, however, use artificial intelligence as well as automated measuring technology and quality control to extend the variety of films that can be produced. This will enable customer-specific designs for buildings, greenhouses or the roofs of electric vehicles. At the same time, the consortium aims to significantly increase the film's electricity generation capacity per m² as well as its service life. The production plant will be built in Greece.

Coating expertise from Dormagen

Coatema® Coating Machinery GmbH has been an active player in traditional coating markets, such as the textile sector, for more than 40 years, and over 20 years ago it also began developing laboratory and pilot plants for specialised applications. These include, for example, batteries, medical products, fuel cells and printed electronics. Today, focusing on these high-tech markets, a comprehensive service portfolio and the largest R&D centre worldwide for coating, printing and laminating enable Coatema to offer its customers complete lab2fab technologies (from small samples to finished products). Since 2018, Coatema has been part of ATH Altonaer Technologie Holding.

Complex contract

Over many years, the NRW.Europa team and Coatema have discussed a wide variety of topics. It was therefore no coincidence that the company approached the funding experts with special and rather tricky questions. One issue was the accounting rules within the European programme Horizon Europe, and another question was concerned with clarifying and utilising joint research results and future production. The funding experts suggested how to word the consortium agreement and analysed the typical risks associated with EU projects.

The outcome was that in the winter of 2022 Coatema's and ATH's management signed both the grant agreement, i.e. the contract between the European Commission and the project, and the consortium agreement governing rights and obligations within the project.

Coatema® Coating Machinery GmbH is thus becoming part of a European value chain in a market of the future.

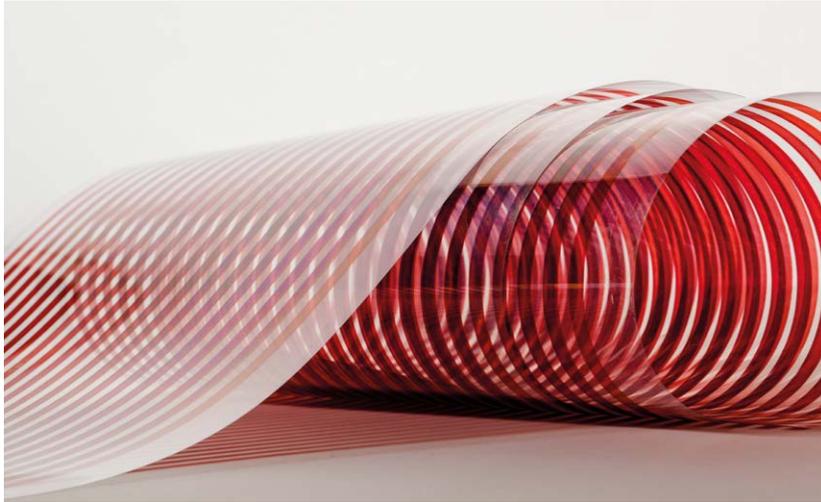


<https://www.coatema.de>



NRW.Europa contact:
ZENIT consultant Bernd Meyer
bm@zenit.de





Flexible organic photovoltaic cells of the third generation made by Coatema.

Organic photovoltaic modules can be used in greenhouses. Coatema is developing this technology together with OET Organic Electronic Technologies P.C. from Greece.



Together with a research consortium, Coatema wants to achieve greater efficiency in the production of photovoltaic films.

“Although we have often participated in European research and development projects, external support was necessary here and helpful in clarifying administrative questions and convincing the new management of the project’s potential.”



Regina Reuscher
Director Projects
Coatema® Coating Machinery GmbH

NRW.Europa

Your regional partner on the way to transformation and internationalisation



NRW.Europa – competent and close

We accompany small and medium-sized enterprises on their way towards a digital, sustainable and resilient future. We monitor the interaction of economic, ecological, social and cultural sustainability. Developing and implementing sustainability strategies also requires sustainable thinking. This means initiating change processes within a company.

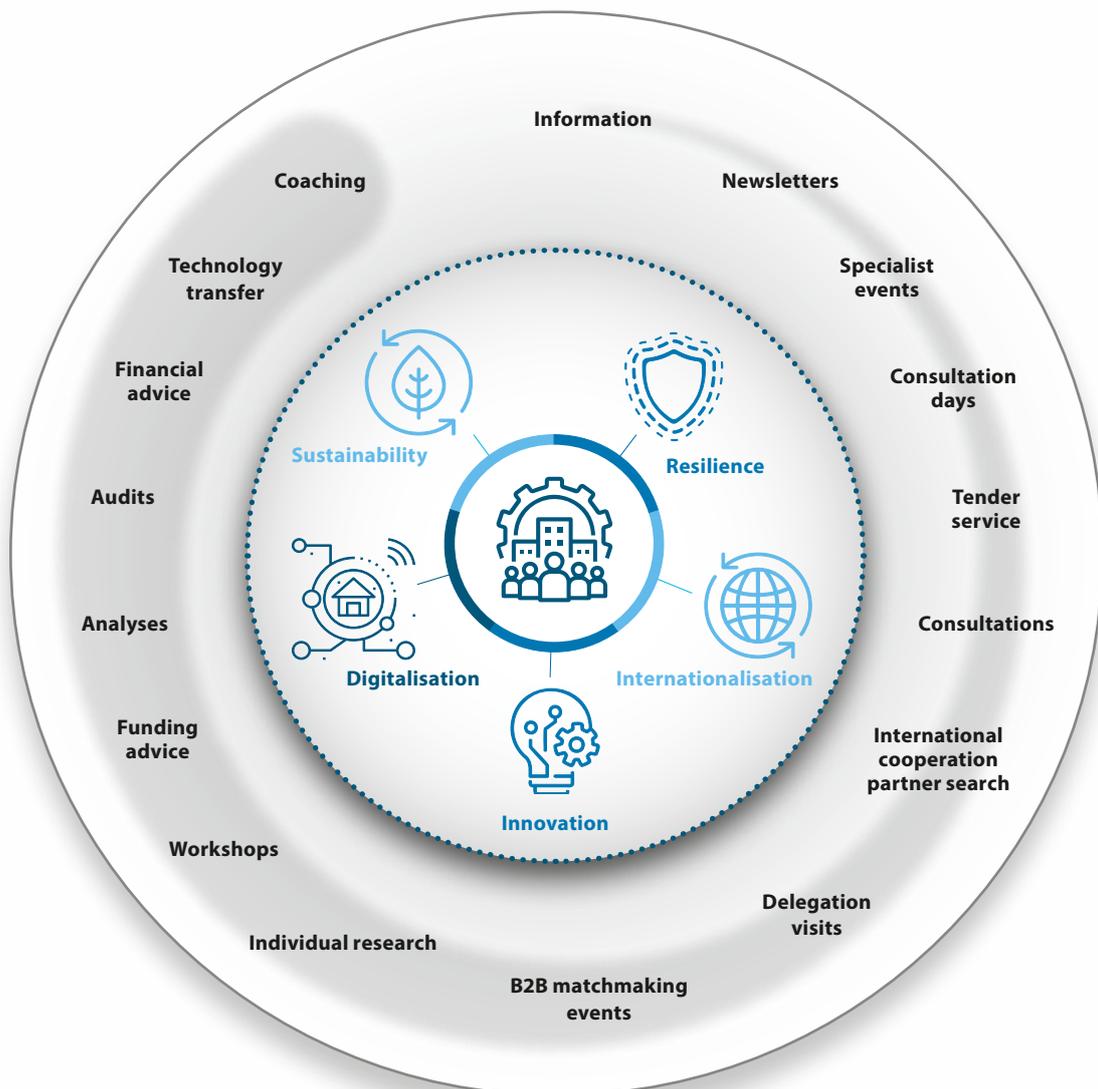
For implementation to be successful, it is important to bring staff onboard and involve them along the way. This is where we support our clients. Our objective is to shape what the European Union has set in motion with the #EUGreenDeal as a forward-looking strategy for companies in NRW. Practice-oriented and sustainable.

NRW.Europa is funded by the EU, the State of North Rhine-Westphalia and NRW.BANK.

Our services for your success

Our value proposition

We gear our services specifically to your requirements and put them into practice together with you. In the process, we use our consortium's consulting know-how and work together with over 600 partner organisations in the worldwide Enterprise Europe Network. This network effect is unique. Services are free of charge for small and medium-sized enterprises in NRW.



Sustainability

Help with sustainable and circular corporate management

Digitalisation

Implementation of digital processes and business models

Innovation

Financing, developing and utilising the potential of new technologies and services

Internationalisation

Creating access to new markets

Resilience

Development of viable business relations and models in disruptive times

Would you like our support? We are happy to give you individual advice.

www.nrweuropa.de/kontakt

@NRWEuropa

#EENCanHelp

#EEN_Deutschland



NRW.Europa Services

Sustainability
Digitalisation
Innovation
Internationalisation
Resilience

 **carbon neutral** print production | through CO₂ offsetting | www.natureOffice.com/DE-142-LQ4ZNPk



#EENCanHelp

NRW.Europa – Your partner in the Enterprise Europe Network

www.nrweuropa.de | info@nrweuropa.de

www.facebook.com/nrweuropa | <https://twitter.com/NRWEuropa> | www.nrweuropa.de/xing

NRW.Europa is funded by the European Commission, the Federal State of North Rhine-Westphalia and NRW.BANK.

ZENIT GmbH – Centre for Innovation and Technology in NRW

www.zenit.de | info@zenit.de

Tel.: 0208 30004-0

NRW.BANK – EU Funding/Foreign Trade & Investment Promotion Department

www.nrwbank.de | info@nrwbank.de

Tel.: 0211 91741-4000

IHK NRW e. V. – The Chambers of Commerce and Industry in North Rhine-Westphalia

<https://www.ihk-nrw.de> | info@ihk-nrw.de

Tel.: 0211 36702-0

NRW.Global Business GmbH – Trade & Investment Agency of the German State of North Rhine-Westphalia

www.nrwglobalbusiness.com/de | nrw@nrwglobalbusiness.com

Tel.: 0211 13000-0

ZENIT 

 **NRW.BANK**
Wir fördern Ideen

 **NRW.GLOBAL
BUSINESS**
Trade & Investment Agency

 **IHK** NRW

 **enterprise
europe
network**
Business Support on Your Doorstep

