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- Driving end to end change – how Gurit is working on Circularity
- Cybersecurity
- Building on the legacy of market-leading products – the newly launched PRIME™ 37
- And more...

HOW
INNOVATION
DRIVES US
FORWARD

GREETINGS FROM THE EXECUTIVE COMMITTEE

Dear Gurit Group Employee

As part of our One Winning Gurit Strategy 2025 we have committed to enhancing our internal communications. This new electronic magazine therefore aims to keep you up to date with recent activities and future projects. We hope you enjoy reading it and we look forward to receiving your feedback, observations or stories you wish to share in future publications. Please contact us at:

✉ internal.communications@gurit.com



Mitja Schulz
CEO

"Our Strategy 2025 sets the foundation for our ambitious growth plans in the years ahead. Innovation, Customer focus, Sustainability and our Employees are the key cornerstones we will build on."



Hannes Haueis
Group Human Resources

"My priorities are to manage and grow our talent pool, engage with our employees and establish an innovation culture."



Philippe Wirth
CFO

"Our financial performance relies a lot on our commitment to operational excellence and efficient collaboration."



Ernst Lutz
CTO

"Our innovation capabilities solve customer needs and enable us to be a trusted solution provider."



Bing Chen
BU Manufacturing Solutions

"We are in a great position to address automation trends, further reducing wind blade production cycle times."



Lance Hill
BU Marine Industrial

"Marine and Industrial markets offer significant growth opportunities that we strive to harvest with hard work and great product solutions."



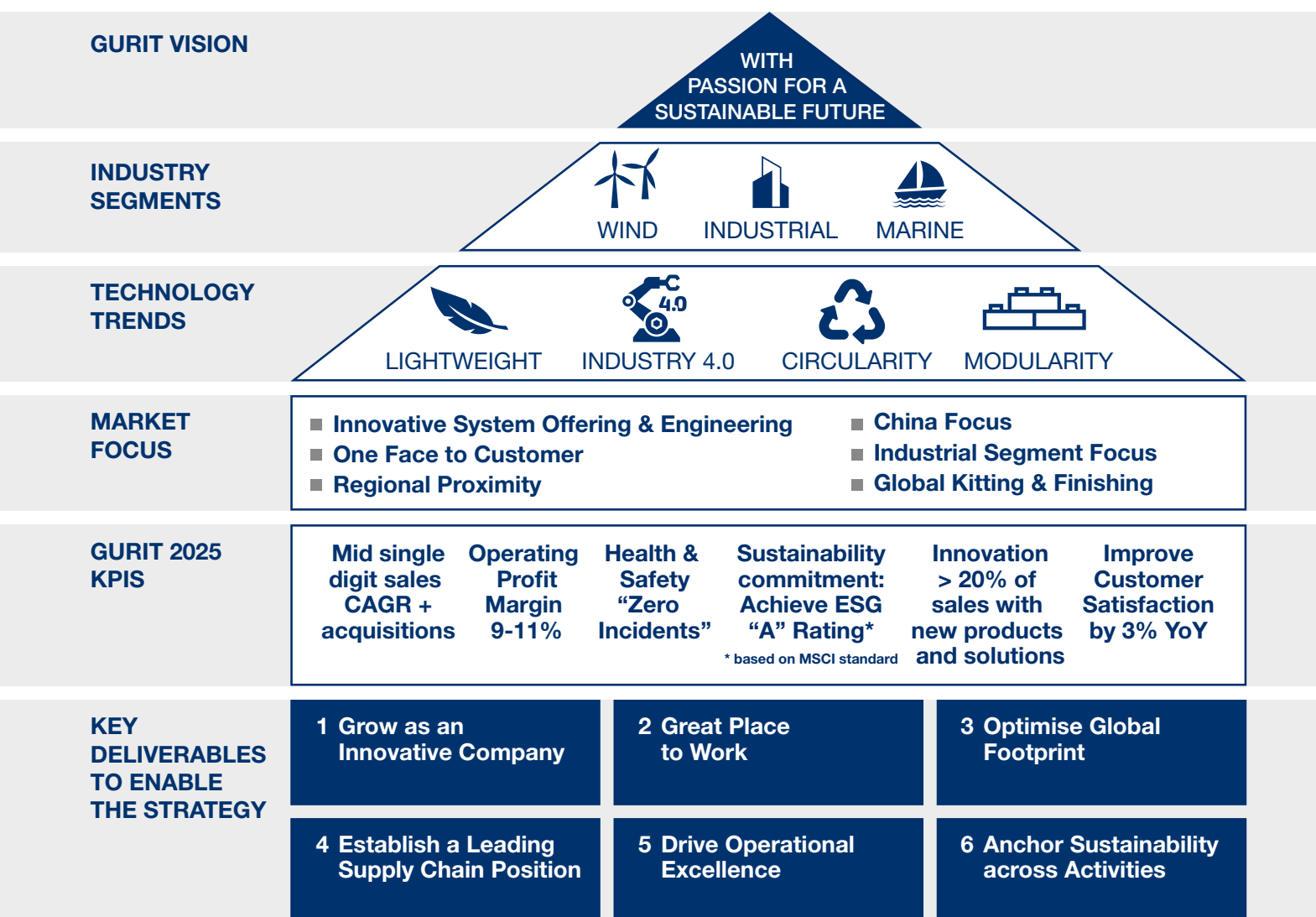
Lars Fuglsang
CEO Fiberline Composites

"Pultruded profiles support the latest technology trends in wind. Fiberline is proud to now serve the industry together with Gurit."

OUR STRATEGY 2025 HIGHLIGHT TOPICS

Click on these icons  for more info on a topic.

Our Strategy 2025 introduced last year has been updated after the divestment of Aerospace, but remains valid and provides us with strategic direction and orientation. Are you familiar with the strategy? Do you have questions? Ask your Manager or contact us at [✉ internal.communications@gurit.com](mailto:internal.communications@gurit.com)











Gurit Strategy House 2025

On track with executing our strategy

Several initiatives are under way, implementing our strategy. In Wind we have expanded our offering and strengthened our global footprint. In Lightweighting we are proud of our teams keeping us on a growth track, with strongly increased sales in Marine and exploring new market applications in Industrial segments such as construction and transportation.



 <h3>1: Innovation</h3> <p>Various projects on track: read on for more info. </p>	 <h3>2: Our workplace</h3> <p>Celebrating milestones and a new Employee Engagement initiative.</p>	 <h3>3: Global Footprint</h3> <p>Extending our global footprint in India.</p>
 <h3>4: Leading Supply Chain Position</h3> <p>Localisation, best-cost sourcing, supplier partnerships.</p>	 <h3>5: Operational Excellence</h3> <p>Safety First in everything we do.</p>	 <h3>6: Sustainability</h3> <p>Gurit has set 41 Sustainability targets for 2022. </p>

INTERVIEW WITH MITJA SCHULZ

What are the most exciting developments you have seen in the wind industry?

We are excited about the ever-increasing efficiency of wind turbines, and the amazing growth of both on- and offshore wind markets over the past decade. This provides us with great opportunities to offer comprehensive innovative solutions reducing cycle times and related cost-savings in the production processes. New engineering concepts, improved automation in manufacturing, and lighter materials have all contributed to the industry's ongoing success, and we are pleased to become an increasingly important contributor to some of these innovation trends.

What changes would you like to see in the wind industry?

It is our hope that the industry as a whole strives to find environmentally and economically sustainable end-of-life solutions for wind turbine blades. Partnerships and simultaneous engineering between suppliers, OEM and end users must be strengthened to further reduce the levelized cost of electricity (LCoE) and fully leverage the innovation capabilities of our industry.

Going forward, what role do you see your organisation playing in the future development of wind energy?

As a full service provider to this global industry, Gurit is poised to provide a wide range of resources to the future of wind energy. From our position as the largest independent, fully integrated and highly specialised mould maker worldwide, our global core kitting footprint, as well as the development of new materials for blade repair and automation solutions.

We will continue to expand our ability to offer OEMs localised production and kitting facilities, decreasing transit time and allowing us to be nimble in responding to our customers' needs.



Mitja Schulz
CEO

What are the latest trends in lightweighting?

We see widespread applications and a great potential in Marine and Industrial markets. Advanced composites are a design and innovation enabler and help to reduce both production and maintenance costs. Sustainability becomes a customer requirement and with our recycled PET we have a great offering.


If we look ten years ahead, what do you hope to have achieved?

We anticipate that in ten years, Gurit will continue to be seen as a leading solution provider to the wind turbine blade industry for mould making, renowned for its excellence in automation solutions, advanced composites and core kitting services as a result of our constant innovation and enduring commitment to our customers' success. Our Marine and Industrial business has grown significantly and we serve all relevant market segments globally. We expect to maintain our position as a climate neutral company and to have achieved many additional targets on our sustainability journey.

MAKE USE OF OUR IMAGE VIDEO AND COMPANY PRESENTATION



Marketing-Communications Portal:

 gurit2.sharepoint.com/teams/Marketing_Communications



SCAN TO
WATCH

EXPANDING OUR GLOBAL FOOTPRINT WITH LOCAL SUPPLY FOR INDIA



Our site in Chennai celebrated a **festive inauguration ceremony** on 28 June 2022, expanding our global footprint in India.

The plant has been officially inaugurated by Rudolf Hadorn, Chairman and Mitja Schulz, CEO of Gurit Group in the presence of Ernst Lutz, CTO, Dieter Jurczik, Head of Operations South Asia and Durga Prasad Amudalapalli, Managing Director of Gurit Wind Private Limited. Ceremony guests included Chennai staff members and various representatives from government, industry, customers and Global Gurit Senior Management and Technology teams.



Gurit campus in Chennai, South India

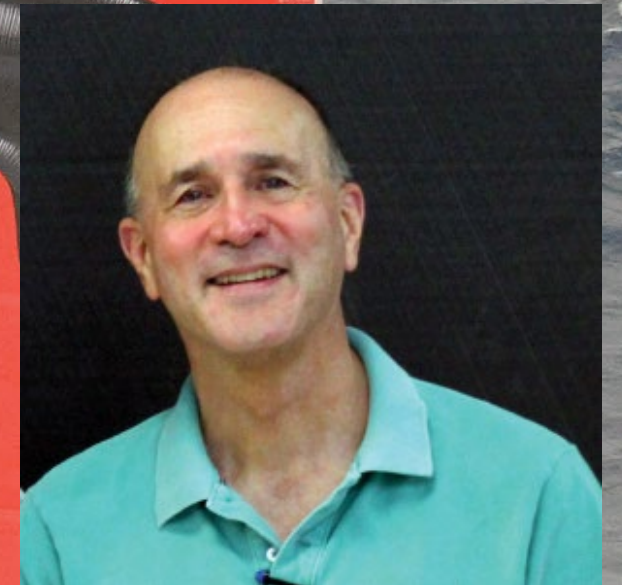


Production successfully started

Gurit's Chennai site has successfully started its **PET extrusion lines** - considered as the industry's most powerful and competitive production technology - and already made its first customer delivery. **Core kitting and tooling** operations will follow at a later stage. Currently the site employs a staff of 139. We wish the Gurit Chennai team a very warm welcome and look forward to a successful journey together.



SUCCESSFUL TOGETHER WITH OUR CUSTOMERS



Eric Goetz

Composite Energy Technologies

 [compositeenergytechnologies.com](https://www.compositeenergytechnologies.com)

Customers trust Gurit preregs for their reliability and versatility. **Eric Goetz**, known worldwide for his exceptional composites work, has long been a Gurit customer. Eric says, “We have used Gurit preregs for decades. The team is in touch with our needs and responds to our requests, including the special technical requirements of many of our projects, for which Gurit is uniquely equipped. And Gurit supplies us with first class products which are consistent from batch to batch and from year to year.”

**BUILDING ON DECADES
OF EXPERIENCE**

**SAFETY
FIRST**

SUSTAINABILITY

INNOVATION

**SUCCESSFUL
TOGETHER**

**COST
LEADERSHIP**

**CUSTOMER
FOCUS**

**OUR VALUES
DRIVE US FORWARD**

Download the Mission & Vision and the Value posters on the Marketing-Communications Portal:

 gurit2.sharepoint.com/teams/Marketing_Communications



SCAN FOR
POSTERS

DRIVING END TO END CHANGE

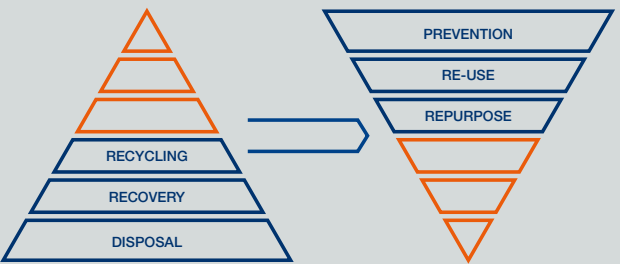
HOW WE ARE WORKING ON THE LIFE CYCLE OF WIND TURBINE BLADES

The wind industry is committed to finding optimal solutions for handling wind turbine blades at the end of their useful product life. Today, some advancements have been made and different innovative avenues are being explored. Gurit, too, is ready to play its part.

Recyclable turbines

Around 85% of a wind turbine is currently recyclable, specifically the foundation, tower and nacelle parts. The blades, however, are typically made from fibreglass reinforced plastic, for which there isn't yet an established recycling solution.

The composites used in blade production need to be particularly durable to withstand harsh weather conditions over decades of use. But because of this, it is incredibly challenging to break the material down for recycling. One solution is mechanical recycling: blades are broken down into smaller



fragments using mechanical “shredders”. However, the shredded material is of lower value and a suitable end-user stream for the material needs to be found to avoid committing to landfill. Some research is being done into the use of thermoplastics in wind blades so that the materials could be reformed at end of life, or at least separated and reused in other applications. But this approach is still only theoretical. Gurit is working on projects

for PET and core materials; but for fibre-reinforced materials, the energy required to reclaim the materials is very high.

Approximately 2.5 million tonnes of composite materials are used annually in the global wind industry, and around 14,000 blades are reaching their end of life, which is currently around 50,000 tonnes of composite waste per year.



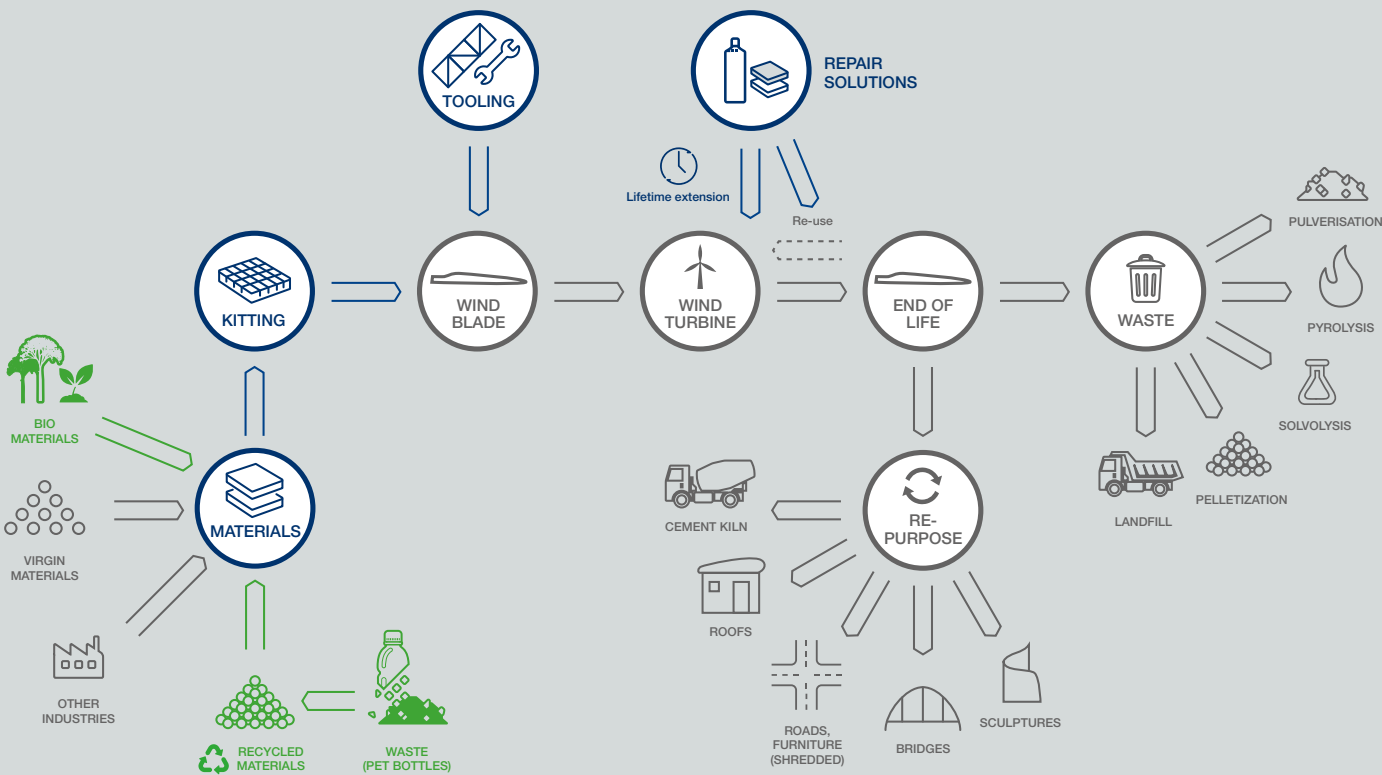
“Truly addressing end-of-life concerns of composite structures requires the integration of many factors within the lifecycle of a component. The development of recyclable resin systems in isolation is not enough to provide an industry solution. To develop effective End of Life solutions, the material suppliers, blade producers, farm operators, maintenance contractors and decommissioning entities all need to work together. It’s not something that one company or one part of the blade lifecycle can address alone.”

Paul Spencer
Head of Materials: Technology & Innovation

So what are the current options?

1. **Reuse of the whole blade** – they can be refurbished and transported to another farm, but this becomes logistically challenging as the blades increase in length
2. **Incineration** – difficult due to the amount of fibreglass, which is not combustible
3. **Recycling** – mechanically turning the composite materials into pellets or boards to be used in walls and flooring (companies like Global Fiberglass Solutions have made great headway with this)
4. **Co-processing in the cement industry** – this option reduces the consumption of some raw materials that would otherwise be needed to make the cement
5. **Chemical or thermal processing** – various processes are being researched and trialled to separate the fibres and the resin so that one or both can be reused. Current drawbacks are economic and environmental cost.
6. **Enzyme recycling** – use of enzymes to convert plastics (mainly polyesters such as PET) back into base chemicals (low technological readiness however)
7. **Fermentation of plastics** into biofuels (low technological readiness)
8. **Reuse sections of the blade** in playgrounds, as outdoor seats or repurposing in civil engineering projects for structures such as pedestrian bridges, beams, towers

Co-processing to produce cement is currently the most viable commercial option.



Circularity leakages: currently it may not be viable or necessary to have a completely closed circularity loop, as long as the material is diverted into other applications after recycling.

What is Gurit doing to get involved?

Wind blades are made of mixed materials, each of which has its own recycling process. It's not viable at this stage to use one group of materials for the whole blade as different parts of the component require different material properties. So we must find ways to easily separate and segregate blade components into individual waste streams at the end of life, and it is this area – the design of smart

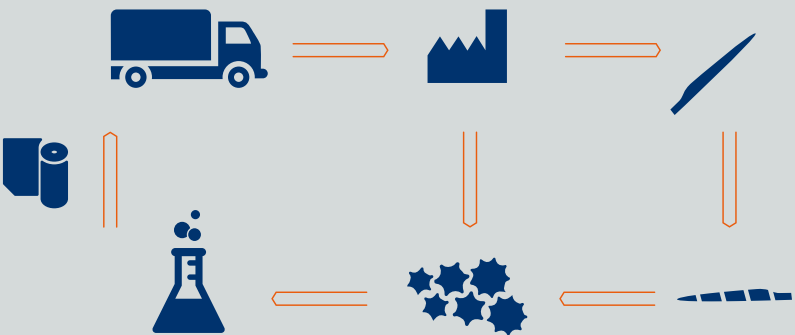
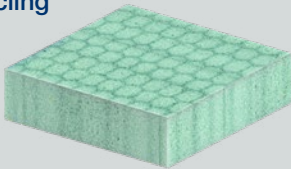
materials – that Gurit is committed to researching. The principle of 'reversible' resin systems involves developing the chemistry of the resin matrix so that when it is placed in specific conditions (conditions which the blade would not encounter during its lifecycle), it can be separated easily and on-demand from the fibre reinforcement.

Gurit commitments towards Circularity



Supporting industry initiatives with internal knowledge of PET recycling Industry

Increasing content of product with existing recycling solution like PET



Developing smart materials to enable individual waste streams

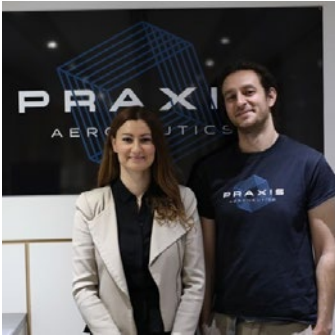


Offering end-of-life mechanical solutions through integration expertise

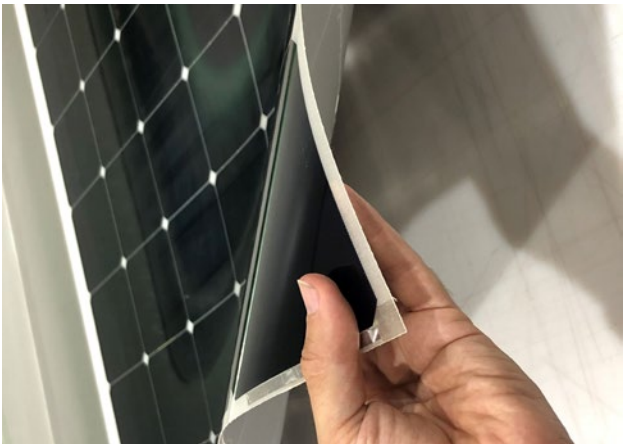


CUSTOMER SUCCESS STORY
SOLAR-POWERED COMPOSITES INNOVATION

The adoption of solar for unmanned aerial and surface vehicles has to date been hindered by the requirement to bolt on large bulky panels which add weight and often impact the performance of what is otherwise a lightweight structure. This is changing through the work of composites veteran Cameron Donaldson and his team at Praxis Labs. They have developed Structural Solar, a proprietary structural solar cell encapsulation system that **enables the solar cells to become part of composite structures**, rather than a bolt-on fixture, resulting in little to **no weight penalty**, and no loss of efficiency in the cells.



Katie Donaldson (Managing Director) and Cameron Donaldson (Founder) of Praxis Labs



"It has been important for us to work closely with technical partners, like Gurit, who understand what we do and share our vision of making bold and innovative technical advancements."

Katie Donaldson
Managing Director, Praxis Labs

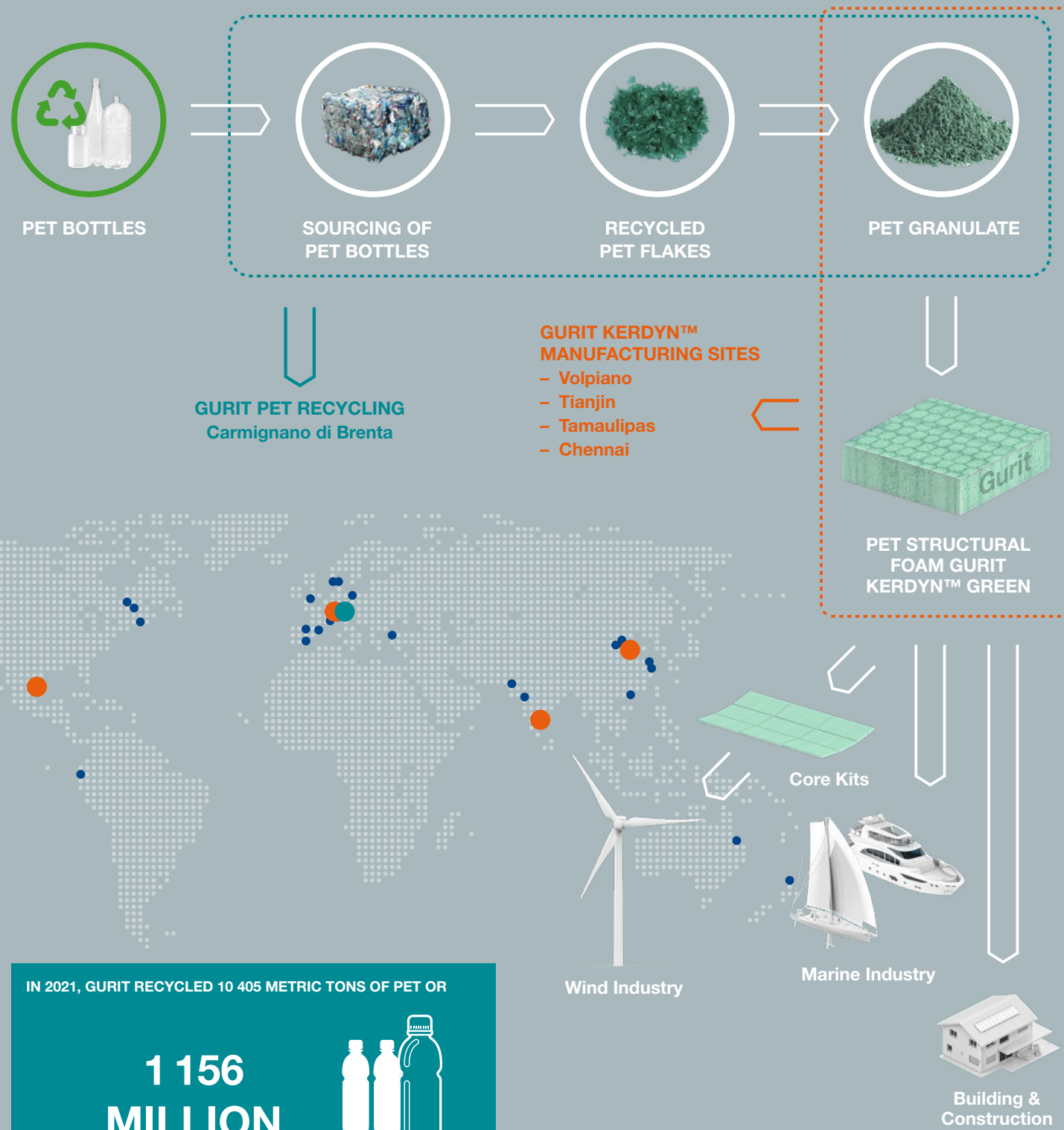
Structural Solar is **highly customisable**, just like any standard composite structure, with each solution engineered for the specific application. High altitude aircraft applications use the company's lightest Structural Solar. Marine applications tend to require Structural Solar tough enough to walk on, and strength is often the main requirement for the building industry.

Praxis has also developed a product called Solar Skins that suits larger structures such as super yachts, ferries and electric vehicles, which can be retrofitted. Supplied by the square metre or in custom shapes and with an extremely slim profile, they **blend seamlessly with customers' existing component with no compromise on aesthetics**.

praxislabs.com.au

PET RECYCLING

FROM RECYCLED PET BOTTLES TO STRUCTURAL FOAM



Gazechim Composites received a JEC Innovation Award for their logistics headquarters in Valencia (Spain), using Gurit materials



Boston Whaler



PET window sill



Diversification of our PET applications is part of our Strategy 2025. We are proud of the many markets we are serving, such as the Marine, Transportation, Building & Construction industries.

SAFETY FIRST

KEEP EACH OTHER SAFE WITH THE RIGHT “PERMIT TO WORK”



Our site in Tianjin has established a comprehensive safety management system, in which special “work permits” contribute to a safe working environment.

What is a “permit to work” in regards of safety?

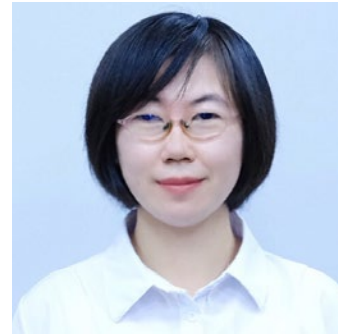
Before carrying out any special operation e.g. work tasks entailing high-risk, high complexity or unconventional methods, several steps need to be followed to attain the so-called special operation work permit. This involves a pre-operation risk analysis, a safety assurance scheme, successfully passing the evaluation of the safety scheme and finally obtaining the approval of the work permit.

Implementation at the Tianjin site

One of the most common special operations in the Tianjin factory is “hot work”, which includes not only internal management, but also the management of operators from external suppliers. We have a series of approval procedures, which are:

- Basic operation information
- Risk identification, analysis of possible risk types and occurrence probability
- Risk prevention and control plan
- Personnel safety education and protective measures
- Issue work permit

The approval process requires the participation of the safety director and Health and Safety personnel. Corrective instructions must be issued in time to ensure that the whole process of hot work is carried out safely.




“Safety is integrated in our daily life and work. At our Tianjin site we pay great attention to the implementation of the Safety First concept. From the site manager to the management team to every single employee, we all know that Safety First is everyone’s responsibility. Adhering to the highest safety standards helps us keep our employees healthy and happy and ensures sustainable operations.”

Susan Zhou

Senior EHS Officer, Gurit Tianjin, CHINA

Read more on our intranet:

 **Keep each other safe with the right “permit to work” (sharepoint.com)**

#GURITCARES

TAICANG IMPLEMENTS COMMUNITY INITIATIVES

During the pandemic our team in Taicang did a great job in keeping the factory running under difficult circumstances. Here we share pictures from two activities back in 2019 and 2020 respectively. As the situation around COVID now has improved, the Manufacturing Solutions site now has a few #GuritCares sustainability and local community initiatives on the agenda. Contact Fang Wu, HR Manager at Taicang for more details.



Hike in May 2019 for Taicang team and their family members

#GuritCares initiatives planned by Taicang

1. Employees hiking, picking up rubbish along the way – in Aug. 2022
2. Continue the used laptops donations to schools – in Sep. 2022
3. Go cycling to promote carbon neutrality – in Oct. 2022
4. Promote carbon neutrality in local school/community – in Mar. 2023



In July 2020 Taicang colleagues went on a cycling tour

FUELLING THE FUTURE

Hydrogen is a promising technology to harness and store the power generated by renewable energy. Today, the adoption of hydrogen is now being driven top-down, with many countries discussing it at policy-making levels. And forward-thinking marine companies are developing **innovative solutions to incorporate hydrogen-fueled propulsion** and operational systems.

Emirates Team New Zealand, to whom Gurit has been a long-standing supplier, has launched Chase Zero, a **zero-emission 10m foil-assisted catamaran** incorporating concept, hand-built Toyota hydrogen fuel cell units.

Hiringa is the supplier of green hydrogen, developing hydrogen fuel infrastructure and facilitating market use of hydrogen. They have been a critical part of the Chase Zero project and the fuelling infrastructure.

 emirates-team-new-zealand.americascup.com



“Emirates Team New Zealand continues to be at the forefront of innovation and we intend to really drive the development curve of new and clean technology in the marine industry. It is our hope that we can make a seismic shift into hydrogen power and an emission free statement for the industry.”

Grant Dalton
Emirates Team New Zealand CEO



Built and fitted out within 7 months, **Chase Zero features Gurit Corecell™ M structural foam core**, which was developed specifically for marine applications, offering superior dynamic energy absorption, high shear elongation for impact resistance and is suitable for high temperature processing. Gurit's high performance epoxy preregs, with excellent mechanical performance and a 35-year race yacht history, were used throughout the vessel.

Gurit's structural engineering team undertook optimisation analysis, particularly in way of the topsides and deck.

The team ran finite element analysis to optimise the hatches, creating a lightweight yet stiff platform, with as much open space as possible. The result is a unique lattice design on the deck.

Gurit has been a supplier to Emirates Team New Zealand, providing materials and technical support for the America's Cup yachts, for over 15 years. This collaboration continues with the hydrogen chase boats, the land speed craft and the AC40s currently in build at McConaghy China.



“As the design of the primary structures was well underway before final design of the systems, we had to incorporate some versatility,” explains Tony Stanton, Engineering Manager, Gurit Asia Pacific. “The deck and topside hatches needed to be large enough to access the systems hardware; and also needed to be structural to keep the vessel's weight down (she has a displacement of just 4800kg). In addition, the aft compartment had to allow sufficient ventilation for the hydrogen tanks that it houses.”

Tony Stanton
Engineering Manager, Gurit Asia Pacific



INSIDE GURIT

NEW BUSINESS UNIT STRUCTURAL PROFILES

FIBERLINE
COMPOSITES

We warmly welcome the Fiberline staff colleagues who have joined the Gurit Group in May. Fiberline is specialised on pultrusion technology. For example carbon pultruded profiles provide strength, stiffness and stability to increasingly wind turbine longer blades while keeping their weight down. Pultrusion is also used for root connections, where the blades are connected to the wind turbine. Further applications around the wind turbine, such as the helihoist platform railings. Fiberline processes carbon and fiberglass materials.

Pultruded Railings etc.



Fiberline manufacturing site in Denmark

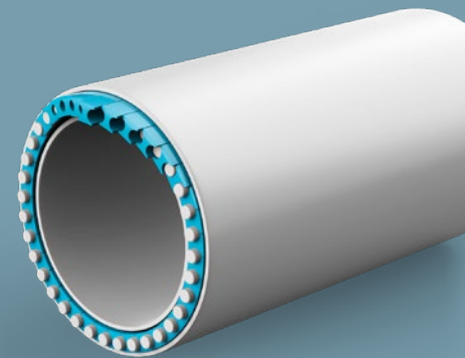


Gurit CEO Mitja Schulz meets the Fiberline management team and employees on May 6, 2022.

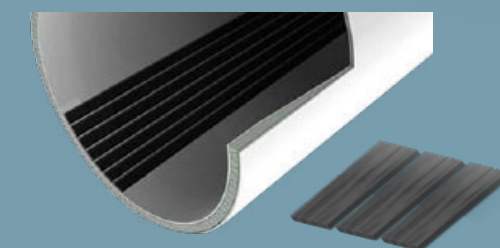
Denmark
China
India



Fiber Glass Root Connection



Carbon Pultruded Coils



THE NEWEST INFUSION SYSTEM FROM GURIT



PRIME™ 37

The same exceptional handling and laminate qualities.
Just safer for you – and the environment.

 gurit.com/prime

#GURITCARES

LENDING A HAND – REDUCING RUBBISH IN OUR WATERWAYS

Gurit joined the Ocean Crusaders team for a clean-up day on the Coomera River in Queensland, Australia. Ocean Crusaders are on a mission to clean up the waterways, in a bid to prevent tonnes of rubbish making its way into our oceans. In just one day, Ocean Crusaders and the Gurit team removed 940kg from the river, which included plastic bottles, chairs, pontoon debris, plastic pots and even a kayak!



Gurit is a signatory to the UN Global Compact, whose strategy is to drive awareness and action in support of achieving the 17 Sustainable Development Goals.

 sdgs.un.org/goals



SUSTAINABLE MATERIALS REIMAGINING SURFING

Riding the waves with recycled boards

The Australian start-up, JUC Surf aims to combine environmental consciousness with high performance and longevity. They were recognised for their efforts when they received the award for 'Best Composite Start Up' at JEC World in 2020.

In their recycled carbon surfboards, the team has selected to use Gurit Kerdyn™ PET foam core and AMPRO™ BIO, Gurit's new generation bio-based, multi-purpose epoxy system.



"The idea started with our desire to use recycled carbon fibre scrap materials for surfboards, and now we've been able to take it a step further by incorporating other sustainable and more environmentally friendly products."

Dr. Filip Stojcevski

Co-founder and CEO of JUC Surf



SUCCESSFUL TOGETHER

SUPPORT AND KNOWLEDGE EXCHANGE BETWEEN OUR SITES

Two colleagues from our site in Falces (Spain), Lorentzo González (Production) and Aitor Sanjuanés (Safety & Quality), carried out a series of support tasks for several weeks at our site in Mexico. They collaborated on the improvement of processes, looking for efficiencies, in order to achieve the objectives set by the Group for each and every one of its sites.

Aitor states: *"It was great to see the affection and gratitude of our Mexican colleagues. This has been a great experience of professional and personal growth for me."*



Lorentzo and Aitor (gray vests)
with our Mexican team (dressed in blue)



Likewise, two colleagues from our site Izmir (Turkey), Cansu Eren (Safety & Quality) and Seyma Dinc (Production) have visited the Falces site in Spain to exchange ideas on production excellence and quality management, and also learn from the safety practices in place, transferring best practice to Izmir and vice versa. In Cansu's own words: *"The visit clearly strengthened our team spirit and we had a very productive week together."*

Cansu Eren and Seyma Dinc in Falces

MAKING BEST USE OF RESOURCES



Water is a valuable resource. Let's take care of it together.

#GuritCares

As part of our Sustainability commitments we have set up a resource utilisation workstream and encourage our sites to commit to reducing emissions to air, water and land, minimising resource use and ultimately also saving cost. Here are two examples:

INNOVATION TO REDUCE WATER CONSUMPTION

Gurit's Carmignano site is working to reduce its water consumption and water pollution. One of the initiatives involves the PET recycling process.

To extrude the molten plastic PET into fine strands, the vacuum pumps of the extruder use water. At the end of the process, the water, which has interacted with contaminated air, needs to be treated as hazardous waste. These vacuum pumps are being replaced by new ones which won't require water consumption to work and therefore won't produce polluted water.

The new vacuum pumps will save 208 000 litres of water per year (4 000 litres per week) and reduce hazardous waste by the same amount.

RECYCLING TEMPERED GLASS PLATES

The Gurit site in Magog now recycles the tempered glass plates used for assembling the molds in the production of Corecell™. The glass plates break during the production process-handling and during the polymerization, creating scrap that was, until recently, sent to landfill.

The team first reviewed the manufacturing processes to see where improvements could be made: preventative maintenance was improved on critical equipment, the application of release agent on the glass was standardised, and more training was offered.

In addition, the team found an outlet for the 40 tonnes of tempered glass released during the manufacturing processes. A specialised recycler now converts this material into an abrasive for sanding and to be used in the filtration systems for swimming pools.



OPTICORE – NEXT LEVEL CORE KIT DESIGN



Many parameters impact the design of a single core panel, such as geometrical fit, blade weight, resin uptake cost, manufacturing costs, panel weight, panel permeability and infused mechanical properties.

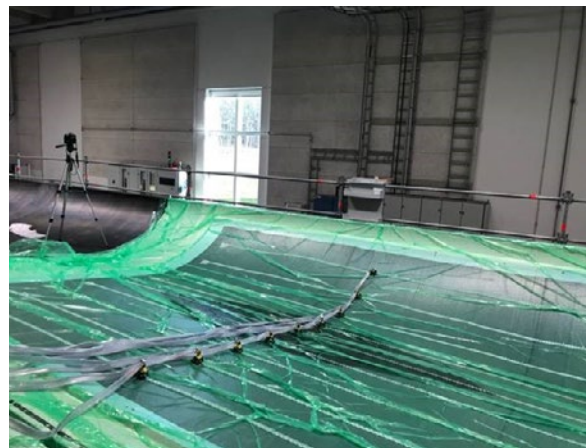
Core kit design is limited by human cognitive abilities, which restrict the number of product design parameters that can be considered simultaneously.



“Gurit experts have decades of experience designing core kits for wind turbine blades. Our new Opticore design platform opens new opportunities to explore the entire design space defined by our customers’ blade designs and specifications. Ultimately, this will enable us to identify solutions that were previously unconceivable and ensure that our customers can reduce blade weight and cost without compromising the blade quality.”

Morten Jacobsen

Head of Digitalization Technology
and Innovation at Gurit



Gurit, together with project partners DTU and the Energy Cluster Denmark, has received funding from the Danish Energy Technology Development and Demonstration Program to develop a new parametric core material design platform to help reduce blade production costs and shorten the time to market. With the new design platform, multiple optimisations can be run simultaneously, with many more variations being considered in a much shorter time.

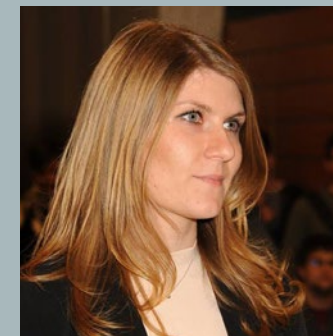
PLANNING AHEAD WITH OUR PEOPLE

We can grow as a business and achieve our ambitious goals if we have the right people in the right places. And at Gurit, we look to our current employees first. As part of our Strategy 2025, we have a talent management programme that allows us to build, maintain and train a pool of employees who have the desire, the skills and potential to be future leaders and experts in our business.

Leadership For Future

Each year, a limited number of employees are invited to join the Leadership for Future Network. They participate in special workshops and meetings, have an individual development plan that accounts for their long-term development and some participate in a mentoring programme.

We are delighted to be able to support the growth of aspiring leaders in our business in this way. For more information contact your HR Business Partner.



“I was hired as a “product development engineer” and then moved into my current role in Quality at the Volpiano site. As a chemical engineer I strongly believe that my generation can make the difference by contributing to the growth and expansion of green sources of energy and the reduction of non-renewable energy consumption. Those are all values pursued by Gurit with its sustainability strategy. Gurit allows me to work in an international environment and to connect with colleagues and Wind Energy industry professionals from all over the world. Gurit is a great place for me to consolidate my knowledge and offers personal and professional growth perspectives.”

Alice Borello

Quality Manager, Volpiano, Italy



Jorge is a Mexican national with quite a global track record. He has studied Mechatronics, Robotics and Automation Engineering and holds a Masters in Business and Economics from the University of Hamburg, an MBA from Fudan University and earned his PhD from the University of Antwerp. He joined Gurit as a Project Manager back in 2014. Today he is the Automation Business Leader at Gurit Taicang in China.

“Gurit offers exciting opportunities to work in a dynamic and international global team in an innovative field. And last but not least we work for renewable energy, a truly sustainable mission. I very much enjoy this.”

Jorge Zazueta

Automation Business Leader

INNOVATION AT THE HEART OF OUR CULTURE

“We take a holistic approach to address our customer needs” says CTO Ernst Lutz. “Today’s complexity in the businesses we are in requires an intimate customer-supplier relationship, that is focused on jointly addressing challenges and developing solutions. For that we foster a strong culture of collaborative innovation throughout our global teams.”

One of the ways we do this within the Gurit Technology & Innovation community is to apply a more agile, project team-driven development approach. This gives us the ability to adapt to changes and increase the interaction and productivity within and across the teams.

Establishing an innovation culture

The most ingenious innovation processes and the most modern innovation methods will have no effect without the commitment from the entire organisation, both management and employees to enable, support, and encourage. An innovation culture is a culture that promotes ideas and innovations in a positive way, where employees and managers have an open attitude towards new things, contribute ideas and actively support the implementation of innovations. This has become a building block of our Strategy 2025.

Why innovate?

It fuels our company growth - bringing new sustainable products and solutions efficiently to the market. Innovation is critical as we work towards achieving our vision “with passion for a sustainable future”. Innovation is an essential factor in the long-term success and survival of an organisation, enabling it to remain competitive in the fast-changing global economy.



“A strong innovation culture is the foundation for actual innovation. The current market environment is challenging and under such circumstances, radical innovation is to be expected – the time is right! It is essential for us to be at the forefront of it – speed is always of the essence – which is why we have to focus on innovation.”

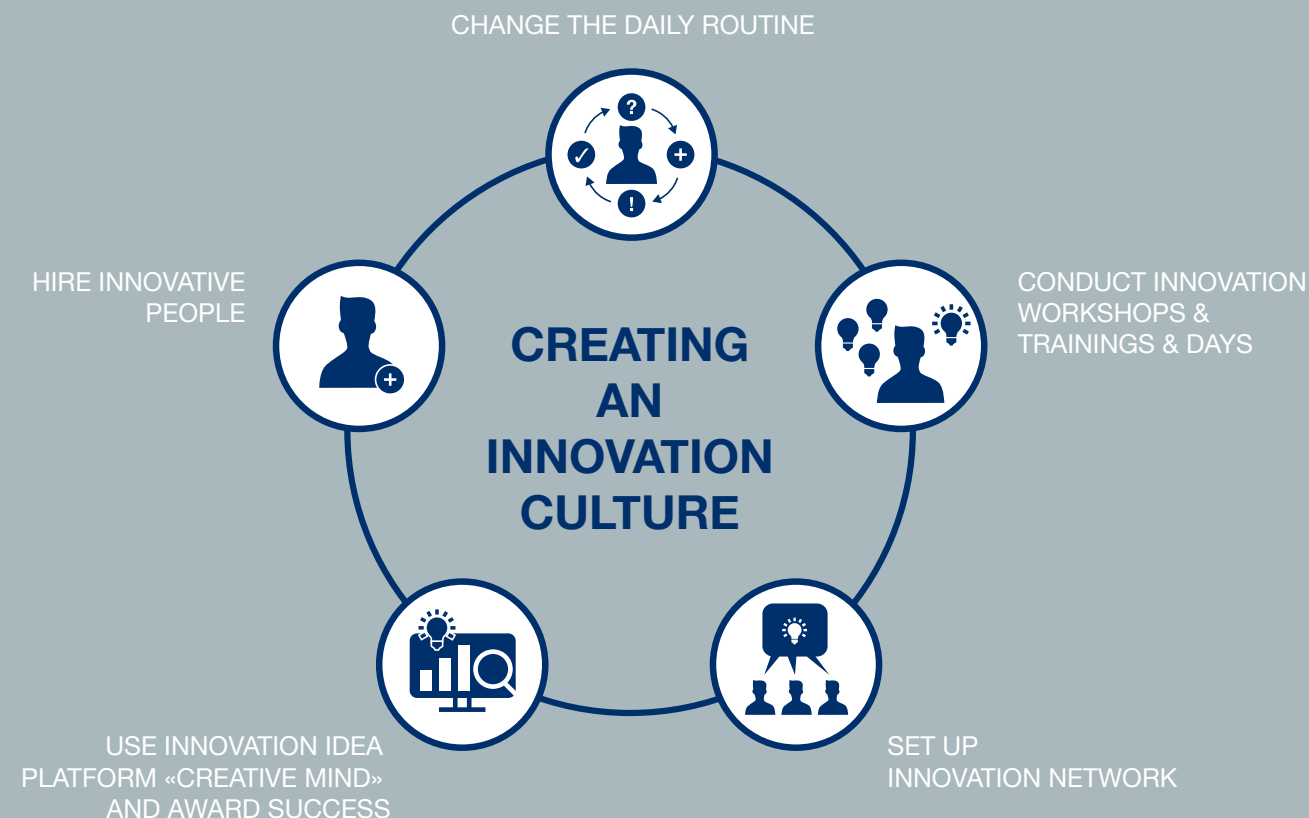
Dr. Ernst Lutz

CTO and Member of the Executive Committee

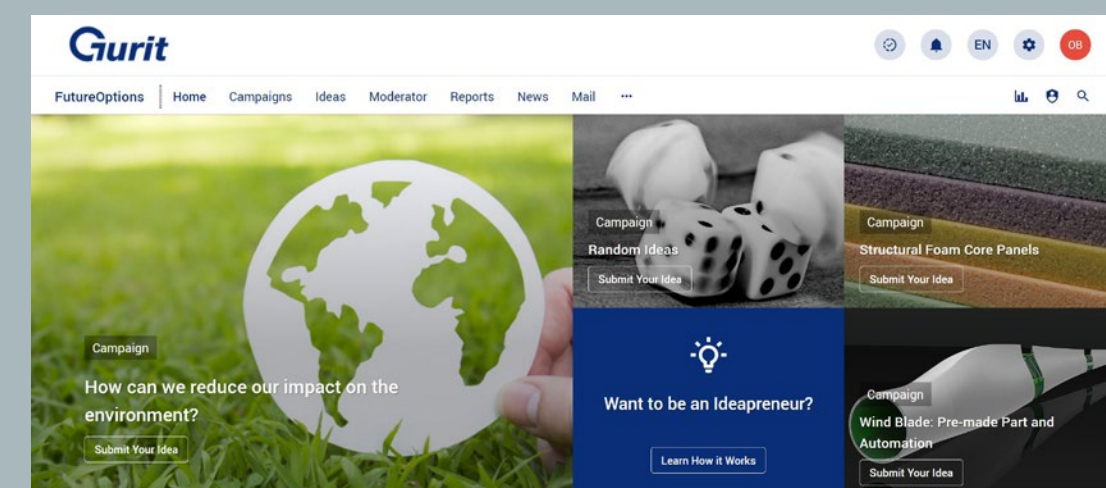
Inspire the organisation to foster innovation

With the launch of our Gurit Innovation Culture Initiative along with the Innovation Forum seminar series, we aim to spark innovative thinking in our organisation. Innovation is for everyone, no matter department, position and seniority.

Furthermore, we have developed a *FutureOptions* framework which intends to be extended to the organization in 2023, enabling the teams to engage, collect and explore innovative ideas and collaborate effectively.



Gurit's Innovation Culture Initiative that has started this year



Gurit *FutureOptions* platform

CARBON4STACK FOR EASIER, FASTER, FLEXIBLE PROCESSING OF PREPREGS

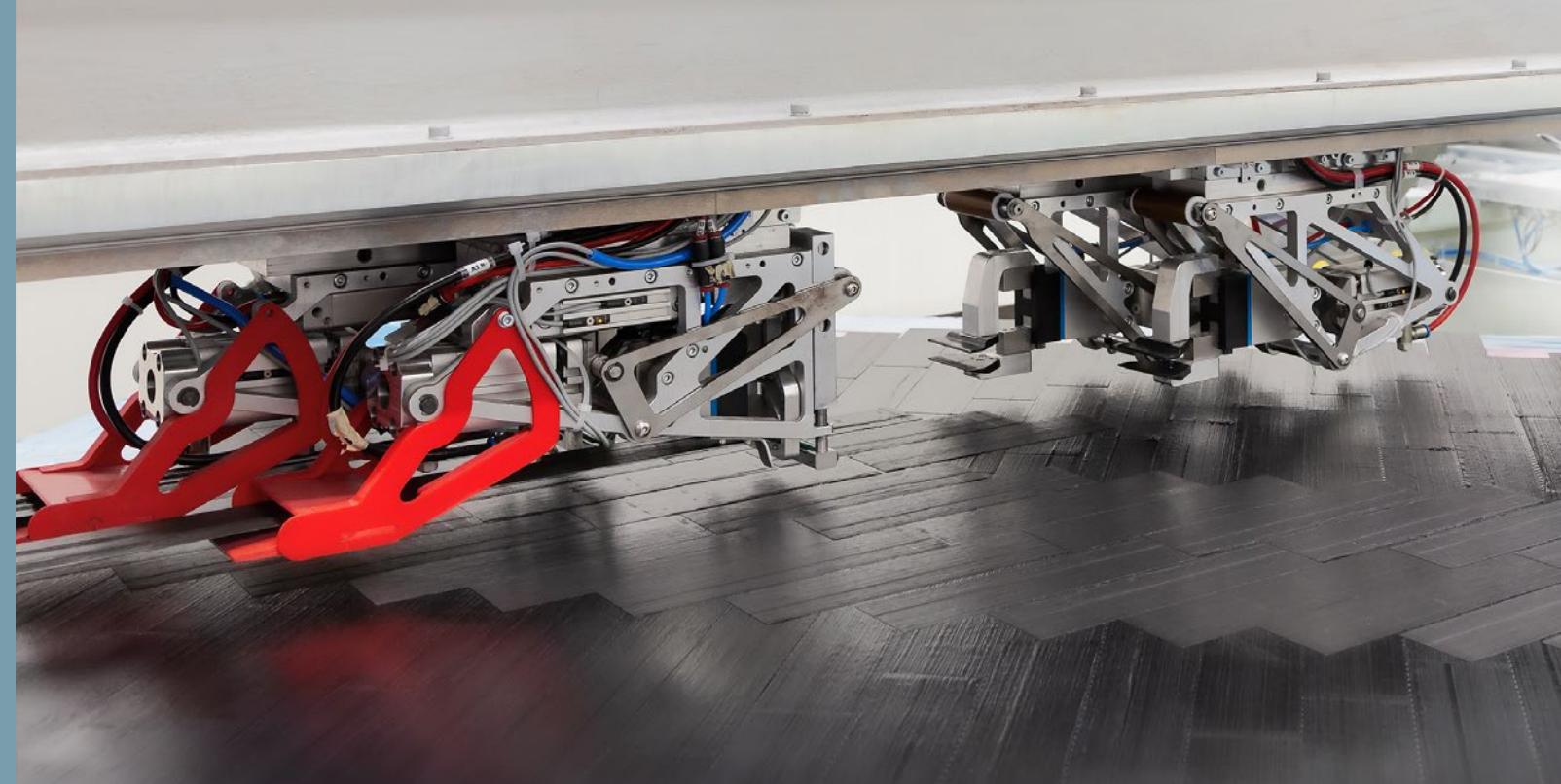


The Carbon4Stack solution, developed by Voith in partnership with Gurit, marks a technological breakthrough in the composites world by enabling a high volume and consistent serial production of carbon fibre-reinforced plastic components.

In short, Carbon4Stack are customised stacks made of pre-impregnated 50mm-wide UD tapes, with resin systems formulated to specific customer requirements. Each tape is automatically placed using VRA (variable rate application) technology, creating the desired layup including local reinforcements in any fibre angle. The final stacks are multi-ply laminates with variable thicknesses and local reinforcements, manufactured in near net shape to provide the ideal solution for each case and application.

Carbon4Stack offers significant time and cost savings for manufacturers by drastically reducing the number of manual processes and amount of waste generated during the production cycle.

It is suitable for prepreg compression moulding, as well as in- and out-of-autoclave processing, and is available in variable thicknesses to a maximum sheet size of 1600mm x 1800mm. The flexible production process means that varying quantities can be produced, making it suitable for prototyping through to series production.



Anna Pointner
CEO, Voith Composites

“The Voith Roving Applicator NextGen can move composites to the next level. It’s a great way to process the material – flexible, automated and leading to an impressively high quality. Our pilot customers are delighted and so are we. I’m very pleased to be working with Gurit, who also have such a drive for innovation in advanced composite materials.”

This year, the Voith Inline Thruster CFRP rotor blade using Carbon4Stack and Carbon4Tool was awarded a JEC Composites Innovation Award. The carbon fibre rotor blades are lighter, stiffer and more resistant to corrosion than if they were made with conventional materials. The innovative design is the result of a close R&D cooperation between Voith Composites, Voith Turbo, Gurit and Cotesa.



The Voith Inline Thruster CFRP rotor blade, winner of a 2022 JEC Composites Innovation Award

GURIT'S OFFERING FOR WIND AND LIGHTWEIGHTING MARKETS



Composite Materials Pultrusion Tooling Kitting Engineering

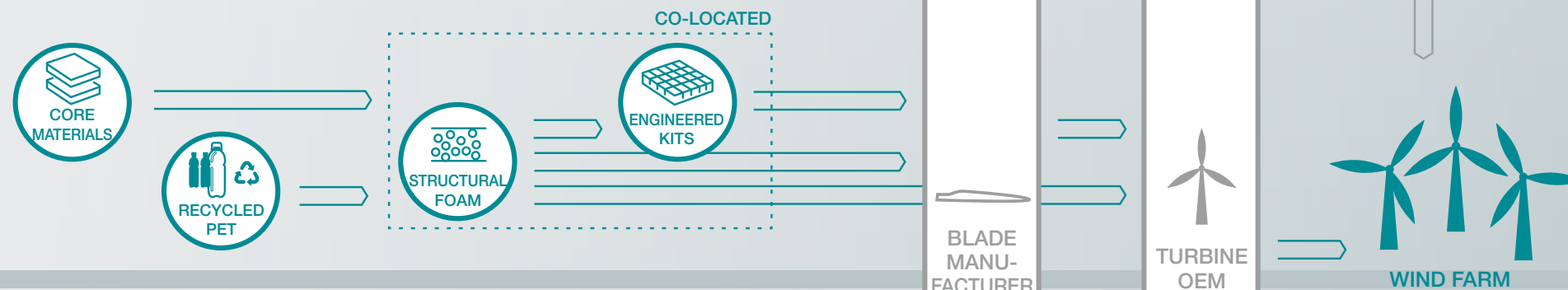
A comprehensive offering

WIND SYSTEMS	Wind Energy	+	+	+	+	+	+	+
LIGHTWEIGHTING	Marine	+	+	+				+
	Industrial	+	+	+				+

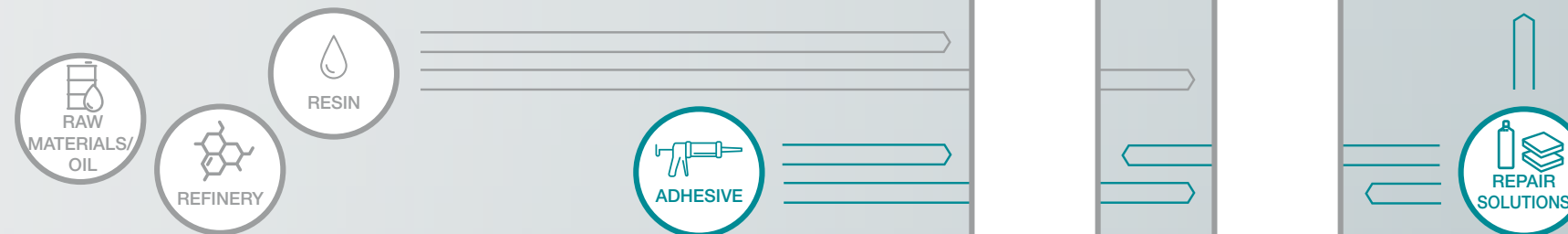
MANUFACTURING SOLUTIONS



CORE MATERIALS



FORMULATED



REINFORCEMENTS



GURIT – A SOLUTION PROVIDER FOR THE WIND BLADE INDUSTRY

OPPORTUNITIES IN WIND

In 2020, turbine installations surged in China and the United States ahead of subsidies lapsing. We might typically have expected a transition period prior to strong growth once again. However, no one could have foreseen the global circumstances that would lead to the challenging 2021 that we all experienced.

The positive long-term outlook however remains unchanged, driven by increased demand for renewable energy and commitments from governments to reach carbon neutrality targets.

In 2021, Gurit took the opportunity to review, consolidate and make strategic changes that would ready the company for the next phase of growth in the wind industry. We established our new kitting facility in Ahmedabad, Northern India, and also a PET manufacturing operation in Chennai, Southern India. We strengthened operations in Mexico to serve the North American markets. These together with our facilities in Europe and China, mean we are in a strong position to move forward and support our customers globally as the wind market picks up again.

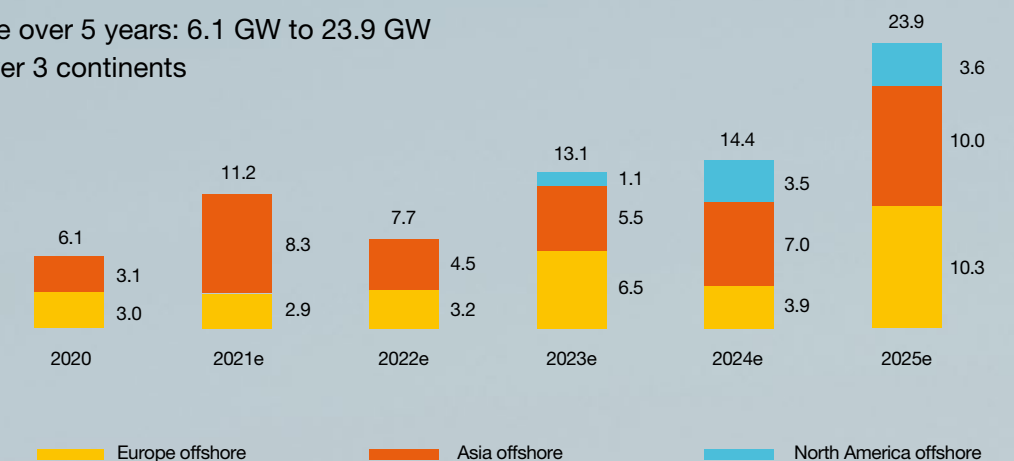
Continuing to innovate

We are actively researching solutions to address end of life concerns. Whilst we often think of recycling and reuse, we also consider elimination of waste by improving reliability and longevity of the parts through the initial use of more robust materials. And our latest repair solutions are ideal for the increasing number of existing wind turbines that are approaching an advanced age in their service life and in need of more frequent maintenance.

The Gurit Wind Systems technology centre at our site in Ringkøbing, Denmark, plans to expand to around 2500 m², becoming a fully-fledged Wind Application Centre that offers a range of testing capabilities, from coupon-sized samples to full scale panels in a full-sized blade mould.

Wind Offshore Opportunities Growing Globally

- Quadruple growth rate over 5 years: 6.1 GW to 23.9 GW
- Growth distributed over 3 continents



Source: GWEC 2021

Hydrogen – the next piece in the renewable puzzle

Over the last 20 years, we have seen great gains in renewable energy production. However, our energy consumption is growing at an even faster rate. Resulting in turbines getting bigger, and offshore farms becoming more established.

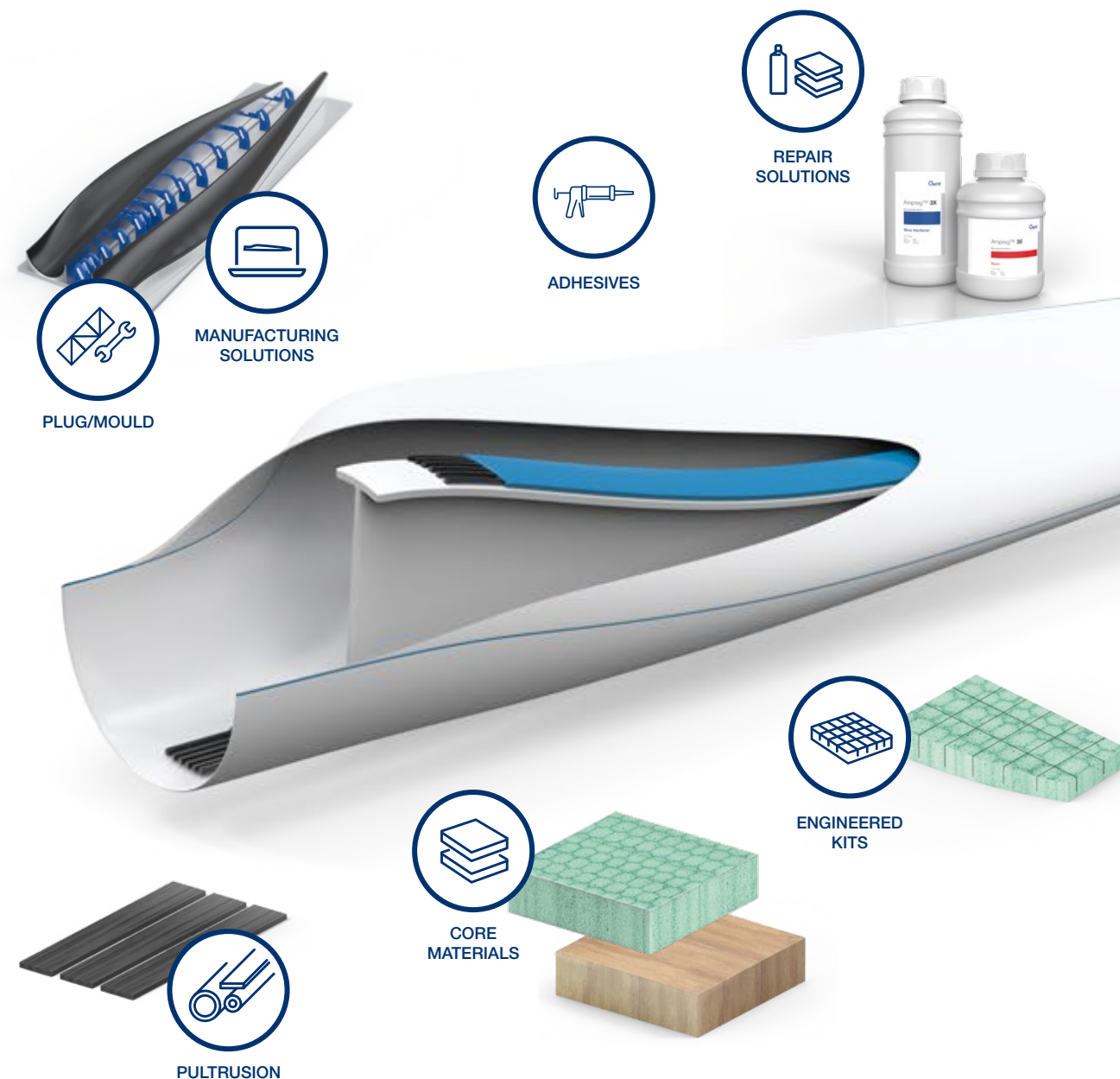
Excess energy is generally not stored in the normal operation of a wind turbine and goes to waste. If we're going to have a real impact on the fight against climate change, we must manage the efficiency of supply and enable the full potential of the farm to be realised.

Many people believe that hydrogen produced by electrolysis could provide the answer.

Electrolysis is the process of breaking down a substance into simpler substances when an electric current is passed through it. Excess electricity produced from the wind energy can be used to produce hydrogen from water, with the only by-product being oxygen. The hydrogen can be stored until it is needed, when it will be converted into electricity again, with heat and water the only by-product.

Hydrogen produced by electrolysis can be zero carbon emissions, if a renewable source of electricity, such as wind energy, is used.

MOST COMPREHENSIVE MATERIALS AND AUTOMATION SOLUTIONS



Fiberline Composites is 60% owned by Gurit, and enhances our product offering in the Wind market, ensuring we continue to be positioned as a one-stop-shop for blade manufacturers. Carbon fibre pultrusion is a rapidly growing technology which offers significant weight savings compared with fibreglass solutions. It is ideal for producing stiffer and lighter wind blades which continue to grow in size. Gurit India and Mexico will work with Fiberline to further enhance our co-location strategy; and our supply teams will cooperate to leverage purchasing opportunities.

MAJOR TRENDS IN THE WIND INDUSTRY

Development of offshore wind

It is expected that new offshore wind capacity will dwarf new onshore capacity within the next decade. Offshore turbine sizes are expected to reach 20MW in the next decade, with hub heights heading towards 150m.

Ever bigger onshore turbines

Researchers from the National Renewable Energy Laboratory predict that by 2035, hub heights of onshore wind turbines will reach 130m.

Logistics continue to challenge

As technology has trended towards taller towers, larger rotors and longer blades, so the logistics and transportation challenges have increased. Suppliers and OEMs are looking at supply chains and considering proximity to each other and to the final project sites.

Materials development

With larger turbines on the horizon, blade materials are changing to meet the performance and logistics requirements. Different core materials are being specified, blades are being manufactured in sections, manufacturing automation is becoming a priority to reduce leadtimes, and there is a higher share of carbon pultrusion being used.

End of life management

The industry is working in several areas to address the end of life challenges that wind turbines pose. This includes extending lifecycles, reusing the blades in other structural and non structural applications, recycling, or co-processing in the cement industry. Longer term, there is a vision for a 100% recyclable blade.

Energy storage

Energy infrastructure around the world will continue to undergo a significant transformation partly due to the emergence of larger, less costly and more efficient battery energy storage. This means wind energy generation can be maximized by being captured and stored until needed.

WE ARE PROUD OF OUR TEAMS DRIVING INNOVATION IN ADVANCED COMPOSITES FORWARD



Oliver Buckett is based in the United Kingdom and is the head of one of our global application centres. Shown here, Oliver is working with a test panel of Gurit's short fibre prepreg (SFP) in press moulded format.



“Together with our colleagues in the Technology & Innovation and Production teams we are passionate about finding reliable solutions to customers’ problems and continuously developing and testing innovations for the advanced composites industries.”

Oliver Buckett
Head of Application Centre, UK

CYBERSECURITY MATTERS TO ALL OF US



“Cybersecurity today has become a major business risk. We all have to be vigilant to keep our systems and operations safe.”

Philippe Wirth, CFO

A cyberattack can deprive a company or a family of access to their devices, business data, all your personal photos, result in fraud or have other devastating effects, causing harm or even death. Enough reasons to take cybersecurity seriously.

Phishing attacks on the rise

Phishing is counterfeit communications that appear to come from a trustworthy source with the purpose to gather login information for use in more malicious attacks.

How does phishing work?

Phishing starts with a fraudulent email or text message that looks as though it comes from a trusted sender. It can fool the victim into providing confidential information, often on a scam website. Sometimes malware is also downloaded onto your computer.



Spear Phishing

Spear phishing targets specific individuals. In that way, the attackers can customise their communications and appear more authentic.



Microsoft 365 Phishing

The methods used by attackers to gain access to a Microsoft 365 account are fairly simple. Typically it is a fake email from Microsoft containing a request to log in so that the user can reset their password or suggests that there is a problem with the account that requires attention. A URL is included, encouraging the user to click on it to fix the issue.



Business Email Compromise

Email compromise includes carefully planned and researched attacks that impersonate a company executive, vendor, or supplier. Adversaries create targeted messages and add unique details about either the person as whom they are posing, and/or the person they are attacking, to add legitimacy to the request.



Voice Phishing

These are fraudulent phone calls designed to obtain sensitive information, such as login credentials. The attacker may call pretending to be a representative from IT or another corporate department. New employees are most vulnerable to these types of scams, but they can happen to anyone.

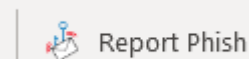
“There is a hacker attack every 39 seconds.”

(University of Maryland)

“Over 75% of targeted cyberattacks start with an email.” (Round Robin, 2020)

Phishers frequently use emotions like fear, curiosity, urgency, and greed to entice recipients to open attachments or click on links.

It only takes ONE successful phishing attack to compromise our network – think carefully before clicking on links.



THINK before opening emails, and if in doubt, report it using the REPORT PHISH button in Outlook.

This allows the IT team to remove malicious messages from all inboxes of Gurit colleagues.

Assume Every Email Is a Potential Phishing Attempt
Examine an email to determine its authenticity.

Check the Address

Simply verify the “From” address of the email.

Preview the Email

Ask questions such as:

- Am I expecting this email?
- Is the email offering you something that is simply “too good to be true”?

If anything seems odd, do not do anything further other than hitting the “Report Phish” button.

Check Grammar and Spelling

Often grammar, spelling, and even formatting can be red flags.

Look For Your Name

Further to grammar and spelling, look for other elements related to your name and how you are addressed. A generic greeting (e.g., “Dear Madam”) may be an indicator of a scam.

Check for Requests

Most fraudulent emails ask the recipient to respond to the email or click a link in the email. Anything peculiar or unnecessarily urgent should be cause for concern.

Look Closely at Links

To determine the validity of a link, move your mouse over it without clicking. If the link, usually appearing in the lower left-hand corner of the screen, reveals a long URL with an unfamiliar domain, the link should not be clicked. Also look for domains such as “micr0soft(.)com” (number 0 instead of the letter O) which try to fool potential victims.

Do Not Open Attachments Until Verified

An attachment, even one with a seemingly harmless name like “Monthly Report” with a familiar file extension such as PDF, could be malware and should not be double-clicked or downloaded until you have verified that the sender is legitimate.

[Link to Cybersecurity Portal](#)



ONE WINNING GURIT



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marcom@gurit.com
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Share your Gurit success story
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