Publication paper

on the international innovation challenge

INNOVATE 2030

Digital Natives for

12 responsible consumption and production

ekipa

Bundesministerium für Wirtschaft und Energie

Umwelt Bundesamt

BECHTLE

impact week

BELL

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duisport

GROPPER

SWAROVSKI

WMF

KION GROUP

Part of the  series

INNOVATE 2030
Digital Natives for a Sustainable Future

#INNOVATE2030

> “Making peace with nature is the defining task of the 21st century.”
>
> – Antonio Guterres,
> United Nations Secretary-General

Antonio Guterres, https://www.un.org/en/climatechange/un-secretary-general-speaks-state-planet, 2021.10.13

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Greetings

PETER ALTMAIER
Federal Minister for Economic Affairs and Energy

I support the project „Innovate 2030 - Digital Natives for a sustainable future".
It makes a valuable contribution to finding solutions for two major challenges of this decade: Digitization and sustainable living and business.
The goals of the 2030 Agenda for Sustainable Development are the guiding principles for all our actions.
Digital solutions in particular offer great opportunities for more sustainable development.
It is crucial that digital processes and products are designed to be resource- and energy-efficient. No one should be left behind in the digital transformation.
Break new ground, develop creative, innovative ideas, make interactions, but also possible conflicts of objectives, visible and show balanced solutions.
I wish you all the best in this endeavor.

DIRK MESSNER
Head of the Federal Environmental Agency

“The Innovate 2030 project series addresses central and relevant problems facing our society.
This includes the search for solutions to the major challenges for a sustainable future. Finding such solutions requires the cooperation of politics, science and business with new partners, such as the digital generation and tech scene.
In order to be able to counteract global environmental changes, new forms of knowledge creation and exchange are needed. In particular, however, we need to enter into exchange with the younger generation and jointly develop innovations when it comes to securing and creating good and sustainable livelihoods and quality of life for future generations.”

AARON KEARNEY
Innovation and Design Thinking Coach

“The Innovate 2030 project series addresses central and relevant problems facing our society. This includes the search for solutions to the major challenges for a sustainable future. Finding such solutions requires the cooperation of politics, science and business with new partners, such as the digital generation and tech scene. In order to be able to counteract global environmental changes, new forms of knowledge creation and exchange are needed. In particular, however, we need to enter into exchange with the younger generation and jointly develop innovations when it comes to securing and creating good and sustainable livelihoods and quality of life for future generations.”

BENJAMIN MORGENSTERN
Business Expert Digital Sustainability, Bechtle AG

“We at Bechtle are very pleased to be part of Innovate 2030. We, too, feel the change towards a circular economy and support our customers on their way to more sustainability. We were thrilled to see how committed and passionate the numerous teams are about a sustainable economy: With progressive product and process ideas, with creativity and stringency, with ambition and courage. It is precisely the combination of digitization and sustainability that is the future topic of our time. At this point, we encourage exchange with the young teams and know how to integrate this into our day-to-day business. As an innovative employer, we will continue to support young people as they embark on their careers and take pleasure in what we have achieved together: together strong for the future. That is what we stand for. I wish you every success.”

JUSTIN GEMERE & NICO HEBY
Founder ekipa GmbH

1.5 years ago ekipa started not only to address individual challenges together with companies, but also to address the major social challenges of our time.
After the great success of Deutschland 4.0, INNOVATE 2030 was now the next logical step: We have initiated a program to address the 17 Sustainable Development Goals of the UN and include various partners from business and politics in order to tackle the most important topic of our time: a sustainable society and a sustainable world. With the first project in this program, we made a conscious decision for an SDG that enables the most tangible challenges possible, but at the same time also enhances feasible solutions: SDG 12 - Responsible Consumption & Production.Technology plays an enormous role in a more sustainable world and so we have started looking internationally for the most talented and potential innovators of the digital generation. From my point of view, we have definitely succeeded and thus we have now laid the basis for a program that addresses new SDGs every 6 months and enables digital natives to actively participate in shaping a sustainable future. I am more than proud of what everyone involved has achieved and I am convinced that with ekipa we can contribute a part to ensuring that we live more sustainably and consciously in the future and that we use technology in a meaningful way: For the Good, for the World!

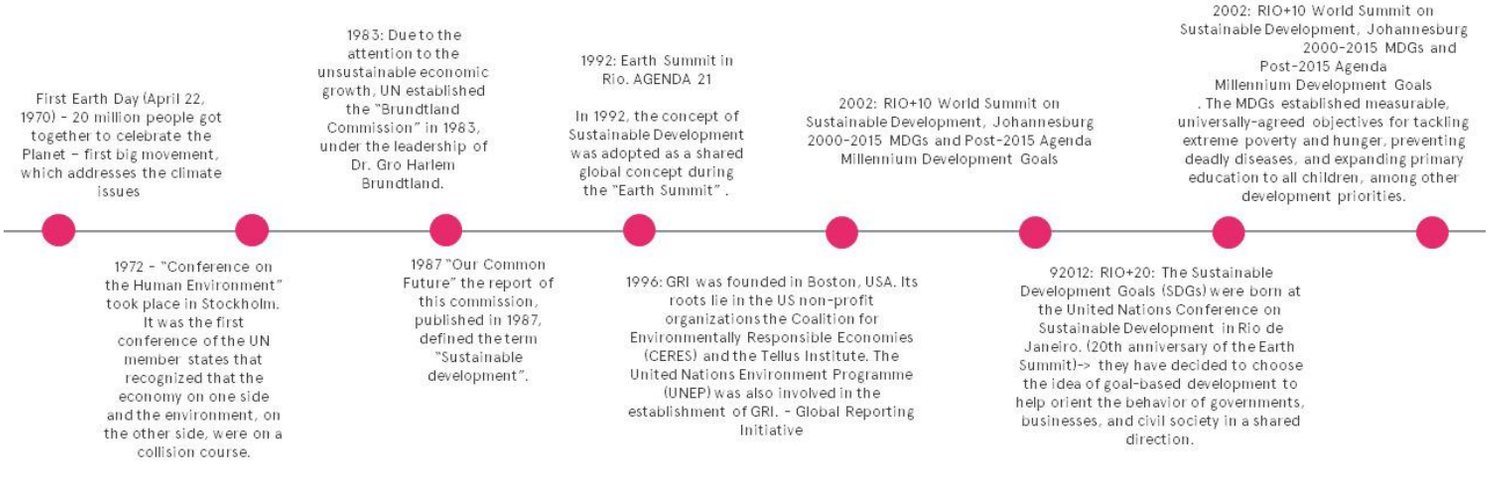
02

No Planet B

Undoubtedly, the world is facing many challenges. What is more, the CO-VID-19 pandemic has uncovered, raised awareness, and even worsened some of these issues. The World Economic Forum asks people every year to talk about the most significant issues facing the world. To name but a few, the world is concerned with problems such as religious conflicts, war, child labor, poverty, and inequality. However, topping the list for nearly a decade: Climate change – which has been reported to be the most pressing concern for 6 years in a row (World Economic Forum's Global Shapers Survey, 2020). Thus, people worldwide are aware of the major challenges and crises we face, including the growing concerns for our planet, its wellbeing, and the people inhabiting it.

People's awareness of these problems is a crucial first step into new modes of thinking and ultimately acting, as well as concepts such as "sustainability" that guide these actions. However, awareness is not enough: the complexity of problems begging for a solution can no longer be solved by a single organization or actor alone. Instead, they necessitate a comprehensive and integrated approach (Arkesteijin,van Mierlo, & Leeuwis, 2015). Thus, different stakeholders are currently building networks and are congregating in different cooperative and collaborative settings. Their central aims: to develop solutions as well as to open an interdisciplinary dialogue on the current challenges and ways to solve them. One significant example is the Brundtland Commission (1987), which developed one of the first definitions of sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". Thereby, they laid the foundation for the well-known "Sustainable Development Goals". They comprise a holistic approach to tackle key global issues through a set of objectives and sub-objectives, describing tangible challenges (Aguiar et.al, 2018).

Let´s take a look at a short history of SDG´s



As an ideal, sustainability takes its roots in the late 1970-1980s. The concept is grounded in the idea of a "safe, prosperous, stable, and ecologically minded" society, which aims to find an equilibrium between social equality, economy, and the environment – three key dimensions addressed by sustainable development (Caradonna, 2014, S.2ff.). Enabling sustainable development not only requires changes in the way we act but also the creation of new concepts and solutions to offset the negative impact of human existence. Therefore, sustainability relies fully on our capability to innovate (Wijesooriya, 2018). Herein, the use and implementation of novel technologies bears huge potential in optimizing social and economic dimensions, for example, in terms of resource conservation or use. Hence, innovative solutions, which keep pace with the current technological possibilities and transform both economy and society are needed (The Brundtland Report, 1987, chapter 2). Thus, digitalization and the inherent possibilities of digital innovation are the most capable areas to leverage.

The term "digitalization" is broadly defined as the integration of multiple technologies into all aspects of daily life that can be digitalized. Therefore, digitalization can be a valuable tool to optimize various areas of life and work as well as to preserve both knowledge and physical artifacts (Gray & Rumpe, 2015). Besides this potential for work and private lives, it not only improves inter-organizational collaboration, but also fundamentally changes the possibilities for industrial, manufacturing, or logistical processes, which play an essential role in the climate crisis (Parida, 2018). Hence, digitalization can be leveraged in many different contexts, through for example data-driven models, the automation of various processes, and the development of artificial intelligence. It thereby also lays the foundation for new concepts such as smart city, industry 4.0, or the well-known and a quite self-evident language renewal with the prefix e-, as in e-health, e-mobility, and many more. In combining digitalization and its potentials for sustainable development we are essentially speaking about digital sustainability, which seeks "to advance the sustainable development goals through the creative deployment of technologies that create, use, transmit, or source electronic data (George et al., 2021, p. 2).

These new opportunities combined with a strong need for change create a potent space for digital innovation development. Apart from the necessary collaboration between industry, academia, and politics, it also requires novel ways to involve other stakeholders in the design of the innovation process. Since the focus of sustainable development lays on shaping the future, who is more suitable than the young generation to help shape their own future?

In this regard, scientific studies have already shown that working, consumption, and living habits of the so-called Generation Z or digital generation are increasingly oriented towards sustainability and resource efficiency (Bucovetchi, Slusariuc, Cincalová, 2019; Cortina-Mercado, Cortina-Cruz, 2013). Growing up with - and therefore often times highly familiar with - digital technologies, they bear a large potential to drive positive change for society, economy, and environment.

There is a vast amount of possible starting points in order for younger generations to drive sustainable development. This is where the United Nations SDGs come in, and this is where we started. The Agenda for Sustainable Development guides us and organizes many different starting points in a meaningful and effective way. For example, one important aspect the SDGs aim to address is the sustainable transformation of production processes and consumption habits. To find the right framework, both the relevant stakeholders and the appropriate challenges need to be addressed.
n this first project of the Innovate 2030 project series, we set ourselves the goal of bringing together the right stakeholders of politics, industry, and the digital generation to jointly tackle relevant problems in the areas of production and consumption in a holistic innovation program.

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03

The Challenge

3.1 Introduction

What do we want our world to look like in ten years? The UN member states approached the answer to this question when they committed to the Agenda 2030 for Sustainable Development in 2015. The Agenda 2030 is a roadmap for achieving the 17 SDGs, integrating social, environmental, and economic dimensions. Since all dimensions are closely related to each other, we can only have a positive and long-lasting influence on the development of our world if we tackle all these together.

Often, sustainability and digitization efforts go hand in hand. The digital age, shaping most areas of our lives, has great potential for sustainable improvements.

In our daily actions, we rely heavily on the use of the natural environment and resources in a way that is destroying our planet. Therefore, we must change the way we produce and consume things rapidly in all areas of life, which is why the first challenge of the format is focusing on the 12th SDG: "Ensure sustainable consumption and production patterns".

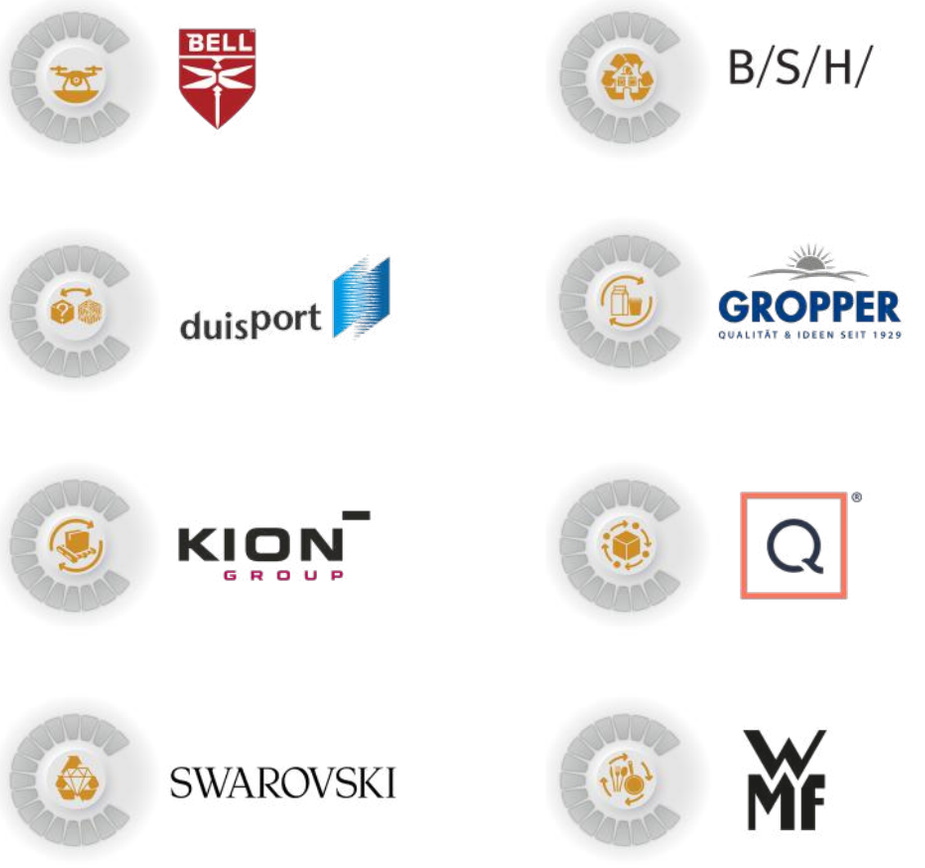
Part of the EU-Strategy on achieving the SDGs is the engagement of the civil society and other stakeholders. Since integrating the digital generation into relevant societal challenges is ekipas area of expertise, we then called on the digital natives to develop new solutions and innovations for this specific challenge. Supported by Peter Altmaier (CDU), German lawyer and Federal Minister for Economic Affairs and Energy and Dirk Messner, President of the Federal Environment Agency, we ran the pan-European Innovate 2030 project.

The key questions of the Innovate 2030-Challenge were:

- What will sustainable consumption and production look like in the future and what changes can be identified?
- How can digital technologies help develop innovative solutions for our society?

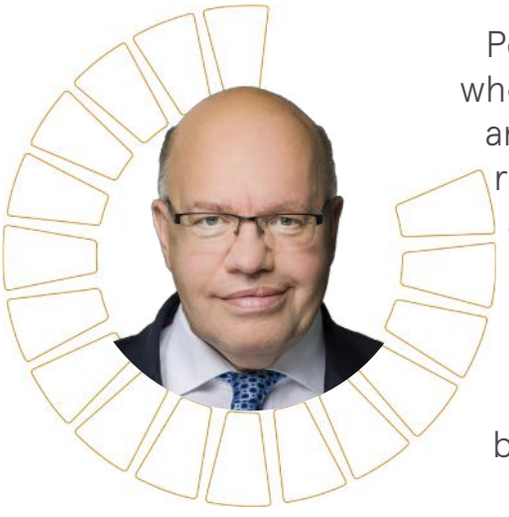
The Challenge was also strongly supported by the non-profit program Impact Week and the IT System house Bechtle AG as Coaching Partner during the elaboration phase, in which all finalists develop and improve their ideas together with the coaching experts.

Together with our partners, we identified 8 different Use Cases based on the key questions of the challenge. The Tracks covered areas like mobility, export,logistics and sustainability. The participants could choose between these real-life problems of diefferent companies and organizations, apply their knowledge in practice and develop digital solutions that will benefit our society.



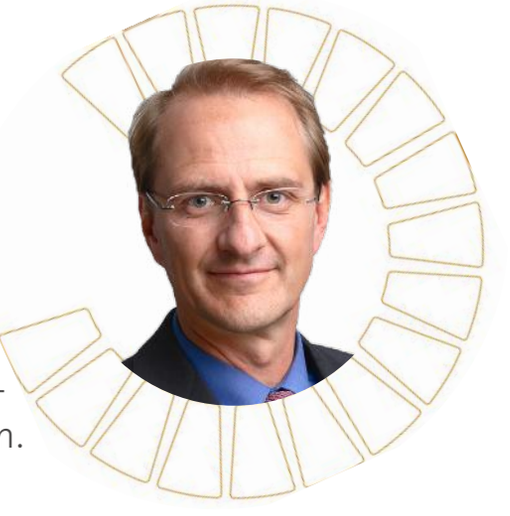
Every six months, we will launch a new edition of the Innovate 2030 Challenge, each focusing on a specific set of the SDGs.

3.2 Initiators



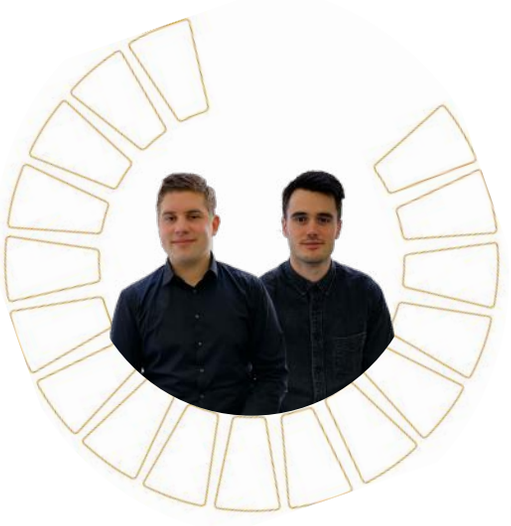
Peter Altmaier is a German lawyer and politician (CDU) who has served as Federal Minister for Economic Affairs and Energy since March 2018. Previously he was Federal Minister for the Environment, Nature Conservation and Nuclear Safety from May 2012 to December 2013 and Head of the German Chancellery and as Federal Minister for Special Affairs from December 2013 to March 2018. Altmaier is widely seen as one of Chancellor Angela Merkel`s most trusted advisors. He has been a member of the German Bundestag since 1994.

Peter Altmaier



Dirk Messner has been President of the German Environment Agency since 2020. He previously served as Vice Rector of the United Nations University (UNU) and Director of the German Development Institute from 2003 to 2018. He is an internationally recognised expert on global governance, transformation pathways to sustainability, decarbonisation and international cooperation.

Dirk Messner



The project is initiated and conducted by ekipa. Within the framework of various projects, ekipa promotes networking between Digital Natives, politics, business, and science. The goal is to tap unused potential and create added value for all participants. To achieve this, ekipa builds and expands university and innovation networks to bring together representatives of the digital generation on its own open innovation platform with the long experience of established organizations – such as in the new project format "Innovate 2030 -Digital Natives for a Sustainable Future".

Justin Gemeri und Nico Heby

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Coaching Partner

A big part of Bechtle's Vision 2030 is the motto "IT is our passion" and thus they were striving to support people like the Innovate2030 participants to accomplish future-oriented IT solutions. With individual technical coaching and support during the elaboration phase of the Innovate2030-Challenge, Bechtle supported the finalists in order to deliver technical innovations.

Bechtle

Impact Week is a non-profit program that fosters innovation, entrepreneurship, and intercultural exchange through Design Thinking. With individual coaching and mentoring during the elaboration phase of the Innovate2030-Challenge, Impact Week supported the finalists to take their ideas and approaches to the next level.

Impact Week

3.3 Use Cases


KION
GROUP


SWAROVSKI

WMF

New mobility with autonomous drones

#revolutionizetransportation #dronemobility #innovativelogistic

Key aspects of sustainable consumption and production are the underlying supply chains and the transportation of goods. Work together with Bell to revolutionize current mobility solutions using autonomous drones and create smart solutions to supplement existing transportation models with more efficiency and sustainability.

Status Quo

Traffic jams, congestion, pollution, delays, carbon dioxide emissions, high costs, bad integration at handover between different modes of transport, bottlenecks in urban areas, and many other pain points are currently complicating the transportation of medium to light weight goods that need to be transported quickly and reliably from point A to point B.

To counter this problem, various areas, and entire supply chains (i.e., underlying processes, transport routes, transport types etc.) must be analyzed to identify more innovative and sustainable solutions.

One promising and sustainable alternative lies in the use of unmanned aerial vehicles like drones to revolutionize mobility solutions.

?

What is the best way, drones like BELL's APT 70 or APT 20 can be put to a meaningful use that delivers social value and sustainability in selected fields of economy and society?

What specific processes must be changed for supply chains and how can the use of technology of autonomous drones be set up in this selected fields?

How can the use of technology of autonomous drones be set up as part of a broader supply chain and the underlying digital infrastructure?

About Us

Bell, a Textron Company, is the world`s leading manufacturer of vertical flight aircraft for commercial and government customers. Bell is currently delivering helicopters and tiltrotors to the U.S. and international governments and a broad commercial product line that includes a family of single and twin-engine helicopters. Bell is involved in all aspects of rotorcraft design and development from conceptual definition to manufacturing, certification and field support of our products. Each year, Bell conducts substantial research into new and emerging technologies to improve products and provide customers with affordable, productive aircraft.

Our Vision

Our revolutionary solutions lay far beyond innovation departments or invention or even a person. It’s about our culture and mindset how we see the world tomorrow. Our solutions are aiming to benefit humans’ everyday life. Digitalized is hence inseparable from sustainable. With this vision we continue our renewed focus on innovation: we create not just a new technology such as APT, but a new solution for a safe urban air mobility based on minimization of our consumption of energy and natural resources and our impact on the environment.

Our Values

Digital and sustainable future means for us delivering of cutting-edge technologies and services by acting responsibly, sustainably, safely and ethically. Our talented workforce that creates our innovative products is deeply connected to the communities where we live and work. Acting responsibly, sustainably, safely and ethically not only aligns with our company values, but it’s who we are.

Our Potentials

We foster our innovations via sharing of knowledge, inspiring the future, and encourage our teams and students to be creators and the leaders of tomorrow. A digital and sustainable future means for us delivering cutting-edge technologies in our production processes and always being open to the new. Based on these principles we created an innovation team to do radical innovations by encouraging experimentation and creativity.

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Rethink logistics for take-back systems

#reverselogistics #designforcircularity #sustainabilize

Our consumerism generates massive amounts of waste every day, which is sustained and accelerated by the growth of the e-commerce sector. 99% of purchased products are thrown out within 6 months, amounting to 2.12 billion tons of waste annually.

Status Quo

One key challenge in developing circular economy approaches is how to get used products back from the consumer in order to refurbish or recycle them.

Still only 1/3 of electronic waste is properly collected. The rest remains unaccounted for. This is problematic because the likelihood for manufacturers to get a hold of their own appliances is very limited. Further, when appliances are collected, they often end up in collective or other schemes, mixed up with appliances of other brands. Thus, currently a focus on design for recycling (e.g., improved dismantling tions, increased material quality, reduction of the number of different materials used etc.) is not very attractive or incentivized.

Reverse logistics bears an enormous potential in enabling circular economy approaches in the e-commerce sector.

If efficiently implemented it would allow lifetime extension through refurbishment practices, the reuse of still functioning components of appliances, and dedicated recycling in order to close material loops.

?

How can we retrieve household appliances from the end-consumer to BSH in a sustainable and cost-effective way?

What circular economy approaches, and business models can be developed to establish a more sustainable reverse logistics supply chain?

B/S/H/

About Us

BSH Home Appliances GmbH is Europe`s largest manufacturer of home appliances. BSH produces both large and small home appliances under the brands Bosch, Siemens, Neff, Gaggenau, Viva, Constructa (and others worldwide). Our headquarters are located in the German city of Munich. We have around 60,000 employees and 40 productions sites worldwide with an approximate 14 billion € of turnover in 2020.

Our Vision

We improve quality of life across the globe with our innovative home appliances, exceptional brands, and superior solutions. We want to be the first choice for consumers worldwide. We grow responsibly and contribute to protecting our natural resources. Our team is highly committed, professional, and globally connected. We continuously develop ourselves further by learning from each other. We have deep knowledge of our consumers, our products, and the industry. Outstanding technology and quality. We design and produce products of outstanding quality and reliability. We drive innovation through our cutting-edge technological expertise and deep consumer knowledge.

Our Values

- Future and result focus
- Responsibility and sustainability
- Initiative and determination
- Openness and trust
- Fairness
- Reliability, Credibility, Legality
- Diversity

Our Potentials

- Exceptional people in a strong global network
- Outstanding technology and quality
- Unique brand portfolio
- Trustful partnerships
- Continuous improvement mindset

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Innovate export packing

#exportpackings #innovativelogistics #greenlogistics

A key driver of sustainable production and consumption are the underlying supply chains, the flow of goods and therefore also the way those goods are packed. Address the problem that traditional materials do not necessarily have a positive sustainability footprint! Work together with the logistic-hub duisport and develop alternative approaches for timber-based export packings to align ecological and economic targets.

Status Quo

Export packing relies on timber or derived timber products like oriented strand boards (OSB) and plywood to ensure asset protection along the transportation chain.
There is industry-wide consensus that these timber packings represent the most suitable materials today. As a result, there is little initiative to challenge the status quo, making export packing a discipline to which supply chain participants tend to pay little to no intention to.
The problem is: There are crucial challenges that need to be tackled.

Eco-footprint

While timber itself is a natural resource, when used for export packing in Europe it is usually imported from countries of the southern hemisphere, where the production process is both non-ecological and non-sustainable, and little is known about modern production standards.

Supply-Chain risks

Like all raw materials, timber and derived timber products are exposed to the market mechanisms of global supply and demand, which impacts the traditional costing and demand planning, posing considerable risks to global supply chains when disturbances arise. Examples of such supply chain interferences can be found in the impact of the current Corona pandemic.

Which - ideally local - alternatives for timber packing can be derived from this to optimize both ecological and economic goals?

About Us

duisport - Leading Logistics Hub in Central Europe. Duisburger Hafen AG (duisport) is the ownership and management company of the Port of Duisburg, the world`s largest inland port. With a total throughput of over 123.7 million tons and 4.2 million TEUs (2020), the Port of Duisburg is the leading logistics hub for cargo handling in Central Europe. As a trimodal logistics hub, duisport combines an optimal geographical location, good site conditions, and comprehensive logistics know-how. The range of our services includes, in addition to cargo handling, settlement management, the development of integrated port and logistics concepts, intermodal transport services, and specialized industrial goods packaging.

Our Vision

A fully networked and digital world that makes a significant contribution to minimizing the use of non-renewable but also renewable materials through efficiency increases and, in the long term, making them completely unnecessary.

Our Values

Partnership, flexibility, willingness to share data and to co-exist with other players (no exploitation based on certain information), reasonableness, transparency, security, equality, economic efficiency.

Our Potentials

The necessary infrastructure as well as the will to develop, test and implement innovative approaches / technologies. European and Eurasian logistics hub with a very large network of local, regional and international customers and partners. Innovation driver in the field of green mobility and in the digitalization of trimodal terminals.

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Rethink packaging for liquid and pasty food

#foodpackaging #sustainablepackaging #plasticreduction

The amount of harmful plastic being produced per year is skyrocketing. One third of it is used for packaging reasons. Together with Gropper you can find innovative solutions to find innovative and sustainable packaging solutions for liquid and pasty food products.

Status Quo

Mass plastic production started in the 1950. Till 2016 more than 8.3 billion tons of plastic have been produced – more than half of it within the 21st century. More than 6.3 billion became trash, out of which we recycled barely 9%, burnt 12% and 79% have been dumped in landfills. Researchers warn us frequently about its negative impact on our environment. The release of toxic gas while being burnt; the endangerment of marine life due to waste dumping in the oceans; the list goes on.

One of the biggest problems is that the plastics we are using mostly today is nearly not recyclable and difficult to sustainable dispose.
Packaging plastic makes one third of all plastic being consumed in Germany. Hence trying to rethink the usage of ordinary plastic for packaging, its negative ecological footprint could be reduced by quite a bit.

While the plastic packaging can easily be reduced for some products for others it is more complicated. For example: liquid and pasty food products.
Liquid and pasty food products have various qualities, use by lifespans and overall criteria to be regarded while designing their packaging.
To find and develop innovative and sustainable packaging solutions for liquid and pasty food products, a lot of properties must be considered.

?

How could the future packaging of liquid and pasty food products look like? What materials will they be made of?

Can you design a more sustainable packaging solution than the traditional plastic-based methods being used right now?

GROPPER
QUALITÄT & IDEEN SEIT 1929

About Us

We are a third-generation family-owned, founded in 1929, dairy company in the heart of Europe: in Bissingen. With 1428 peoples working for us and 816 milk suppliers we process 279 million liters of conventional and 89 million liters of organic milk per year, which makes 481 Mio. kg Milkvolume in total. Our product range covers dairy products, juices & smoothies - from which we produce 225 Mio. kg per year-, coffee drinks and water, being sold through German and international partners. This makes a total turnover of 677 Mio. Euros.

Our Vision

The transformation of society towards sustainability is our great opportunity. Doing business sustainably is not only important, but also the declared corporate goal and in the DNA at Gropper – achieving a Circular Economy. Our added value comes from working sustainably!
We always consider all relevant areas under sustainability aspects - products, production, animal welfare, sourcing, employees, economic development. Today, we are already earning money not in spite of sustainability, but with it.

Our Values

Instead of building more administrative obstacles, we value flexibility in a professional manner. This way we preserve simplicity in the complex, count on our highly competent coworkers and enhance a lively togetherness.

Our Potentials

To shape a more sustainable future, we provide experts in all necessary areas – product and packaging development, technology, marketing and so on.

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Re-think pallet securing

#sustainablewrapping #pallethandling #reducewaste

Key drivers for sustainable production and consumption are the underlying supply chains and the handling of goods. Work together with KION and develop smart and sustainable solutions for more environmentally friendly, automated and efficient securing of goods on pallets – as they are one of the key transport carriers of our time.

Status Quo

78 million tons – this is the amount of plastic packaging circulating worldwide every year according to the WWF. A third of it ends up uncontrolled in the environment as garbage.
To tackle this problem, the entire logistics chain (i.e. underlying processes, transport routes, transport carriers, packaging methods) has to be analyzed and unsustainable and harmful procedures identified.

One central process in need for optimization is the securing and protection of goods on pallets in more and more automated material flow systems.
Usually pallets are secured using plastic stretch wrap or shrink wrap to ensure stability and safety for transportation. The wrapping also protects the goods from water and dirt. Secure wrapping is a mandatory requirement in the supply chain.
Today, a lot more than 500 million pallets are used for the transportation of goods worldwide. Therefore, new wrapping solutions can have a great positive impact on the environment and in achieving the aim to reduce plastic.

In addition to the non-environmentally friendly materials of the standard plastic wrap the manual wrapping and unwrapping are physically tough and time consuming. While plastic stretch wrap can already be applied automatically, unpacking is still mainly a manual task. This is due to the complexity of unwrapping the tightly applied plastic film and the characteristics of the products stored on the pallet.
The increased lead times slow down processes in the logistics supply chain. Therefore, the need for a fully automated packaging solution grows

?

How can we come up with sustainable, safe and efficient pallet securing solutions that have at least the same performance and usability of the current stretch wrapping without significantly impacting the weight and dimensions of a pallet?

How can this solution fit into automated material flow systems, so that securing and unsecuring of goods on pallets can be fully automated based on the EPAL pallet standard?

About Us

KION We are one of the world`s leading providers of forklift trucks, warehouse equipment and supply chain solutions. Our portfolio also encompasses integrated automation technology and software solutions for the optimization of supply chains including all related services.
We currently have more than 36,000 employees. With an installed base of more than 1.6 million forklift trucks and warehouse equipment and over 6,000 installed systems, our customers include companies in numerous industries on six continents. Across more than 100 countries worldwide, our solutions improve the flow of material and information within factories, warehouses, and distribution centers.

Our Vision

It is our ambition to be the best at understanding our customers` requirements and to provide them with safe, efficient and innovative logistics solutions specific to their needs. A key factor to this mix is sustainable business. At KION, sustainability has long been on the agenda. After all, issues such as efficiency, safety and ergonomics have always been crucial to success in the intralogistics industry. Yet with the KION Group's sustainability program we take things one step further, in the full knowledge that long-term corporate success depends on companies aligning their economic activities with the principles of responsible corporate governance.

Our Values

As a pioneer in our sector, it is important to us to be a role model, both internally and externally. Our corporate values – integrity, collaboration, courage, excellence – play a crucial role in this and influence our individual behavior and our interactions with colleagues, superiors, employees, customers, suppliers, and applicants. Doing the right thing, even when no one is watching, also means for us that our actions are always guided by standards of sustainability, compliance, and ethics.

Our Potentials

Under its motto ‚Making digitalization happen` KION Digital is actively driving change and our digitalization projects. Within the Group, KION Digital works with the KION Group brands as a holistic solution provider for digital issues.
The KION Digital Campus supports its employees and customers to make the most of new IT-based technologies and to maximize added value.

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Inspire a more sustainable way to retail

#sustainabilize #forwardtogether #inspiredretail

Each product we produce, use and dispose has a specific social-ecological impact. Being faced with a very complex product-life-cycle, a consumer cannot be aware of the exact consequences the product might have triggered. With QVC you can tackle the exciting task to create a more transparent lifecycle of their products and therefore help them and their customers to enhance ethical consumption.

Status Quo

A product we buy goes through an opaque and complex process of modern material extraction, production, transportation, usage and disposal - called its lifecycle. Along it each product has an impact on its passing social and ecological environment
.
Studies have shown that customers are more and more interested in consuming ethically produced products. But they are faced with a difficult problem: How can they know the socio-ecological impact of the whole lifecycle from their purchased products?

Seals of sustainability can be an indicator for its ethical and sustainable value – but there are more than 1,000 of them from various governmental and non-governmental institutions. Each one of them follows different criteria and indicators.

Retailers, like QVC, have a unique position regarding this problem.
As mediators between consumption and production, they can set new standards on the later. While trying to improve the carbon footprint and overall economic, social and ecological impact of their company and product offer, they can follow the rising demand of customers willing to consume ethically.

?

What would be an efficient way to make the lifecycle of a product more transparent? How can we ensure it to be traced and tracked?

Can we define sustainable standards for a product and its lifecycle regarding its social and environmental footprints? How could such a guideline look like? Which indicators and criteria need to be highlighted?

About Us

QVC is part of the Qurate Retail Group and #1 in video commerce. Based in West Chester, PA and founded in 1986, QVC has retail operations in the US, the UK, Germany, Japan, Italy, and through a joint venture in China. Worldwide, QVC engages shoppers on 13 broadcast networks reaching approximately 380 million homes and on multiple websites, mobile apps and social pages. About 3,000 team members at four sites create a unique shopping experience for more than 1.8 million customers across three TV channels (QVC, QVC2, and QVC Style), an online shop, a mobile app, and social media pages with 154 hours live content per week.

Our Vision

These moments connect dreamers with discoverers; designers and innovators with shoppers looking for engaging experiences. And we are proud to have been creating these experiences for decades – online, via App, on Social Media and on TV – forging strong relationships as a result. Our customer loyalty rates are the envy of retail. But with relationships comes responsibility. For us, that responsibility means making sure that these moments of joy also help build a better world.

Our Values

Inspiring a more sustainable way to retail, by protecting our environment, curating product responsibility and championing empowerment & belonging.

Our Potentials

We use the power of our platforms to inspire a more sustainable way to retail: intentionally inclusive, entrepreneurially driven, responsibly curated and waste free.

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Think circular together with Swarovski

#incentivizecircularity #SwarovskiSustainability #circularjewelry

Key aspects of sustainable consumption and production are the reuse or repurposing of old materials to contribute to a circular economy. Together with Swarovski you will develop novel approaches to incentivize and conduct circular approaches (repair, re-use, refurbish/repurpose, recycle) that will help consumers and Swarovski to collectively drive a more sustainable jewelry industry.

Status Quo

It has been found that the average European owns approximately 7,500 euros worth of jewelry. What is problematic, consumers often improperly discard their jewelry at the end of its life, with a missed opportunity to re-use/re-purpose/recycle the respective raw materials, thus leading to a depletion of raw materials and jewelry potentially ending up in landfill/incineration.

In line with that problem the management of waste & minimization of virgin raw material usage has become a central concern, with a desire to transform circular economies while achieving environmental and economic benefits. When looking at the 3R waste hierarchy (reduce, reuse, recycle), reduction has been the favored approach up until now. However, the goal of circularity also encourages us to repair, restore, recover, refuse, reject, and rethink when considering how material waste and products are managed throughout a product's life cycle and business operations.

One of the key challenge's organizations concerned with circular approaches face in their business operations is how to get used products and materials back from the consumer to get in a position to close the loop.

As the life cycle of then recovered products progresses, the terms „recycling" and „upcycling" come into greater focus.

While recycling often involves the alternation of materials into lower-value raw materials for reuse, upcycling describes the process of directly transforming materials/ items for new creative use cases. Upcycling thus uses less energy, materials, and water, but does not offer the same flexibility for new approaches as recycling.

?

How can we encourage consumers to bring back their broken or used jewelry to the store (e.g. develop more sustainable consumption behavior) to be able to extend a product's lifecycle?

What innovative and new approaches are there to optimize the re-cycling/ upcycling of old/unwanted/un-repairable jewelry and push its use and sustainability?

SWAROVSKI

About Us

When Daniel Swarovski founded our company in 1895, he established principles of responsibility towards the community and environment that have guided us ever since. We acknowledge our responsibility to improve the sustainability of the jewelry industry. We are committed to action on systemic change in the jewelry industry and to using the strength of our business and brand to promote collective action.

Our Vision

We have joined the Science Based Targets initiative to demonstrate our commitment to significantly reduce our greenhouse gas emissions. Additionally, through our new strategic focus areas and targets, we commit to increase the sustainability of our products, adopt circular principles, and improve our equality, diversity, and inclusion efforts. We will continue to fortify and add to our ambitions as we collectively confront our world's most pressing issues. The following pledges are just the beginning. Work is happening right now to further detail each of these areas and develop concrete measurable goals.

Our Values

- Achieving sustainable growth through leading technologies
- Transparency
- Fact-based
- In line with brand positioning and brand development of luxury

Our Potentials

- Long established apprenticeship scheme
- Global representation (commercial footprint)
- Manufacturing excellence (126 years of heritage)
- Vertically integrated (more control on owned sites) & external supply chain to influence
- Network of B2B customers

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Sustainalize products with WMF

#sustainableproductdesign #sustainablekitchen #futuredigitalkitchen

Everyday products quite often get forgotten when thinking about innovating our surroundings to establish a more sustainable future. With WMF you can try to establish new innovative designs and life-cycles for kitchen products like dishes, pans and co being perfectly sustainable.

Status Quo

A lot of products we produce and use every day seem to be a given thing. They are one of the last things we consider while thinking about innovating our surroundings for a more sustainable future.

Some of these products have issues regarding their environmental impact – they are not easy to maintain, recycle or dispose. This is also true for products we use in our kitchen to cook, bake or eat.

In order to make such products more sustainable with a long-lasting impact, many things have to be taken into account - in addition to the quality requirements for functionality and aesthetics, this also includes issues such as the manufacturing effort, materials, storage effort, recyclability and use case after initial utilization.

?

How will the perfectly sustainable and high quality non-electrical WMF product of the future look like? How can we make it as sustainable as possible along its whole lifecycle?

How do maintenance/disposal/recycling concepts look like in the digital future? How can we already think aspects like maintenance/disposal/recycling while designing the product?

How can advantages of the digitization and the upcoming Internet of Things era be used for the good?

About Us

For more than 160 years, the WMF brand has stood for the best in cooking, drinking and dining. Every day, more than 100 million people around the world use products from WMF, Silit and Kaiser to prepare, cook, bake, eat and drink in their homes. And when they're not doing that, they're enjoying coffee specialities and foods prepared by the hotel and catering industry using WMF, Schaerer, Curtis and HEPP products. Our employees are passionate about bringing people together, whether at home, on the move or at fine-dining establishments, in order to provide them with shared moments that are both precious and delicious. All this with products that feature outstanding design, perfect functionality and excellent quality to make every culinary experience a real joy

Our Vision

The future of the WMF Group is essentially shaped by information technology. An efficient IT department and innovative systems are the guarantee for our corporate success. To secure and expand this success, we are not looking for administrators of the present, but rather shapers of our digital future.

Our Values

As a leading premium manufacturer of cutlery, tableware and kitchen products for home and catering use, as well as fully automatic coffee machines for professional use, we indispensably pursue the following goals:

- Offering innovative products of the highest quality with sophisticated design and outstanding functionality
- Creating an enjoyable and inspiring multi-channel shopping experience in our own retail stores, with our retail partners or digitally
- Offering first-class customer service and doing so before, during and after the purchase of one of our products

Our Potentials

We are open to progress and will continue to drive it forward. Since 1853, we have stood for future-oriented innovations and thereby demonstrate our high manufacturing expertise. Our innovations are born and new technologies developed at our in-house Research & Development Center. Greater focus has been given to digital innovations in recent years.

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3.4 Process

May to July 2021

QUALIFICATION PHASE

On the ekipa platform, a matching of interdisciplinary, location-independent and cross-institutional teams took place, which selected one of the eight Use Cases and developed initial ideas in this phase.

In order to support the teams as best as possible in the idea generation process, ekipa offered four free design thinking workshops throughout the entire qualification phase, in which the teams were supported and coached by selected innovation experts.

12th of July 2021

CALLING THE FINALISTS

At the end of the qualification phase, the best teams were announced and entered the elaboration phase and therefore also the finale of the Innovate2030 Challenge. Two teams per use case entered this elaboration phase after the respective companies selected them.

In this phase, the finalists were invited to join one of the virtual briefing meetings, which took place between 12th and 18th July.

The Briefings served to prepare the teams for the Virtua Bootcamp and the Virtual Pitch-Event.

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23rd of July 2021

VIRTUAL BOOTCAMP

The best teams were invited to a digital bootcamp where they could further develop their ideas and approaches together with representatives from politics, business, and science,
receive new input and ask questions in order to gain a deeper insight into the problem and potential solutions.

For the best possible experience and the greatest added value, the Bootcamp combined: networking sessions between all parties, different workshops on specific topics and coaching sessions between the final teams, the representatives of each use case and company, IT coaches from Bechtle, innovation coaches from Impact Week and selected business coaches from ekipa.
In these sessions, the teams could virtually come on stage to ask questions and exchange ideas with the moderators.

Via the Airmeet arena, participants could click through the companies` digital booths. Digital tables were also prepared here for the subsequent mentoring. Here, each team discussed the ideas they had developed so far with the representatives of the companies and planned further collaboration. In addition, the teams discussed their approaches with the coaches of Impact Week and Bechtle and agreed on individual jour fix appointments where they worked together in the further elaboration phase.

In order to get to know each other as if at a personal event, we started a small speed networking between the mentoring sessions by having all participants in the event randomly dial in to a one-on-one exchange. At the end of the event, we had an open get-together at virtual tables where we could talk to all participants again.

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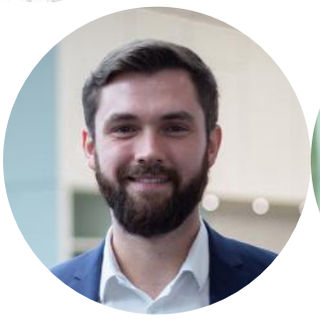
Bechtle


Arthur Schneider


Benjamin Morgenstern


Hardy Waldmann


Ingmar Bornholz


Nicole Diehlmann


Kai Seewöster


Timo Siegle


Alexander Thiele

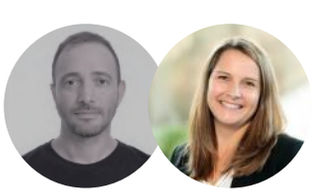
Impact Week


Anna Marlene Sauer

Tripti Agarwal


Igor Dimnik

Lakshmi Rao


Lars Hartmann

Thabea Taeschner


Dora Macovei

Iris Ehrenbrand


Nadine Meichsner

Sierra Nelmes


Lyndal Moeller

Silke Widera


Harsh Shah

Helay Safi


Martina Schuh

Ravi Kant

Julian Stolzenbach

Julian Stolzenbach is Head of Strategy and Operations at SNPC GmbH in Berlin. The company provides public affairs and policy advisory services with a strong focus on strategical and political communication in the energy, real estate, and pharma sectors. Furthermore, Julian has comprehensive experiences in entrepreneurship in combination with profound design thinking knowledge.

Natalia Ermanis

Natalia Ermanis is an experienced public affairs consultant at SNPC GmbH, skilled in stakeholder management, strategic consulting, design thinking and market access strategies with the focus on the German healthcare system.

Patrick Bottermann

Patrick Bottermann is Head of the Sustainable Business & Entrepreneurship unit at the Collaborating Centre on Sustainable Production & Consumption (CSCP). It is a non profit Think and Do Tank aiming at mainstreaming sustainability in business, society and science. Among other things, Patrick works with corporations on sustainable packaging solutions, collaborates with SMEs and scouts Startups with innovative sustainability solutions.

Eliana Ferrulli

Eliana Ferrulli is a PhD student in Management Production and Design at Politecnico di Torino (Department of Architecture and Design, 2020-2023). Her doctoral research focuses on fostering industrial innovation towards a Circular Economy framework, with particular attention to the textile value chain aiming to build more resilient socio-technical systems, through Systemic Design.

Silvia Barbero

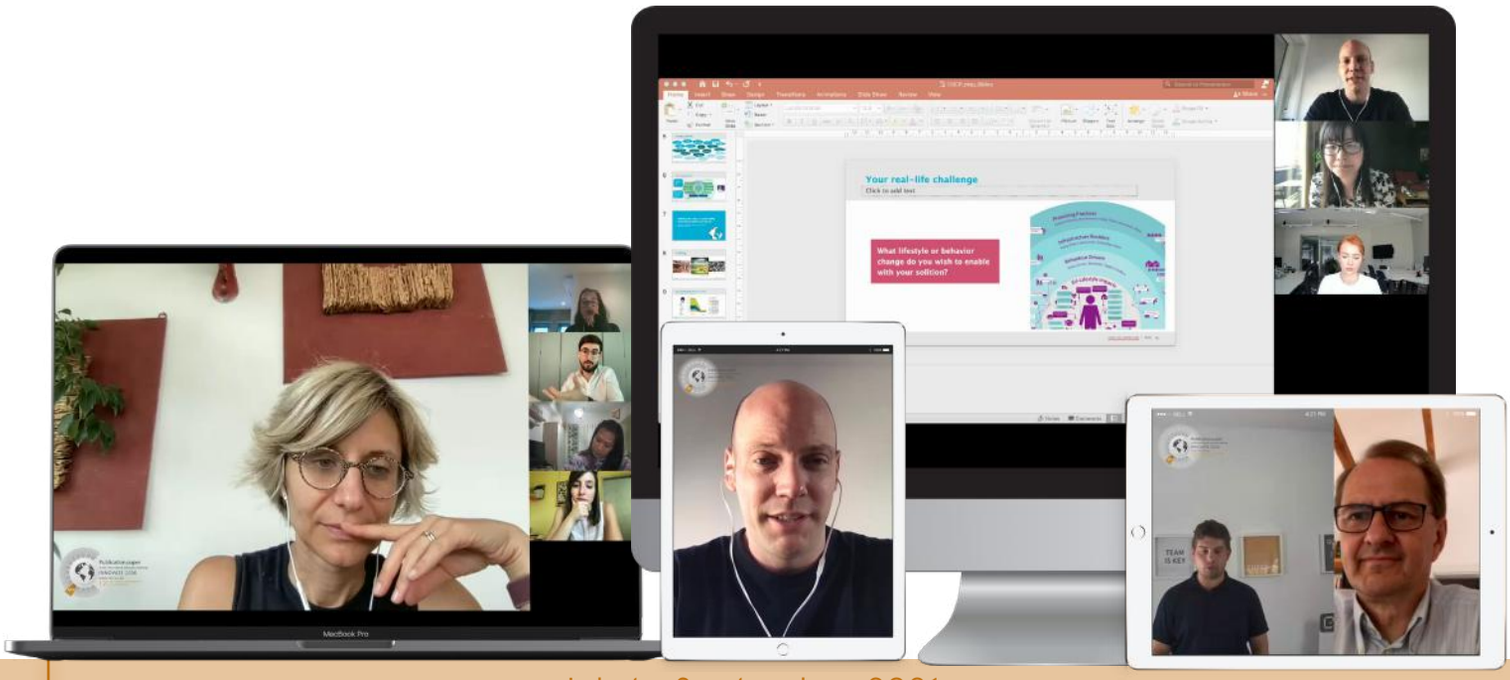
Silvia Barbero, PhD is an Associate Professor at Politecnico di Torino (Department of Architecture and Design) and chair of the Systemic Design Association since its foundation in 2018. She leads Systemic Design research in local economies, policy design,environmental production, innovation, through collaboration with companies, research centers, national and international networks.

Alessandro Campanella

Alessandro Campanella is a Research Fellow at Politecnico di Torino (Department of Architecture and Design). His current research focuses on the development of innovative educational approaches for Systemic Design in the academic field, implemented in the master`s degree program in Systemic Design at Politecnico di Torino.

Christoph Stegemann

Christoph Stegemann is a former member of an intelligence agency and worked for the German BDO. After nearly 20 years of defense and security work in human intelligence / intelligence analysis, he currently works as a freelance Security Consultant and Communication Expert.



July to September 2021

ELABORATION PHASE

With the help of the input from the bootcamp and the new knowledge that was acquired up to then, the teams develop and improved their idea.
For this purpose, all finalists received a specific milestone plan provided by the Use Case giver and ekipa.

The project partners contact person and the coaching partners from Impact Week (Business) and Bechtle (Technical) provided support to the participating teams through this phase.

The goal of the elaboration phase was to work out their solution for the Final Event, but also for the following publication.

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8th of September2021

FINAL EVENT

The Challenge was concluded with the Final Event. On this day, the finalists pitched their solutions in front of a jury of high-ranking representatives from business, science, and politics.

The teams had the opportunity to present their solutions and answer questions in front of a jury and a larger audience.
In addition to the pitches, the event also featured keynote speeches by innovation experts.

Also, the winners of the challenge were selected and honoured on this day. There was one winning team per Use Case which was awarded with 2,500€ prize money each.

Finally, in order to honour all the effort and encourage interdisciplinary exchange, an awards ceremony followed by a digital "get-together" was planned.

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THE JURY

David Jensen

David Jensen is the Head of the Environmental Peacebuilding Programme at UN Environment. Since 2009, David has been a leader in a global effort to establish a new multidisciplinary field of environmental peacebuilding. This field aims to promote environmental and natural resource management to prevent, mitigate, resolve, and recover from conflict. It also seeks to use shared dependence on natural resources and ecosystems as a platform for cooperation and confidence building among communities and countries.

Hartmut Klose

Hartmut Klose has 5 years of experience in the Airline Industry in international sales and marketing positions, such as Regional Sales and Marketing Director in countries such as Mexico, Great Britain and Germany.
Since 1996 he is involved in the Lufthansa Systems AG in several regional sales and service delivery responsibilities for airline IT services in Europe, Asia and North- and South-America, with extended placements in the Americas. He was one year CIO and IT Director during restructuring of a major Latin American airline.

Carolina Giraldo

Carolina Giraldo is a Designer, researcher and consultant specializing in Systemic Design innovation processes. She is a research fellow from the Politecnico di Torino (Department of Architecture and Design). Her research is focused on the convergence between Systemic Design, Innovation Governance and Circular Economy approach with particular attention in policies and strategies that foster Circular Cities Models.

Michael Pelzl

Meet Michael Pelzl owner of Prelzl Beratung & Umsetzung, a consulting company, Social Business Angel and Consultant for Sustainability. As managing director of energiekonsens, the energy efficiency and climate protection agency in and around Bremen and responsible for the business area of energy efficiency and climate protection in companies, Michael Pelzl has gained a wide variety of experience in advising companies and organizations.

Prof. Dr. Florian Lüdeke-Freund

Florian Lüdeke-Freund is Professor for Corporate Sustainability at the ESCP Business School in Berlin, Germany where he holds the Chair for Corporate Sustainability. He is a Research Fellow at the ESCP's SustBusy Research Center and Leuphana University's Centre for Sustainability Management (CSM). In addition, he was a Research Fellow at the Governing Responsible Business Research Environment at Copenhagen Business School (CBS), Denmark. Prior to joining the ESCP Business School, he was a Postdoctoral Researcher at the University of Hamburg and earned a PhD in social sciences and economics from the Leuphana University.

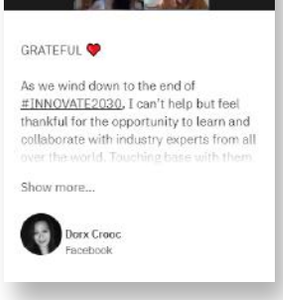
Prof. Dr. Jan Vang Brambini-Pedersen

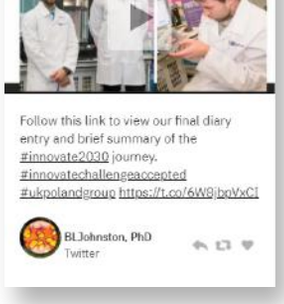
Meet Jan Vang Brambini-Pedersen, Head of Unit and Professor at the Department of Technology and Innovation at the University of Southern Denmark.

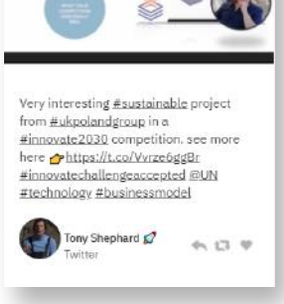
Anna Lena Drewitz

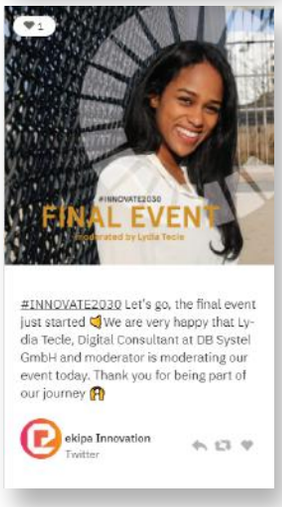
Anna Lena Drewitz from impact week,is an Innovation Expert and Senior Business Consultant at zeroG. A creative & disruptive thinker who is constantly looking for futuristic challenges in the world of digitalization, innovation & technology.

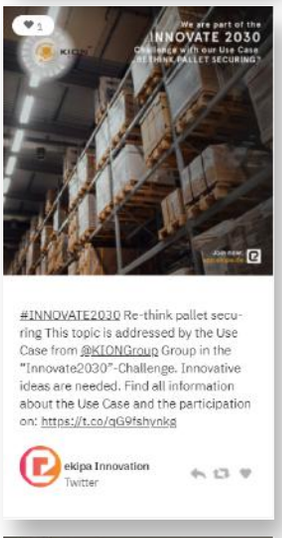
THE SOCIAL WALL

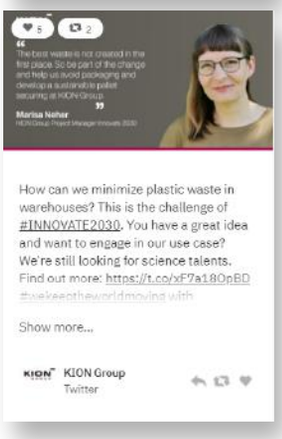










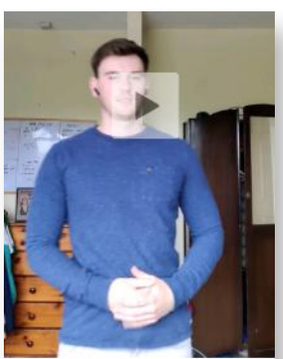


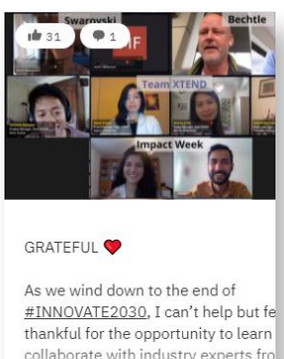
Engagement on social media was also rewarded.
A social media prize was awarded to all participating teams after successful completion of the project, a social media prize was awarded.

The team that documented its own project progress most excitingly and creatively on social media and at the same time achieved the most posts and likes received a prize of 1,000 euros.

The posts should contain the hashtags #INNOVATE2030 #Teamname on the Platform #InnovateChallengeAccepted and could be found on all popular social media platforms: Instagram, Facebook, TikTok, LinkedIn and Twitter.

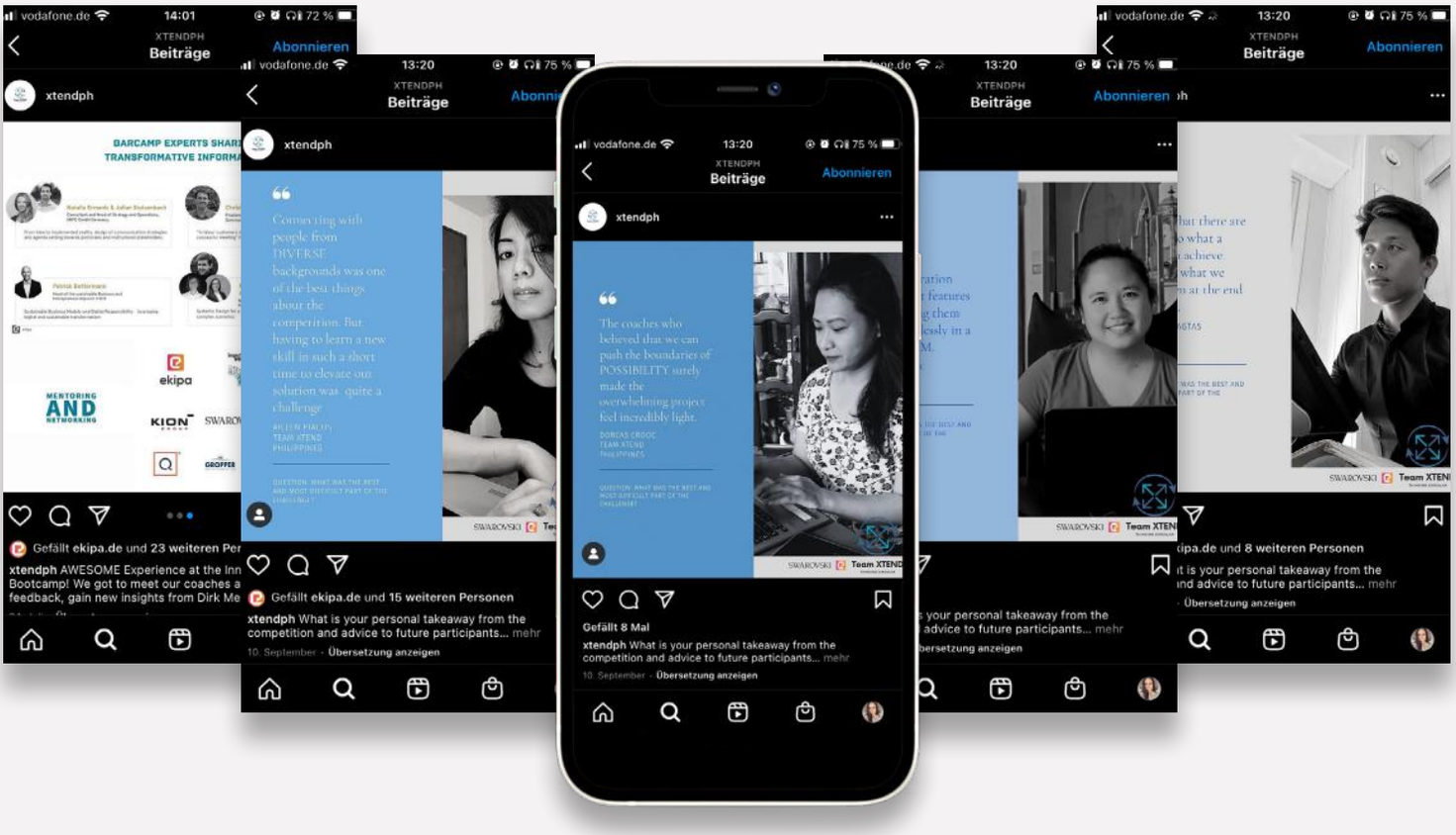
Current posts of the challenge, as well as the project progress of all teams could be followed on ekipa's social wall.





TeamXtend
THINKING CIRCULAR

Follow



After successful conclusion of the project, the social media prize was awarded to all participating teams. The team that documented its own project progress most excitingly and creatively on social media received a prize of EUR 1,000.

It was not an easy decision, as all teams documented very diligently, but in the end we could decide for one team. We congratulate the team Xtend, they convinced with the likes and contributions as well as with the creative implementation. Right from the start, the team members came up with creative formats to present their idea and the team.

An exciting journey can be experienced on the profiles, the users are digitally taken by the hand and involved in the innovation process. In addition to pictures, small videos were created that make people smile.

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3.7 The Finalists

palletly

DiDUTCH
DESIGN & ENGINEERING

Green Paramedics

The Use Case

New mobility with autonomous drones

The Team

Larisa Dragota

Melina Deutsch

Jan Ibraimovic

I'm Larisa Dragota, a 21 year old business administration student. I grew up in Berlin, but I'm originally from Romania. My teammates call me a math genius. I'm responsible for our project calculations and media support. I`m a creative thinker and like to explore alternative solutions to problems, and I have an open mind about what will work the best. My creativity has made me an effective teammate. Together we can anticipate potential problems and find/come up with innovative solutions to them.

I'm Melina Deutsch, a 23 year-old business administration student from Berlin. I'm responsible for time management and controlling in our team. In the past I enjoyed working in the hospitality industry, where I investigated operational processes and optimized them. I have learned that there's always another alternative, when searching for a better solution in a tricky moment - always a new way, which could work in a more sustainable fashion! Together we can achieve wonderful new things and create a new future!

I am Jan Ibraimovic, 20 years old and when I introduce myself, as I always used to say – a happy, passionate and ambitious guy who is driven by tremendous/high/immense motivation and power, who can pass plenty of it to almost everyone. In the beginning of the challenge I was simply a normal business-student doing his stuff like everyone else - being a part of something really great what can change maybe the whole world – This triggered me to accept the challenge!

The Problem

We see the world as an interconnected system consisting of gears tied to each other: They are supposed to set each other in motion, to harmonize the system, and to co-exist. And that's not something new, it was so even thousand years before beginning of globalization.
Nevertheless, sometimes the gears get rusty and do not function efficiently, some keep on working faster and some slower, impairing the balance:
The climate change being an example.
Our key insight lies on this essential interconnectedness of the world and life – and our project is based on INTER-connecting already existing structures,
in order to fight global warming. We understand our transport and logistical solution as a "big gear" within the system, which needs some restructuring. The biggest step forward is to optimize transportation, logistics and supply-chains, through which we can write pollution and logistical traffic load off the past.

The Solution

As already mentioned in the problem statement, we are after a solution that optimizes part of the system, so that this improvement enhances the sustainability of all other industries touched by this "gear".
To this aim, we developed an infrastructural long-term upper-level concept, optimizing transportation, logistics and supply-chains and thus relieving pollution and logistic traffic load. First and most important step is to enforce already existing possible applications of drones and to build up an infrastructure for future uses. The operational implementation is providing the use of drones for police, fire departments and hospitals so that we integrate drones into national infrastructure with other modes of transportation.
We opted for an ultimate solution, which would get us straight into Logistics & Transportation 2.0. Our solution "The Hub and Spoke – System" suggests that there is the possibility of an "mass-production-ready" offer, which could detach old logistics and transportation being not only innovative but benefiting from faster, more efficient and environment-green technology.
The main idea of the Hub and Spoke System is the concentration of only few central hubs, to allow for a high use frequency of drones, leading to economics of scale. Benefits are that one could not only save transport costs, but it would also help to unify logistic systems.

Future Vison 2031

It includes a smooth enforcement of our strategic plan. In the first steps we would start with one hub as an integrated solution for Berlin. After analyzing insights and knowledge we would expand our local Hub with using it in other use cases (Health Care, Logistics, etc.). Together with Bell, Berlin would become one of the greenest mega-cities in the world, being a pioneer in using drones.
Following steps - our idea would spread all over the world leading to a pollution-reduction within transportation industry. Our dream is to be in the headlines: The Bell BFF project, a true best friend for environment, economy and consumers.

Conclusion & Outlook

In order to establish our idea in the market we first need to take further steps in addressing and communicating with stakeholders including the most important investors, supporters and potential customers. Secondly, we need to refine our idea and develop an operational-plans so that we can successfully start the implementation of our strategic plan.
Through our journey we learned a lot – the most important to mention: thinking out the box, paying attention to the smallest details within our plans and what's impressive to us, how to manage a project , which we as business students can definitely retain/keep with us, even in case not winning.

shapers.

The Use Case

B/S/H/ Rethink logistics for take-back systems

The Team


Rosana P. Cruz


Alfredo Méndez


Antonia Tataj


José Paíno Maté

I'm Rosana Pombo Cruz, from Spain. I studied Industrial design and product development in Spain, and then worked as an UX designer for over 3 years at Cheil Germany. My tasks within the team have involved project management, idea development and content creation.

I'm Alfredo Méndez from Mexico. I'm an industrial designer passionate about technological projects. I've won several prizes, including: 2 Red Dot Award. I believe Design is not just about objects, it is about the people that create the context in which every single one of us is solving different challenges.

I'm Antonina Tataj from Poland. I'm an Information Management engineer and for my diploma I have developed HikeMe, a new mobile app increasing the safety of hiking in high-mountains. I was awarded with an Erasmus for Entrepreneurs grant to develop the app further and commercialize it. I'm a researcher in the team and this project was a part of our Master Degree program.

I'm José Paíno Maté. Creative, art director & brand identity strategist with eleven years experience. During this time I've worked for clients like Jaguar & Land Rover, Fotocasa, Coca-Cola, Repsol, Mapfre, Opel or Movistar. Within corporations like Accenture, McCann WorldGroup or Monash University.
During this challenge I've played the role of creative body and graphic designer.

The Problem

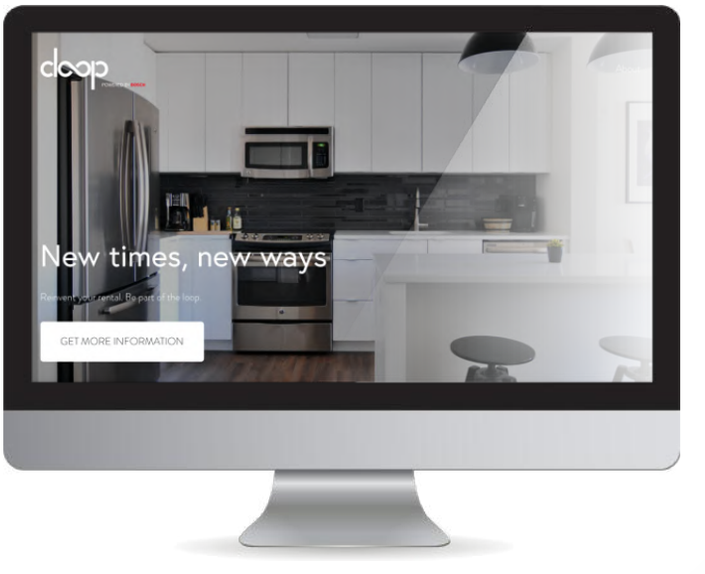
The tools used were focused on the Design Thinking methodologies, following the phases of understanding, defining, ideating and testing before arriving at a proposal that made sense for being desirable, feasible and potentially profitable for the company. We tried to understand the problem from other points of view, which gave us a fresh look at it. Given the very open briefing, our research was pretty wide and focused on finding insights and opportunities on specific pain points, not previously addressed. After the desktop research, we dug deeper into some topics, did interviews and created prototypes to test our ideas in order to gain more insights.
Based on the findings, we present a proposal that focuses not only on one idea but several that work together (called the pillars of the solution). In order to define this better, we used the value proposition canvas and parts of the business model canvas.

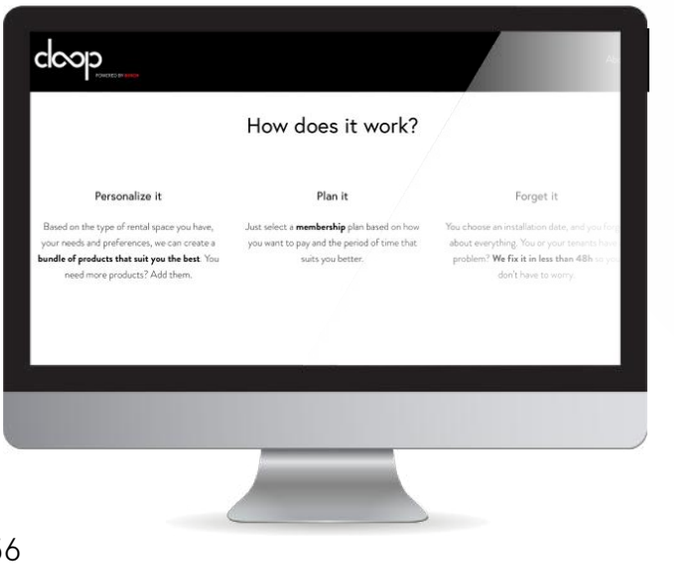
The Solution

Our proposal is a service-based renting business model to help boost sustainable consumption, based on 3 pillars that we believe make it feasible, profitable and desirable.

1. Redirecting the model to fit a specific target group: Real Estate owners and managers.
2. Selecting a narrow catalog with the most suitable appliances for renting, from a practical and efficient perspective. This will help minimize reparation, lower the installation costs and extend the life of the products maximizing profit.
3. Creating a structure of independent areas (regional hubs) in which the new products could enter, live and die. This reduces the impact, logistics are easier to manage and transportation is cheaper.

The final proposal proves to be desirable by a specific growing, measurable market and is adaptable to others, but also replicable or scalable throughout Europe. Additionally, the hubs' structure can be thought of as 'smart': flows of products on the hands of thousands of customers mean flows of data. Signed contracts help control the model economically and make it more predictable, inside of one specific area.





Future Vison 2031

This new business model allows for replication and for scalability. The same system could be implemented all around Europe in the areas where the right conditions are met. By doing the right research and adapting to specific markets, the idea can be flexible enough to grow with the market preferences. Keeping a closer relationship with the final customers, BSH reduces the risk of not knowing what their needs are and is faster in offering the best solution for the future.

Conclusion & Outlook

In relation with the 3 pillars proposed, the proposal would need (among other things):

-Certain infrastructure
-High populated areas, with extended rental housing markets
-A period of adaptation for profitability and sustainability
-A well designed catalog of products that meet the expectations of the new model
-Reduced programmed obsolescence

A hurdle with circularity is that some solutions have an apparent good impact but are harmful if you look at them from other perspectives.
We have learned what a big issue sustainability is, so another key is staying flexible and doing research to find small solutions that can add up to each other.

ABHIMANYU
TURNS WASTE INTO BEST

The Use Case

duisport

Innovate
export packing

The Team

Raj Siddhrajsinh

Nikunj Parmar

Raj Siddhrajsinh is Master in Mechanical engineering he has good metallurgical skills and design skills and he is developing our product.

Nikunj Parmar is graduate Mechanical engineer having experience in supply chain and he has good analytical skills, he is also developing product and developing manufacturing process.

The Problem

As we heard in the news, the ocean has more plastic than fishes and also some animals die because they eat plastic.
Primarily we show that only 9% plastic is recycled and also there are non-recyclable plastics which is a total waste because once it is shaped it can not be reshaped so it is a one time use plastic.
We took some long path for research to read how plastic is made and what the characteristics of plastics are. Basically plastic is characterised in thermoplastic which can be reshaped and recyclable.

The Solution

We have come up with a new product which is a composite of thermoplastic and thermosettings so it helps to reduce one time use plastic waste and also increase the percentage of its recycling.
Here, we also minimize the recycling process; instead of converting it into granules we directly convert the waste piece into the product.
So the minimizing process can help to reduce electricity consumption and therefore less esco2n dioxide.
Currently, we are developing and testing prototypes of our solution.
Our solution is different because we use heat and pressure to bind the material to increase its strength.

Future Vison 2031

Our primary target is to replace wood in packaging Industries if we succed in our idea our next target furniture industry and latter than we will target all industries where wood is primary product to be used.

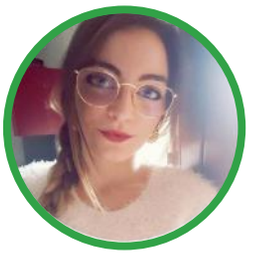
Conclusion & Outlook

Our idea need trial testing in different wood packaging Industries so we can improve our product.
We face hurdles during development of product so we need some experience mentor for product development and also bussiness development.
By participating in the challenge we got chance to show our capabilities and our solution.

The Use Case

Rethink packaging for liquid and pasty food

The Team



Sara Casalini

Nitish Swami

I am Sara Casalini, a PhD student at the University of Bologna working on biopolymers and active packaging for food application. I am interested in waste valorization and circular economy, so my task in the team was to identify the solution approach from a technical point of view. I took part in the challenge because I really want to apply my knowledge in a practical and useful way.

I am Nitish Swami, a PhD researcher at Waterford Institute of Technology working in quantum communications. I am interested in the sustainable development of business models, and the impact it has on the daily lives of the consumers. My task in this project was to analyse various solutions that already exists and envisage a more efficient and scalable solutions that is industry ready. I participated in this project to come up with designs to overcome the ongoing plastic waste crisis.

The Problem

Over the decades plastic waste has become one of the biggest environmental issue. Food packaging is a large part of daily lives, majority of these packaging are not 100% recyclable, in Europe only 41.5% of packaging waste is recycled. Our approach for this specific task is to consider bioplastics to develop packaging containers for drinks and pasty foods. Bioplastics have the potential to overcome environmental impact caused by its petrochemical alternatives. PHA based bioplastics can be obtained from bio-based feedstock, and the most intriguing properties of PHA based plastic is it is 100% biodegradable and unlike other plant-based plastics which requires an industrial composite facility to breakdown, PHAs can break down in ambient environment even in oceans. One of the major issues with the development of bioplastics is the high initial cost .We propose a solution in the form of using organic waste materials at Gropper itself to produce PHA based packaging.

The Solution

Our idea is to produce bioplastic from the process wastes of Gropper. More in detail, from the milk and juice wastewater it is possible to obtain polyhydroxyalkanoates (PHAs) through the use of bacteria and then process them into packaging for their products. There exist already some companies that produce PHAs from various types of wastes, however the process itself needs to be tuned depending on the composition of the specific stream that is going to be used as feed for the bacteria. Moreover, since there is a variety of microorganisms that can synthetize PHAs, it is necessary to choose the proper ones in order to get the bioplastic with the specific mechanical properties which allow to substitute the oil-based plastics. Definitely, the process would need more research, but it is strongly convenient in terms of reuse of wastes and circular economy. This solution is innovative since it includes the valorization of the wastes, which become the new raw material. Moreover, the process itself is eco-friendly, since it includes the use of bacteria and no harmful chemicals. Lastly, the bioplastic produced would be completely biodegradable and could close the production cycle of the company.

Future Vison 2031

Five years into the future the use of bio based plastic will be a new norm in the industry. Our approach will evolve and become more efficient in the production of the PHA from the waste materials catered to the need of Gropper.

Conclusion & Outlook

Our idea needs a specific study based on the characteristics and the quantities of the Gropper wastes, in order to identify the scale of the process and the bacteria needed. Moreover, it is necessary to select a production process based on their possibilities in terms of instrumentation and investment. Some tests would be helpful to characterize the obtained bioplastic and compare it with the oil-based one currently in use.
From this challenge, we learnt how to develop a feasibility study and all the details and knowledge needed in order to transform an idea into a product. Also, we faced the complexity of the industrial environment.

palletly

The Use Case

KION GROUP

Re-think pallet securing

The Team


Amaka Anaeli


Himanshu Solanki


Ingrid Roll


Prakirth Govardhanam


Prateek Srivastava

My name is Amaka Dominica Anaeli. I am an international student from Nigeria and live in Amsterdam. I am presently a 3rd year Business Innovation student from Inholland Hogeschool Diemen, Netherlands and as such interested in the business aspect of any project.

I am Himanshu Solanki from India, currently staying in Antwerp, Belgium. I have completed my masters in global supply chain management from Antwerp Management School last month with great distinction. I did my bachelors in Mechanical Engineering from India. I have a professional experience of 8 years in Supply Chain & Operations.

I'm Ingrid Roll, I was born and raised in Brazil, I have also the German citizenship.
I am an environmental engineer, with 3 years professional experience in consulting projects involving climate change and renewable energy and 5 years` work experience in marketing and communication strategies for industrial 3D Printing.

My name is Prakirth Govardhanam. I am from India and live in Finland. Currently I am working on a career shift towards Data Science and Circular Economy. I am a data-enthusiast and love to explore data to find intriguing patterns and insights. My personal interests lie in contributing my analytical skills towards a sustainable, circular and an innovative economy.

I am glad to have this opportunity to introduce myself to you as Prateek Srivastava. I am pursuing my Doctoral studies in Advance Materials and Material Design.

The Problem

We first tried to understand the ground problems of our use case. As this was related to pallet packaging, therefore we researched about warehouses, we visited few warehouses to see how the packaging is being done manually and automatically. We also interviewed few people from packaging department. We then formulate all the problems on the MIRO board with the improvement and expectation of the workers working on the ground.
We then discussed jointly in the team meetings, we used to had 2-3 meetings per week just to make sure we are going in the right direction and everyone is on the same page. We explored almost 7-8 models and presented to the company for their best fit. During this entire process we brainstorm and used certain frameworks of project management wherein we divided the task to each of the team member. Data analysis, Material Analysis, Sustainablity Analysis, Financial Analysis, Operational Analysis, we didnt leave any field wherein we have not analysed our each and every model of solution. Going forward during the last weeks, Use case company was so impressed from our ideas that they gave us the freedom to go with our imagination and present different innovative ideas.
So we concluded and summarized all the requirements, compared them with the solutions we had with us and came out with one optimal and best fit solution which fullfils most of the requirement of the use case which is optimal, efficient and sustainable.

The Solution

Our idea summarises the solution to all the requirements of this open case. Components of our solution are Dual Locking Fastener with a life of 1000 times, waterproof sustainable fabric which is 100% sustainable ecofriendly, existing wrapping and unwrapping robot with some additional features & equipments. Development stage of our current solution is that it is 100% applicable to the current scenario of open use case company. This idea can be implemented within 6 months span. Mostly time will be required for the modification of the robot and fabric solution can get ready in 1 month.
Benefits of our ideas are:
1. 100% automated solution without human intervention
2. 1000 times usage of one cover
3. Easy to use
4. Waterproof and environment friendly
5. Partial unwrapping possible
6. On road packing and unpacking possible
7. Manual packing possible
8. Reuse and Repair possible
9. AI and Data driven
10. Cost efficient and effective

Our ideal fulfils most of requirement of this use case. Our solution is different because solution can be used minimum of 1000 times, 100% automated, Unwrapping and reuse is possible, more strength, cost efficient, more shelf life, 100% sustainable

Future Vison 2031

Our vision is to scale worldwide a portable and reusable product that simplifies the handling and storage process, using a plastic-free material that covers the crucial properties for pallet securing. Moreover, the customer and law requirements from the specific countries will be considered from the product design for a collaborative, adaptive and transparent product customization.

Conclusion & Outlook

For our idea to be fully established in the market, we will need to carry out user testing within our target group and users in order to determine the full potential of the product. This will determine if we met our customers and users needs. With the feedback gotten, we will be able to improve where necessary until their needs are met. Secondly, we need market experiments to determine how far the product can compete with the big brands already inn the market. Then, there is need for aggressive marketing, if we must penetrate the industry and customer base.
An anticipated hurdle will be in terms of brand acceptance. There are already a big number of competitors/brands already established in the market space. As a new brand/product, it might be difficult to penetrate these big brands and get accepted.
Our learning experiences stem from the knowledge of the challenges faces by manufacturers in the quest to find alternatives for LDPE in most Industries. These materials most have to be part of the trend that meets sustainability, plays a part in the 5 R`s of waste, and is still cost-efficient.

The Use Case

Inspire a more sustainable way to retail

The Team


Tilman Beyer


Paul Kunz


Jean-Pierre Hubach


Christian Schuck

I'm Tilman Beyer, a Dual Student Business Information Technology at BWI. My skills are creative problem-solving and App Design & Development.

I'm Paul Kunz, a Dual Student Business Information Technology at ATOS. My skills are Strategic Marketing and Storytelling.

I'm Jean-Pierre Hubach, Dual Student Business Information Technology at BWI.
I'm good at Controlling and Statistics.

I'm Christian Schuck, Dual Student Business Information Technology at BWI. My skills are IoT and App Development.

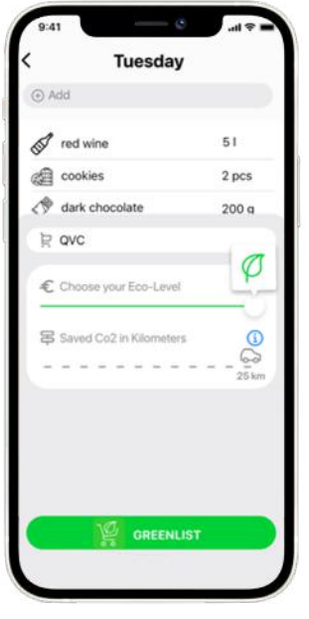
We are Team Greenlist. We believe that what you buy can change the world.
All of us study at the same university with the same major, yet we have different skills and therefore complement each other perfectly. We only have this one planet and it is our mission to protect it.

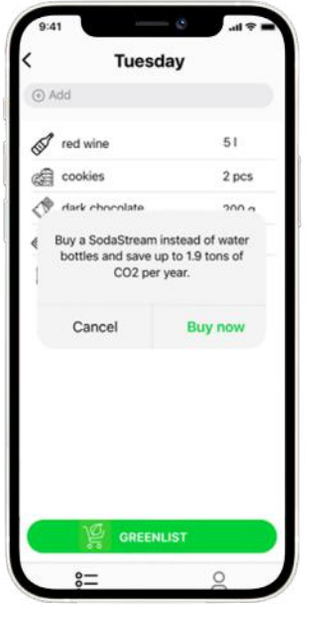
The Problem

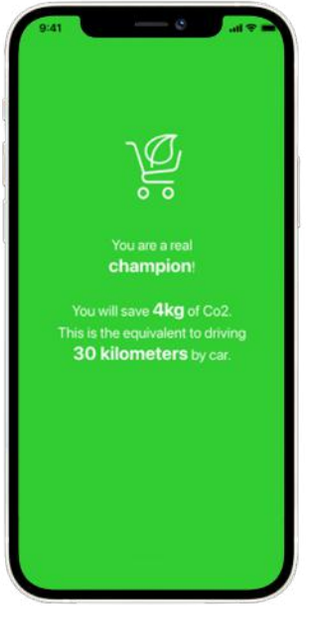
We approached the problem by first asking QVCs team a lot of questions to fully grasp their situation. After that, we did a deep dive. We realized we will achieve the best results by combining our expertise with the one that was needed to solve QVCs problem. Therefore, we read statistics as well as reports about sustainability and measuring products ecological footprint.
After collecting as much information as possible we looked for a calculation method, which takes the full product lifecycle into account and at the same time is generic enough to be applied onto multiple products of one category.

The Solution

Did you know that one-third of greenhouse gas emissions are produced by the food industry?
People struggle to live up to their ecological values. We want to fight this problem starting with QVCs food products. After that, the next step is to integrate all product categories of QVCs portfolio into our solution.
Therefore, Team Greenlist designed a smartphone-based shopping list that empowers consumers to choose the most sustainable products for their budget. It's a very simple, yet great solution:
You put the groceries you want to buy on the list, set your personal budget/sustainability-level (Eco-Level) and then get recommendations for the most sustainable products for your budget. Our algorithm also gives you direct feedback on how much CO2 you will be saving in comparison to the worst decision you could have made. After that, you add the products to your cart and check out.
We want to make QVC a company who not only talks about sustainability, but empowers its customers to make the right decision for our planet.







Future Vison 2031

In 10 years, we want to live in a society where the understanding of climate change is pervasive, and that humankind reinforces their efforts to save our planet. Sustainability should not only play an important role for people themself and a couple forward-thinking companies, but for all cooperations on this planet. For this, it should be possible for everyone to be empowered to live up to his ecological values. We want to contribute to these goals by making shopping sustainable as easy as possible for everyone. Creating transparency about the products CO2 emissions, water consumption, animal welfare and rainforest usage.

Conclusion & Outlook

At this point, it is possible to calculate the CO2 emission for different groceries based on their lifecycle. Looking at QVCs Portfolio there is a vast amount of product categories that need to be covered to reach QVCs ideal solution. Right now, we are looking for a method that works for makeup and other beauty goods.
On the one hand, with QVC we have a great partner, who provides us with all the product information we need. On the other hand, we need to create and establish a full-lifecycle analysis for beauty products. This includes:

1. Calculate the CO2 emission for the main ingredients of beauty products
2. Add the CO2 emission of processing, packaging and transport to the calculation
3. Build a rating system based on the numbers from steps 1 and 2

SPHERIEARTH

The Use Case

SWAROVSKI

Think circular together with Swarovski

The Team

John Iwueke

Chukwuemeka Nnodum

Jemima Zita Appiah

David Olamide

I am John Iwueke, an Industrious Environmental Engineer with professional knowledge and a high affinity for technical projects mainly related to sustainability topics such as sustainable packaging and manufacturing projects, data management, data analysis, data reporting, measuring company ESG criteria, monitoring environmental compliance schemes in Europe, climate change mitigation technologies and implementation of CO2 reduction solutions.

I am Chukwuemeka Nnodum the Graphic designer for the SpheriEarth team. I am the CEO and founder of LIGNES ET MODE, an art and technology startup, and the CEO and Co-founder of La Rue, a Fashion startup. I have a bachelor`s degree in Mechanical Engineering from the University of Nottingham and currently studying for master`s in Management information Systems in Cyprus International University.

I am Jemima Zita Appiah, a young entrepreneur from Ghana, an architect by profession with interest in sustainable and environmental projects, I am Content Strategist for the SpheriEarth team my focus is providing content and managing the social media accounts for SpheriEarth. I have a masters degree in Architecture from the Kwame Nkrumah University of Science and Technology.

I am David Olamide, Gameplay Developer from Nigeria with over 3 years of experience in the Games Industry. My expertise is Gameplay Programmer. Work as a gameplay programmer at SpheriEarth. Also, cofounder and technical lead at Dimension 11 Games. I love collaborative game project and building immersion through games. I am a strong proponent of a safe and clean environment. This is why I lend my skill sets and experience in my area of expertise whenever I am opportuned to do so.

Shraddha Pawar

Ananta Vangmai

I am Shraddha Pawar, a computer science professional. Specialized in the areas of UI/UX Design and Software Development, I focus at designing user centered applications with an agile mindset. I have recently ventured into the world of Game Design and Development to create something interesting and promote ecological consciousness though play.

I Ananta Vangmai, an artist, entrepreneur and business consultant for Art and Culture focused organisations. I had a brief stint with a real diamond design company that took her towards the innovate 2030 challenge. Sustainability has been the core of Ananta`s business ethics. She is heading R&D for an American sustainable fashion label while having a 15 year history of producing and exhibiting fair trade tribal and ethically sourced organic fabrics.

The Problem

We started from the basics:

1. We did an indepth analysis of the problem faced by the consumers and the jewellery industry
2. We then identified the pain points of the both parties
3. We made the solution concrete by discovering its best usability
4. We turned the solution to a must have and made it executive proof
5. We conducted surveys and approached consultants in the jewellry and retail industry for an in depth analysis of the problem
6. We used a Business model Canvas template to identify all the necessary points in the solution
7. We found the environmental, social and economical benefits of the solution to be more convinving

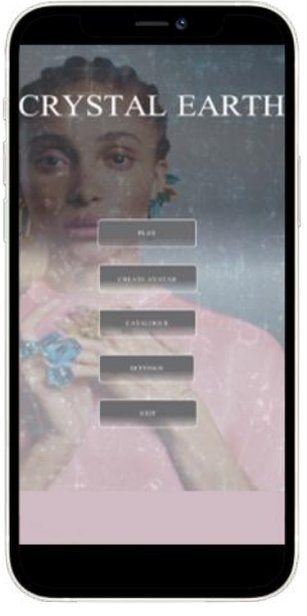
With all these research we then slowly developed a solution and made mock ups of the idea and realised everything was complete.

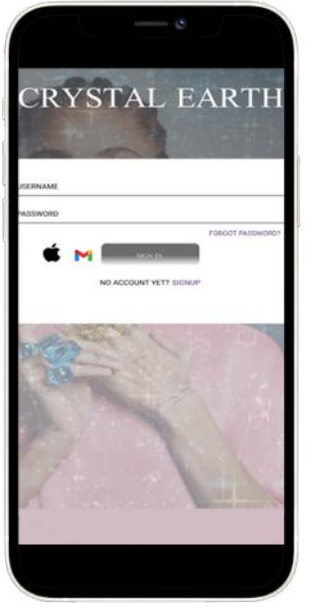
The Solution

Since the jewellery industry is concerned about the management of waste & minimization of virgin raw material usage; the customers are also facing a problem of inability to upcycle their old jewellry and at the same time lack funds for new ones leading to unsatisfaction. We are hence developing an online platform of mobile games that takes the customer on a journey through Swarovski's jewellery catalogue enabling him/her to upcycle their jewellery while enjoying a seamless shopping experience. This platform will be convenient, environmentally-friendly, cost effective and accessible.

Our solution approaches goal 9, 12,13 and 17 of the SDGs which are Innovation, responsible consumption and production, climate action and partnership for the goals. We are currently in the ideation phase and we believe our solution is innovatie since it is both digital and sustainable making it compactible with the current wave of innovation.

Our solution will be a premier in the market since the direct and indirect competitors do not have exactly what we want to offer. We will embark on a prototype as proof of concept and then start our first funding round to expand our team and move fast enough to be market ready.





Future Vison 2031

We see a scenario where all jewellry producers will use our platform to upcycle their jewellry. We also aim to sensitize our consumers and companies involved on sustainable responsible jewllry production and consumption .
We will partner with environmental organisation to help our users get involved with tree planting initiatives.
Finally we would love to expand our team and diversify into more upcycling such as building jewellry recycling facilities and collection stations to ease collection and recycling of both precious stones, metal and aluminium.

Conclusion & Outlook

Our idea would need the support of industry experts for guidance, funding to expand the team and finally corporate partners or sponsors to spread the word!

DiDUTCH
DESIGN & ENGINEERING

The Use Case

Sustainalize products with WMF

The Team

Bart Oude Luttikhuis

Tim Velthuis

I am Bart, technically oriented and love to solve complex issues. Although I am a real beta, I do like thoughtful designs. I gained much experience in the automotive industry by working for Porsche, before shifting my focus towards the food industry.

I am Tim, Bart`s counterpart, focusing completely on the design aspects of product development. I love to create `things' that aren't there yet. I am specialized in the human aspects of design and trained to uncover people's everyday problems and long term aspirations.

The Problem

Over the decades plastic waste has become one of the biggest environmental issue. Food packaging is a large part of daily lives, majority of these packaging are not 100% recyclable, in Europe only 41.5% of packaging waste is recycled. Our approach for this specific task is to consider bioplastics to develop packaging containers for drinks and pasty foods. Bioplastics have the potential to overcome environmental impact caused by its petrochemical alternatives. PHA based bioplastics can be obtained from bio-based feedstock, and the most intriguing properties of PHA based plastic is it is 100% biodegradable and unlike other plant-based plastics which requires an industrial composite facility to breakdown, PHAs can break down in ambient environment even in oceans. One of the major issues with the development of bioplastics is the high initial cost .We propose a solution in the form of using organic waste materials at Gropper itself to produce PHA based packaging.

The Solution

Our idea is to produce bioplastic from the process wastes of Gropper. More in detail, from the milk and juice wastewater it is possible to obtain polyhydroxyalkanoates (PHAs) through the use of bacteria and then process them into packaging for their products. There exist already some companies that produce PHAs from various types of wastes, however the process itself needs to be tuned depending on the composition of the specific stream that is going to be used as feed for the bacteria. Moreover, since there is a variety of microorganisms that can synthetize PHAs, it is necessary to choose the proper ones in order to get the bioplastic with the specific mechanical properties which allow to substitute the oil-based plastics. Definitely, the process would need more research, but it is strongly convenient in terms of reuse of wastes and circular economy. This solution is innovative since it includes the valorization of the wastes, which become the new raw material. Moreover, the process itself is eco-friendly, since it includes the use of bacteria and no harmful chemicals. Lastly, the bioplastic produced would be completely biodegradable and could close the production cycle of the company.

Future Vison 2031

Five years into the future the use of bio based plastic will be a new norm in the industry. Our approach will evolve and become more efficient in the production of the PHA from the waste materials catered to the need of Gropper.

Conclusion & Outlook

Our idea needs a specific study based on the characteristics and the quantities of the Gropper wastes, in order to identify the scale of the process and the bacteria needed. Moreover, it is necessary to select a production process based on their possibilities in terms of instrumentation and investment. Some tests would be helpful to characterize the obtained bioplastic and compare it with the oil-based one currently in use.
From this challenge, we learnt how to develop a feasibility study and all the details and knowledge needed in order to transform an idea into a product. Also, we faced the complexity of the industrial environment.

3.7 The Winners

SciAutomations

Reuse for a sustainable world

Transparency Sustainability Accountability

Xtraction

Team XTEND

THINKING CIRCULAR

Pre-Rinse Free Wash

ommatidio
a peripheral vision

The Use Case

New mobility with autonomous drones

The Team

Giulia Rossi

Anum Wazir

I am Giulia Rossi, born in Italy, near Milan, and living in Barcelona. I graduated in Product Design at IED Milan. Passionate about the world of fashion and architecture but also about innovation in general. An empathic and enthusiastic person, taking part in this challenge has been driven by my curiosity and desire to change things and patterns through research and analysis. I apply during this project my skills in management and in the concept idealization, I learned a lot doing that.

My name is Anum Wazir and i belong to Pakistan. Being an Industrial design student in my Bachelors I have learnt how technology plays a vital role in sustainability. what motivated me to take part in the challenge was the amalgamation of technology with sustainability in order to play our role to contribute in making the world a better place to live. My skills in creating and organising the research helped me play my role as the lead researcher during this challenge, which helped the team to come up with research driven analysis for the idea to develop.

The Problem

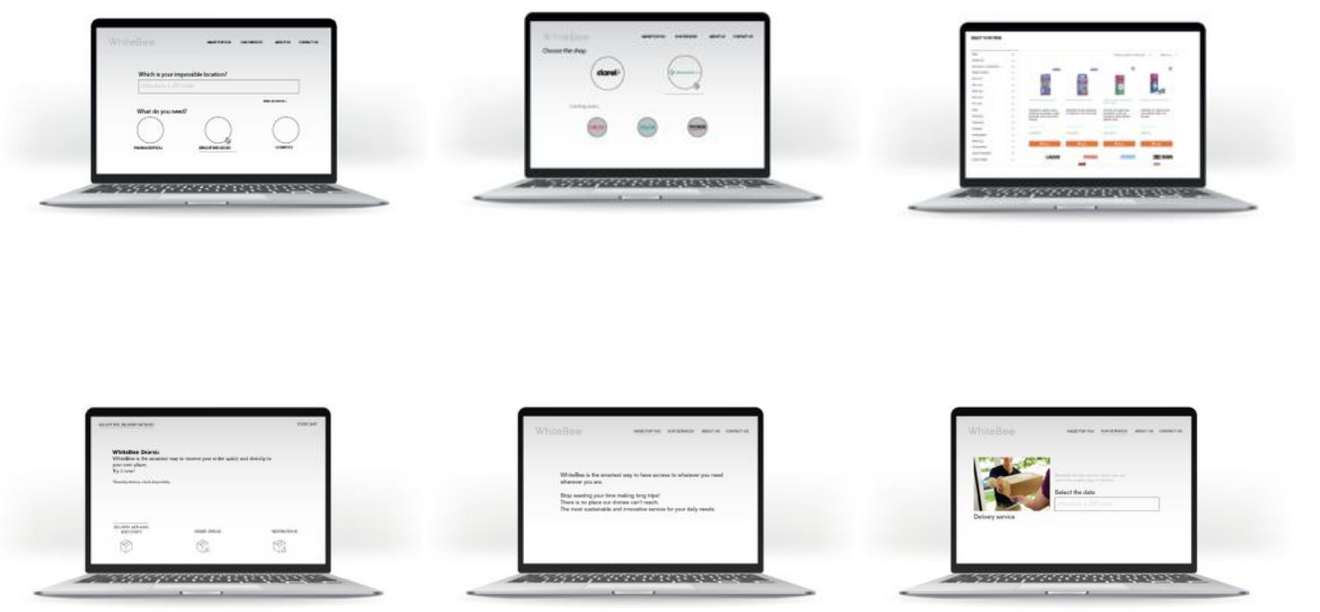
We approached the challenge by evaluating customer needs in order to understand the market. Analyzing the world of drones, we found out that there is a wide field of opportunities in which drones can support the SDG goals. As a team we decided to follow the design thinking approach to generate an innovative idea to support the SDG12 goal which we are focussing on during this challenge.
First of all, we did an in-depth analysis and research which allowed us to identify the needs of the customers but also focussed on how to manage drones efficiently and environment-friendly. Over the course of our studies we started to concentrate on the field of ´last mile delivery´. We identified many possible fields how drones can support society and climate change and finally focussed on drone delivery in remote areas. Our main idea is to support people living in remote areas to reduce Co2 emissions and time ordering goods with drone delivery.
Once we had narrowed down the possible direction to go ahead with, we used the double diamond design process which is a a human-centered approach. After fully understanding the problem, we began with user research, moving on with narrowing down the problem definition. Once the problem was defined we commenced the ideation phase based on the analysis done in the earlier stages.

The Solution

Our idea creates a bridge of accessibility between remote towns and small cities. People living in remote areas struggle to have a higher quality of life, as it's difficult to reach facilities due to rugged terrain and long distances.

We deliver non-prescriptive products from a para-pharmacy located in a nearby city to remote town residents through scheduled drone flights twice a week.
Users access our service via our website. Once they've ordered their goods (e.g. shampoo), they receive their product(s) in the next scheduled drone flight.
The drone flies from a drone port on the roof of the para-pharmacy – where it is loaded by trained employees – to a designated pick-up point in the remote town (at a partner facility, e.g. shop). The package is lowered to the ground, suspended from the drone, and is received by an employee of the partner facility. Villagers have two days to pick their package up.

One drone ride saves up to 10 car trips to the city, approximately 60km return.
CO2 amount: 0.019t/car x10 = 0.19t per week is saved = 9.9t / year.
Also, saving 2 hours of time per trip.



Future Vison 2031

We imagine a future where drones will have become a part of our everyday lives. We assume that, in a few years lots of different services will be using our platform to use drones as a means of delivery, which in turn will provide a variety of different products and services for our end user in the remote areas. For example:
- emergency services
- Courier services
- Pharmaceutical goods
- Luxury goods and services

We will be scalable as drones will have become a part of our lives and everybody will be using it without any hesitation. Our idea will have finally executed the concept of ´remote areas no longer to be considered as remote´. This concept will be further proven by the fact that the scalability of our project will have attracted more inhabitants to the remote areas as our drones will be proven to provide a higher quality of life. This in turn will have improved tourism in the areas as well as flourishing local businesses.

Conclusion & Outlook

As Bell is already on-board, what we need right now is a parapharmacy partner in order to commence our project. With a company like Bell backing it, this will be easier, but potentially one drugstore is not available in all small cities, so we may require more than one partner to begin with.
Additionally, from the interviews we established that the remote residents lose a lot of time and a lot of money by driving to the nearest small city. Therefore our research validated that our solution is wanted and needed, thus we plan to pave our way into the market by initially making deliveries for non-prescriptive products in order to gain insight and prove the concept. Once it’s proven, it will be scalable as the drones will then be used for many other services in turn providing us with more partners.

How did you celebrate your victory?

„I went to the mountains for a relaxed weekend with friends."

What was the biggest challenge for you – apart from the use case?

„The biggest challenge has been managing time."

What was your personal motivation behind your participation?

„The personal motivation was the personal growth of mine in terms of understanding complex situations and coming up with research driven solutions."

What kept you going when it got tough?

„It got tough towards the end but what kept me going was the belief that we've come so far, let's give it a last push when it's truly needed."

What do you personally take away from this experience?

„It truly has been an immense learning experience in terms of communication, research, compromise and many more."

A moment when you had to outgrow yourselves both as a team and personally?

„The moment when we had to bring about some changes in the final solution towards the end of the project. "

A moment when you grew stronger as a team?

„Every time miscommunications among the team had been cleared, we came out stronger."

How did you come up with the name of your idea and was the naming process an easy one?

„We wanted a name that would reflect closeness to nature: WhiteBee. And it surely was one tiresome task to pick the right name for our idea.“

Would you recommend taking part in innovation challenges? Why?

„I would definitely recommend taking part in innovation challenges, because as it is supposed to be a learning experience about the solution to the task hand but it is also a learning experience about one’s own self ie one’s strengths and weaknesses.“

The Use Case

B/S/H/ Rethink logistics for take-back systems

The Team

Sairaju Ponnoju Siddhant Sharma

Sairaju Ponnoju: Final-year graduate student at KTH Royal Institute of Technology with research interests on Digitalization and Sustainability in Supply Chain Logistics

Siddhant Sharma: Third-year undergraduate student at IIT Dhanbad with skills in the technical and analytical background. (He/Him)

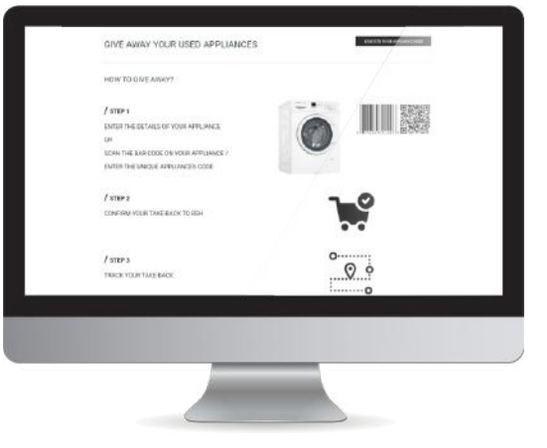
Our team consists of members with complementary capabilities in both technical and sustainability backgrounds, which gives us the ability to produce solutions that are sustainable, life-centered, and efficient. We both worked together right from the beginning (brainstorming to prototype development) in every task as it gave us a chance to think better and generate productive results from each task in order to succeed in the project.

The Problem

99% of the consumer products are thrown away by customers within 6-12 months which is resulting in a huge amount of wastes. However, only 30% of those waste is collected back and the remaining goes to landfills resulting in greenhouse gas emissions and climate change.
BSH is not able to take back the used products from its customers. (No / Ineffective Take back system)
We started with analyzing the stakeholders involved in establishing efficient takeback systems to understand what is stopping them to actively participate in the takeback system. To understand the problem we conducted customer surveys, interactions with BSH executives, industry experts, and others. This helped us in identifying the root causes and sub-problems associated with each stakeholder.
A deep understanding of the problem guided us to plan for a solution that eliminates problems within every stakeholder rather than focusing on the single stakeholder problem(customer).

The Solution

Our Idea (BSH Sustain Program) is a circular economy-focused business model that reduces the gap between various stakeholders involved with BSH in establishing reverse logistics. Our idea consists of motivating the customers and connecting them with BSH digitally through mobile applications & websites to aid them in participating in the takeback program, bolstering the partnerships between BSH and retailers through effective agreements, and creating a platform where Logistics service providers can collaborate with BSH and retailers for shipment of the products. Our prototype is in the working stage and is ready for use for the implementation of the idea. Our Idea is designed in such a way that each of the stakeholders involved in this program can get benefited. Bringing all the key players in this program together, with incentives included for each of them and laying the foundation of the circular economy, digital innovation, and servitization in order to build a sustainable world makes this idea more innovative. There is no such solution available currently which can address all the problems. Our Idea requires a platform for the implementation of the product at ground level, investments, and partnership expansions to set the foundation for our next step i.e., Circular Economy, Digitalization, and Servitization.



Future Vison 2031

Our solution BSH Sustain program is a foundation for Circular economy, Digitalization, and Servitization activities in the future.
As the critical raw materials are getting extinct, all the industries are ready to transform themselves into a circular economy from a linear economy. Our idea which enhances used product collection from customers will lay a strong foundation for circular economy activities like recycle, reuse, remanufacture, and refurbish. The future belongs to the servitization of the products and our digital solution easily connects BSH with customers and the transportation providers which is key for servitization. Our solution provides an enormous amount of customer/product data which helps in developing further digitalization activities in the company.

Conclusion & Outlook

It would be advantageous to implement our solution effectively if we get a chance to receive much more information and data from BSH along with additional supervision on launching the product into the market.

Hurdles to overcome in implementing BSH Sustain Program

1. Setup BSH sustain logistic platform and establish partnerships with logistic and drop-off partners.
2. Marketing and creating effective incentives for customers to join the BSH sustain program.
3. Ensure there are sufficient drop-off partners locations if the customer doesn't opt for transportation.
4. Ensure there are enough logistics service providers for every customer.

We learned about the significance and the urgency of establishing product takeback systems and we realized it is every individual`s responsibility to contribute positively to the environment by welcoming the sustainability initiatives taken by industries in fighting against climate change.

How did you celebrate your victory?

„As we are students, we informed about our victory to the directors and heads of education in our colleges. They felt so proud and happy. We celebrated with our friends. Our parents celebrated it as well. I (Sairaju) went to my friend`s area and had some celebrations with food, drinks, and music."

What was the biggest challenge for you - apart from the use case?

„It's managing to create some time to work on the use case, as we already got pretty much occupied with studies and other works. Putting little time effectively on a daily basis in order to solve the challenge was our biggest challenge."

What was your personal motivation behind your participation?

„Really inspired by the SDG 12 initiative and as we study much about sustainability in school, we thought it's the right platform to innovate and contribute ideas that help in building a greener planet and fight against climate change."

What kept you going when it got tough?

„The timely support and guidance from our coaches accelerated our thinking process and made us believe that we could make it at any cost."

What do you personally take away from this experience?

„It was great to realize our potential that we can actually solve a challenge that contributes to sustainable development and it boosted our self-esteem and doubled our confidence levels on handling sustainability challenges."

A moment when you had to outgrow yourselves both as a team and personally?

„We had a delay when one of our team member left the team and competition due to personal reasons. So then it's only 2 of us and the time got reduced but the workload increased. We have to work smart and hard to complete things on time."

A moment when you grew stronger as a team?

„After our initial submission, the message from ekipa that we got selected into finals. This moment made us feel stronger and much more determined to win the challenge."

How did you come up with the name of your idea and was the naming process an easy one?

„Coming up with the idea name is part of the brainstorming sessions we had within our group. It was neither easy nor difficult to name."

Would you recommend taking part in innovation challenges? Why?

„Absolutely, it was fun and ekipa encouraged us through workshops, boot camp, and coaching sessions which aided us to think out of the box and come up with innovative ideas. This challenge improved our thinking process, irrespective of winning, we were already happy with the work we did and the knowledge we gained throughout the challenge."

THE UK-POLAND GROUP
For a sustainable tomorrow

The Use Case

duisport

Innovate
export packing

The Team


Brian Johnston


Mattia Parati


Edward Andrews


Tomasz Konieczny

My name is Dr Brian Johnston and I'm currently working as a Research Associate with the Science in Industry Research Centre (SIRC) part of The University of Wolverhampton (UoW) in the UK. I am the leader of The UK-Poland Group, and I will be bringing my experience working in industry, research skills, microbiology and biotechnology experience to this project, while motivating the team and organising activities.

I'm Mattia Parati, a Research and Innovation Graduate for SIRC. I am from Italy and a recent BSc graduate from the UoW. After the second year of my degree, I decided to take the optional placement offered and I went to Holland for 11 months where he was trained in various biological lab techniques. I will be bring my business experience and focus is to achieve economic circularity through the development of bio-based solutions to this campaign.

I am Tomasz Konieczny and I am a PhD student in Zabrze Poland. I am a working in the area of polymer chemistry and I will be bringing my perspective and experience in packaging design. I also have many contacts that work within the Polish Academy of Sciences, which can support our challenge project with lab equipment that the UoW may not be able to provide.

I am Edward Andrews and I am a Research and Innovation Graduate for SIRC and PhD student at the UoW. I am the team expert in computer-aided-design (CAD) and I am very familiar with a range of software that is essential for 3D printing. I am keen to test myself and I will be bringing my experience of working on multiple projects with SIRC to this exciting project.

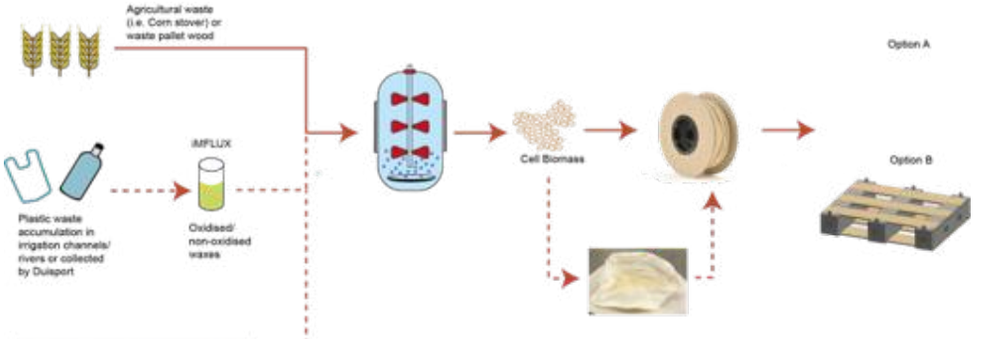
The Problem

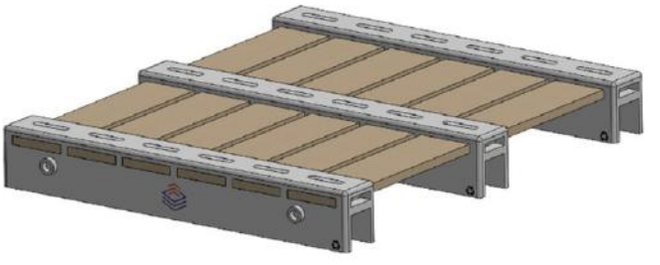
We approached the problem by looking at waste materials of the existing process, and how they could be lessened or re-purposed. Pallets and packages can often be heavy, unsustainably produced, and damaged, a danger to workers. The "one size fits all" approach, is becoming outdated. So, a review of current sustainable materials from literature was conducted, then the economics, industrial targets, and the direct expectations of our sponsor were analysed.
The next stage was to create a workable Gantt chart, with realistic goals to ensure all aspects of the challenge were addressed. An early task was to ascertain more details, so we presented Duisport with focused questionnaires, to elaborate real data, to inform our strategy. As we worked our way through the process, we took advice from our coaches and used their experience to maintain our grasp on the problem, especially with the business-related aspects.

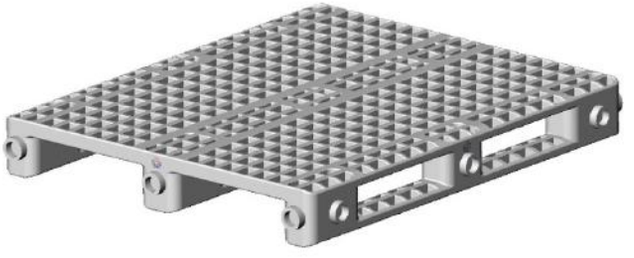
The Solution

Our idea is to supply sustainable, light weight, made-to-measure packages. We have 2 options: A – is a fully 3D printed bioplastic pallet and B – is a partial timber-bio-plastic pallet that can bare 2000kg. Materials are sustainable, PLA (a bioplastic) is produced from renewable sources e.g. starch and PHA (the other bioplastic) can be produced from waste (plastic/timber). Our product has the same logistical performance of existing pallets (handling, stacking, stowing and securing for transport). For some situations, option A would be better (shorter-term), option B could be utilised for 24+ month requirements with 2000kg loads.
Current stage of development - we printable 3DP designs, loaded into software that can calculate weight baring load. We have also developed samples the PLA/PHA blend material that would be used to produce pallets and control the breakdown.
We have business contacts ready, and just require investment:
ANBIO for 3DP material supply
BigRep for the machinery
iMFLUX plastic recycling to produce bioplastics
University of Wolverhampton/SIRC/PAN for IP/research/optimisation

Our solution is innovative as this technology has not been used in this way before and incoporates SDG12 sustainable aspects (managing the use of natural resources more efficiently and moving positively towards a circular economy).







Future Vison 2031

We predict that over the next 10 years 3D printing will become more common and fall in price, in a similar way to computers have. 3D printing will receive more investment, increase in speed and be used to fabricate larger items. Recently we have seen a 3D printed bridge in Amsterdam and even houses printed, so pallet making is very plausible. We also predict more aggressive global moves towards sustainable materials, as climate change are witnessed around the world.
The best-case scenario would be multiple UK-Poland Group (UPG) hubs at delivery sites, collecting and breaking-down waste pallets and at dispatch, UPG units printing pallets to the specifications of the packages.

Conclusion & Outlook

We have the basic infrastucture in place. We require investment, as with all great ideas, to test and refine our product. We have material suppler contacts, some are colleagues we have worked with in the past, and others we have contacted as a result of this campaign.
Current large-scale 3DP technology is expensive, and the margins or a company turning to PLA/PHB pallets are immediately small in comparison to Timber. However, we have learned during this challenge that each obscicle we have faced has presented opportunities for further collaborations and pushed us out of our comfort zones. For example, when we had difficulty producing our experimental materials, we drove deeper into our contact lists and found that a company has (as

How did you celebrate your victory?

„The victory arrived the day before our bachelor's graduation so we were able to congratulate each other in person. I (Mattia) had my family come from Italy to the UK, so we celebrated both the victory and the graduation on the 9th of September with an amazing meal out."

What was the biggest challenge for you - apart from the use case?

„Finding time. I (Mattia) am working full time as a consultant as well as doing my Ph.D. , plus holidays were in between (and it was the first time I'd been back since lock-down). Also keeping the entire team motivated and on course with the project. The business and political aspects were a big challenge as weill as we are all from scientific backgrounds."

What was your personal motivation behind your participation?

„I've always been interested in sustainability and the application of environmentally friendly scientific solutions. So the Duisport challenge was perfect for me (Brian). The same one that I (Mattia) have towards my PhD: making a difference and making a business out of it!"

What kept you going when it got tough?

„Thinking about why I (Mattia) was doing it and the support from my team colleagues, which has been absolutely pivotal! The team really pulled together and delivered their set tasks, this really helped us succeed."

What do you personally take away from this experience?

„A lot. The knowledge on how export packaging functions, the technical aspects of 3D printing, the suggestions of the coaches and much more.
I (Brian) learned a lot as the team leader. Patience and more confidence were the main take-away points. I am now much more confident approaching industry with ideas and my knowledge of how to pitch those ideas has increased."

A moment when you had to outgrow yourselves both as a team and personally?

„Constantly... we did about 9 different versions of our solution, each time trying to optimize it more and more again... every time it was outgrowing ourselves. One exciting moment was pitching our plans to a large 3D printing company. They were very receptive and they gave us some excellent feedback which helped improve our designs for the challenge. "

A moment when you grew stronger as a team?

„When I (Mattia) asked for some time... the team stepped up and helped me help them! But during the final pitch under the pressure of the jury we really pulled together and gave some wonderful answers to the panel."

How did you come up with the name of your idea and was the naming process an easy one?

„Yes, it was just describing what the product was going to do."

Would you recommend taking part in innovation challenges? Why?

„Yes, the experience, network and opportunities that come out of it are incredible! I (Brian) would recommend that any early career researchers participate in these challenges, the organisation and level of support throughout is great. You will learn a lot and become more prepared for work in industry. "

MAREA

The Use Case

GROPPER

Rethink packaging for liquid and pasty food

The Team

Julie Encausse

Edda Björk

Eydís Sigurðardóttir

Julie Encausse holds a B.A. degree in Media Management from UADE University in Argentina and an M.M. in Marketing from Reykjavík University, emphasizing entrepreneurship and innovation. Julie has an eclectic background; she's Argentinian and French, she lived in Iceland between 2007-2010 and then permanently since 2016. She founded her first company, a wine wholesale business in 2017 and within six months, she joined along with her brands portfolio a larger company as brand manager. Julie is the founder and director of Marea.

Edda Björk Bolladóttir holds a B.Sc. degree in Business Administration and an M.Sc. degree in Innovation Management from Reykjavík University. She has, among other things, undertaken an internship at the start-up company Feel Iceland, which involved taking care of the company`s sales and marketing activities. She has also participated in developing the health and biotechnology cluster BioMed Iceland and worked as a sales specialist. Edda is Marea´s co-founder and Julie`s right hand in business development and marketing.

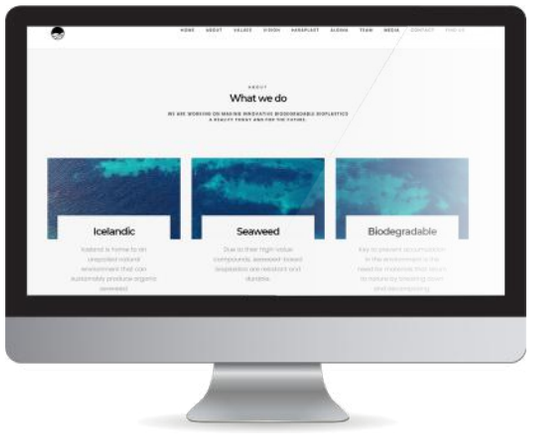
Eydís Sigurðardóttir Schiöth holds a B.Sc. degree in Biotechnology. She has extensive research experience in biology, chemistry and microbiology. She has worked as a research and laboratory assistant at the University of Akureyri as well as a technician in the laboratory at TDK Foil Iceland. She also did a traineeship at Karolinska Institutet in Stockholm studying neuroblastoma cells. Eydís is the lead biotechnologist at Marea. She resides in the city of Akureyri where she oversees all of Marea´s Tharaplast developments.

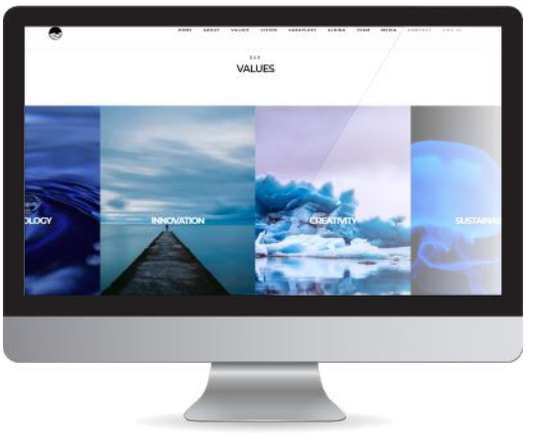
The Problem

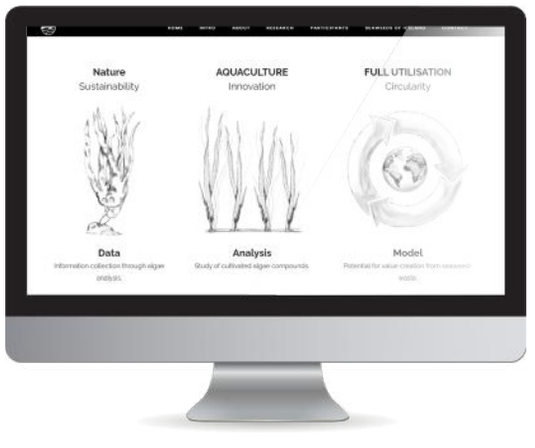
We tackled the problem from our user case through two key concepts: functionality and sustainability. The use of biopolymers to develop bioplastics provide a series of advantages but also present challenges. Building on our pre-existing findings in the research and development of Icelandic seaweed-derived bioplastic films, the key question for us became how to create a solid enough material that can replace single-use traditional plastic in the packaging of liquid and pasty foods with minimal impact on the environment? In order to fully understand the problem with these types of packaging, we focused on product requirements and food safety, volumes needed and potential implications for circularity. Our solution led us to reverse engineer our current approach both in the outsourcing of our biopolymers and their treatment, which resulted in the blueprint of a sturdy thick water-proof base material to be delivered in the form of sustainably sourced biopolymeric thermoplastic pellets.

The Solution

Our solution concept is biopolymeric thermoplastic pellets or Tharaplastics.
A water-resistant sturdy plastic-like material from natural sources that can be heated and molded. The outline is built on three pillars: Marea´s established proof of concept in using biopolymers from seaweed to form water-resistant bioplastics, tissue culture and thermoplastic transformation of the biopolymers via esterification. The outline as a combination of these three pillars is still at the concept stage but the three components individually are sound and proven scientific approaches.
Tissue culture or in vitro cell culture is a well-established plant-breeding technique. Its implementation has the potential to delivery disease free hybrid strains of seaweeds with high-yielding biopolymers. At a large scale, a tissue culture facility would require abundant electricity making Iceland the ideal location since almost the country´s total energy supply is produced from renewable energy sources.
The tissue-culture obtained polysaccharides have to be transformed into biopolymers with physical properties that make them suitable thermoplastics that can be molded much like traditional plastic. Tharaplastics is expected to have a long lifespan and although further research is needed, seaweed-derived biopolymers have the potential to act as biofertilizers since its components can enhance microbial activity and improve plant yield.







Future Vison 2031

The impact of biotechnology in the beverage and pasty food sectors is growing and artificial intelligence systems can contribute to the development of smart factories such as our envisioned bioprocess cultivation and transformation system. We estimate that in the next ten years through technological advances and AI, packaging in general will evolve to be digitally interactive (well beyond code-bar scanning) and hyper-personalised. Tharaplastics specific novel added value of extended life-span could potentially be pushed to new limits in seemingly endless and regenerative applications: a milk-carton from an optimised Tharaplastics approach could be used as feed for dairy cows or biofertilizer.

Conclusion & Outlook

The next step is a small-scale proof of concept for Marea´s tissue culture bioprocess and transformation system from polysaccharides to biopolymeric thermoplastic pellets ready for manufacture. Upcoming challenges consist of inherent hurdles in the transformation process; obtaining the resources to implement iterations until optimal results are achieved; and the assembly of partners ranging from engineers and process designing experts to investors in order to deliver a scalable model that can be replicated.
The greatest takeaway from this challenge is the realisation that it is by surpassing initial barriers in the analysis and ideation process and by applying persistence and dedication that solutions take form.

How did you celebrate your victory?

„We celebrated by purchasing a large quantity of quality petri dishes to continue with our research and development work in the lab."

What was the biggest challenge for you – apart from the use case?

„In addition to the use case itself, the biggest challenge was coming up with a solution that is sustainable over time and yet provides the functionality requirements that are needed in the packaging of liquid and pasty foods."

What was your personal motivation behind your participation?

„My personal motivation for participating in this challenge was to connect with professionals from the industry and establish the grounds for a collaboration with Gropper. I am glad to say that both goals were achieved."

What kept you going when it got tough?

„The encouragement from my mentors, from GROPPER´s team and from the Epika team."

What do you personally take away from this experience?

„I personally take away that perseverance pays off and that the only way to tackle a massive problem is one step at a time."

A moment when you had to outgrow yourselves both as a team and personally?

„Building a start-up is challenging but it is also an innovative and creative process. At a personal level and at a group level we had to grow beyond and climb uphill when it came to dealing with time constraints. However, that led to us understanding the importance of establishing a clear scope for each independent task and segment that when combined together shaped our solution."

A moment when you grew stronger as a team?

„During our brainstorming sessions."

How did you come up with the name of your idea and was the naming process an easy one?

„Our process denomination THARAPLASTICS was chosen by combining the Icelandic words þari (e. kelp) and plastics (e. thermoplastics). The aim is to make the product´s concept easy to grasp."

Would you recommend taking part in innovation challenges? Why?

„I would absolutely recommend taking part in any of the innovation challenges organised by Epika. I found it to be an uplifting experience to see innovation spring to life with individuals coming together from different sectors: industry, students, entrepreneurs and public institutions."

SciAutomations

Reuse for a sustainable world

The Use Case

KION GROUP

Re-think pallet securing

The Team

Shamil Gemuev

Sophia Sheptukhina

Yegor Piskarev

My name is Sophia Sheptukhina. I am a production designer working for more than 12 years. I`m not good at science, but environmental problems have always worried me, so I joined my friends from SciAutomaion to provide all possible help with my conceptual artistic skills and possibly contribute to the improvement of the world in this way. I help to visualize the idea simply and beautifully. I hope I did it :)

I`m Yegor Piskarev. I received my bachelor`s degree in mobile robotics in Russia, and then I moved to Switzerland to do my masters` in mechanical engineering. Right now, I`m doing a Ph.D. in soft robotics with a focus on medical applications.
I am responsible for material selection, design development, and integration strategy. I always wanted to participate in an industrial project, which has a broader impact than an academic or research project.

It's Shamil Gemuev, a robotics and automation engineer from Moscow, living and working in France. I was obsessed with the idea of working together with a company to offer a new sustainable and automated solution for pallet securing. That is why I decided to bring my industrial automation knowledge inventing a new science-based way of wrapping goods with my friends. Business development skills helped me analyze the market and create a business model for our idea.

The Problem

The use case of our team, SciAutomations, consists of several multi-level problems. First of all, we structure the issues in two groups: high-level issues focused on global sustainability impact and low-level issues of our customer, KION Group, oriented on supply chain optimization.
To better understand the global issues, we did a literature review on current plastic problems. KION`s issues were investigated through sustainability reports and weekly meetings with a diverse team of KION`s representatives. In these meetings, we tried to find out our collaborators` actual pains and gains by carefully interviewing them with a set of implicit questions. Then, we clarify all the blind spots and get some non-intuitive technical insights about wrapping pallets.
Our solution development was an iterative process. We use each of the weekly meetings to either test our new concept and move forward based on KION`s feedback or take a step back and redesign our solution.

The Solution

How to win from plastic waste, reduce it, and make the packaging faster simultaneously?
We present a novel approach for packaging using a reusable waterproof fabric band fabricated of already recycled materials. Proposed material composition and reusability significantly reduce plastic waste per year (up to 108.000 tonnes). The band consists of two components: velcro stripes made of recycled waste sewn onto a sheet of fabric composed of already recycled polyester.
The band can be wrapped around the pellet like a regular plastic stretch using a manual or automated approach. It can also be rapidly and safely removed manually by peeling off one velcro from another without any additional equipment such as a knife, which can damage the goods. The bands are stored the same ways as already existing solutions making the integration process fast and easy.
The business model based on a band leasing with paid repair/exchange service allows us to generate up to 1.1 Billion € revenue a year. In the future, we would like to develop a deposit ecosystem of reusable wrapping solutions similar to an ecosystem of reusable pallets that already exist for more than 30 years in Europe.
We address currently existing constraints of the European sustainability agenda by creating a demand for eco-materials to produce our solution. This demand leads to the occurrence of new fabrication plants. Also, we develop a new niche for used plastic stimulating the growth of recycling capacity treating the waste across Europe.

Future Vison 2031

We want to create a sustainable future for supply chain and pallet securing. Our eco-friendly wrapping solution will substitute all stretch bands used and reduce the plastic waste impact on the environment. Implementing our solution will promote building new recycling plants keeping plastic inside the loop without creating hazardous waste.
Our wrapping solution will form an ecosystem parallel to the e-pallet system that will track the flow of wrapping materials. Implementing our bend will gradually reduce the time for packaging and unpackaging due to the high automation of the process and allow to deliver goods faster, cheaper, and environmentally friendly.

Conclusion & Outlook

Our market entering plan consists of integrating our solution inside our sponsor KION to test the concept, get first feedback and optimize the prise strategy. Then we would like to move further by expanding among KION`s clients and collaborators expanding the market.
Finally, we would like to develop a deposit ecosystem of reusable wrapping solutions similar to an ecosystem of reusable pallets that already exist for more than 30 years. The market of wrapping solutions seems to be conservative, so we need to show how efficient we are and the benefits clients will acquire: sustainable solution, cost reduction, complete process automation in parallel to ease of integration.
Thanks to Ekipa Challenge, we had an extraordinary chance to work together with the company discovering their pains and expectations from our solution.

How did you celebrate your victory?

„We live in three different countries, thus, it is a bit complicated for us to meet and celebrate all together. However, next month, we plan to make a celebration dinner together and discuss the advancing of the project and elaboration of proof of concept for our idea."

What was the biggest challenge for you – apart from the use case?

„It was not easy to meet the demands of our sponsor, Kion group, and at the same time orient our pitch on the business and global sustainability concepts."

What was your personal motivation behind your participation?

„We as a team are interested in developing sustainable solutions that can impact the quality of the future life of humanity. We also find the idea of working in a new engineering domain as an enriching experience for us."

What kept you going when it got tough?

„At a certain point, we felt like there was too much work to do. Nevertheless, we believe in our concept. That is why we put all our effort and keep going to finish our product and the presentation."

What do you personally take away from this experience?

„First, we discovered a new sphere: the supply chain industry and packaging solutions that exist on the market. We got more profound in developing a feasible business model for the project. Our coaches provided us with lots of knowledge and experience in design thinking and issues negotiation."

A moment when you had to outgrow yourselves both as a team and personally?

„A moment when you had to outgrow yourselves both as a team and personally? The final phase of the project was the toughest one. It made us reunite our efforts, synchronize our work, and use the hard and soft skills we didn`t serve as much before."

A moment when you grew stronger as a team?

„Every deadline is a good moment for us to get stronger and reach our limits."

How did you come up with the name of your idea and was the naming process an easy one?

„We tried to make the name that helped a stranger understand our goals as a team and be transparent about what we offer. Choosing the name is never an easy task, but we think we have done it well."

Would you recommend taking part in innovation challenges? Why?

„We get a lot of new knowledge from the business side, presentation side, and soft skills side. Considering this, it`s worth participating in. Those who are motivated and interested in the particular theme should use that chance to take part in the challenge and bring their brick to build a better future!"

The Use Case

Inspire a more sustainable way to retail

The Team

Shane Hearne

Darragh Foley

My name is Shane Hearne, I am getting ready to publish a paper modelling the earth-satellite quantum communication channel funded by the Walton Institute. I am passionate about leveraging emerging technology to enact change at a societal, economic, and environmental level. I was drawn to the innovate2030 challenge because it combines my love of technology with my desire to too push our civilization towards a sustainable future.

My name is Darragh Foley, I'm a software engineer working in R&D for the cyber security company Darktrace. I work on a tool called AI Aanalyst, which allows me to work on emerging AI technology and implementation. My task was to try and implement this knowledge to the problem we were given. While we are both physicists, we have strengths in different areas. I was drawn to take part as I feel the next 10 to 20 years will be crucial for us to maintain a habitable planet for all, we are at a tipping point.

The Problem

The first step was to answer 3 questions. What is the problem, who benefits if this problem is solved, and why is this problem worth solving. The problem is the lack of traceability and transparency through the product life cycle. The benefactors are both QVC and their eco-conscious customers. The reason why this is important is that by providing information regarding the impact of QVC`s products on the environment, consumers can make informed decisions and push for sustainability while QVC have a way to measure their impact and begin to optimize their product inventory.
We realized that the biggest challenge would be collecting enough data needed to measure the environmental impact of each item in QVC`s vast range of products. Additionally, many of QVC`s competitors have already tried to achieve similar goals without much success. It became apparent that the real problem was to measure the environmental impact of their products without direct access to data.

The Solution

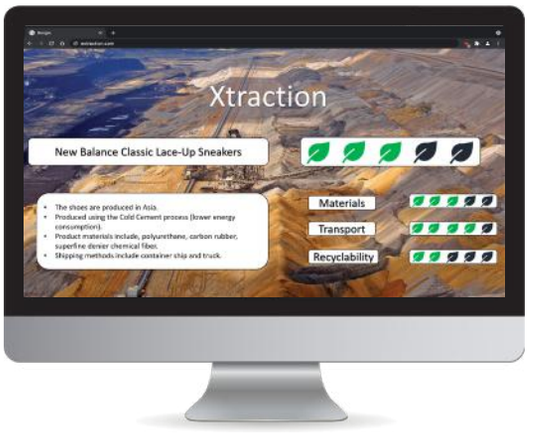
Our idea consists of 3 parts.

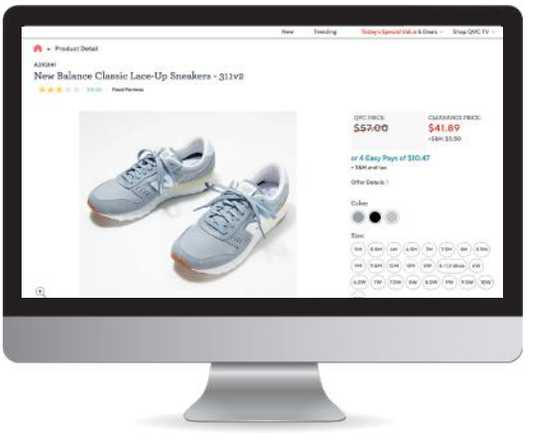
1. Data Extraction - Our algorithm search`s the web and extracts product life cycle data, removing the need for communication with the supplier, manufacture, or retailer. This is particularly useful when dealing with uncooperative suppliers and manufactures.

2. Data analyses - The extracted data is used as the feature set and passed through our classifier, which ranks the product based on sustainability. This classifier will be trained using state of the art machine learning techniques combined with statistical data pulled from databases such as Eurostat and Ecoinvent.

3. Dissemination - This database along with the algorithms will be stored on a blockchain where interaction with these services will be completely autonomous. This removes the middleman and allows consumers to interact directly with the algorithm ensuring that the rating is calculated without bias or corruption. Trust is built into the system.

Our solution will hold suppliers and manufacturers responsible for the products they produce by revealing the environmental impact of the product life cycle in a trusted and transparent way. When a consumer submits a product, our data extraction algorithm is triggered, the data is classified and stored forever on an immutable blockchain.





Future Vison 2031

Once the classifier is trained it can be used on any range of products from any company. Once the product is classified it will be stored on our open source database. As the database grows larger, so too does its utility. This will allow consumers to determine the sustainability of products in real time while they shop. This will restore power to the individual, allowing consumer demand to drive sustainable retail. This combined with future regulation will force companies to be accountable for the products they produce and the resulting socio-ecological impact. These companies will enlist our services to rank their products based on sustainability.

Conclusion & Outlook

To develop a working API where we can pull and verify product information from the web. We need membership to a number of inventory databases like eco-invent to calculate metrics like carbon footprint and energy used.
A potential hurdle will be the accuracy of our web scrapper when dealing with products with limited information, these may include products that are of a lower price point, or the supplier originates from a country where little to no information is required. As a team we have discovered that there are blind spots in the product life cycle making it difficult to measure sustainability.

How did you celebrate your victory?

„Rang our parents, had a few beers and went back to work the next day."

What was the biggest challenge for you – apart from the use case?

„Balancing the workload from our jobs with work for the challenge."

What was your personal motivation behind your participation?

„To build a more sustainable future for our children and to challenge ourselves by trying to solve a difficult problem."

What do you personally take away from this experience?

„Don`t try to force an idea on a problem."

What kept you going when it got tough?

„Our coaches Lars and Thabea."

A moment when you had to outgrow yourselves both as a team and personally?

„After the first meeting we learned that our initial idea would not be suitable, so we had to step back and start again."

A moment when you grew stronger as a team?

„The whole process, each day we grew as a team."

How did you come up with the name of your idea and was the naming process an easy one?

„The name evolved from the core of what the solution is doing, which is extracting data and using a play on words we called it „xtraction".“

Would you recommend taking part in innovation challenges? Why?

„Definitely, get out of your comfort zone as much as possible, meet new people and develop new friendships.“

Team XTEND
THINKING CIRCULAR

The Use Case

SWAROVSKI

Think circular together with Swarovski

The Team


Aileen Piacos


Alessandra Felix


Carmelo Balagtas


Dorcas Crooc

Aileen Piacos: I recently shifted to retail entrepreneurship advocating for sustainable lifestyle after a long stint in the Telecommunications and Engineering Industry. I am the technical and creative media point person of the team. My engineering and creativity skills helped create the visuals of the team's solution.

Alessandra Felix: I am an entrepreneur who is currently working towards integrating sustainable agriculture and aquaculture into our family-owned resort. My engineering background and inherent thirst for knowledge enabled me to substantially contribute to grounding the fundamentals of our solution into something feasible.

Carmelo Balagtas: I am a supply chain practitioner by profession who has recently concluded my graduate studies in France. What got my interest in the competition was the intent to bring passionate minds together.

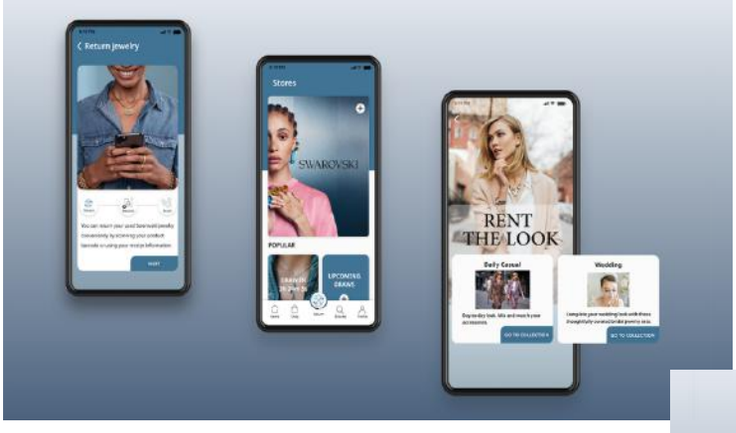
Dorcas Crooc: I am a chemist working as an environment, safety, health, and quality management professional in the energy industry. I used my experience and professional background to contribute to formulating a sound approach that is hinged on product stewardship to reduce the adverse environmental impacts of waste jewelry.

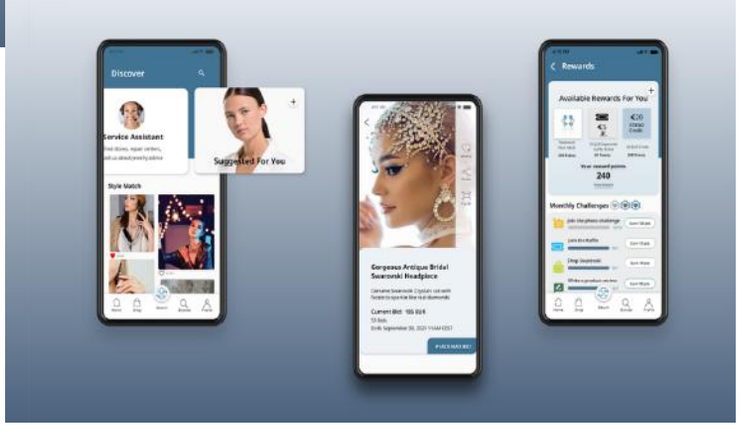
The Problem

XTEND takes advantage of society`s growing dependence on digitalization and mobile devices. An integrated mobile application was deemed fit as it creates a convenient and dynamic approach on encouraging customers to support Swarovski's efforts on achieving circularity through jewelry take-back participation and alternative product acquisition on a single platform.
The customer, the brand and the environment were thoughtfully considered in solution formation. Production and consumption patterns of the use case were explored where existing manufacturing, production and waste management methods were dissected, and end-user behaviors were analyzed. Research on the jewelry industry's current market and product direction were explored to best create value through lengthened jewelry lifespan and maximized jewelry use. Circularity approaches, recommerce models and gamification methods, wherever successful, were benchmarked. The concept evolved into an innovation by utilizing design thinking methods, validating ideas with Swarovski and the coaches as well as testing the mockup on the target market.

The Solution

XTEND is a mobile application that integrates:
Return Used Jewelry: Take-back for credits
Auction: Bidding for statement pieces
Raffle: Ticket-based entries for items at a fraction of its SRP
Rental: Tier-based subscription of curated "looks"
E-commerce: Integration of brand's online shopping accepting credits
3PL: XTEND logistics network with third party providers
Rework: Processing eligible returned jewelry by brand standards to be sold through XTEND
Data analytics: Strengthening brand image and value; AI-driven optimization of operations
Service assistant: Style suggestions, Jewelry try-on
Customer engagement: Social component, gamification i.e., milestones for rewards
XTEND is currently under R&D. Next steps require brands to provide information on its existing logistics, manufacturing methods, market, and quality standards. Investment towards app development and establishment of logistics network would also actualize plans.
XTEND addresses the brand's responsibility to take back products while gaining hyper personalized marketing and accurate product prediction. It also tackles consumer proper waste disposal while providing a platform offering an omni-channel approach. Lastly, it recovers used jewelry that reduces waste and new material extraction while consumer behavior is influenced to consider product acquisition alternatives. We pride that no other solution complements take-back with circular practices and XTEND manages to close that loop.





Future Vison 2031

XTEND is envisioned to be the universal brand-backed service provider for product take-back and recommerce.
The pilot phase would launch with Swarovski jewelry's European market initially tapping its loyal customers. Once logistics capabilities and partnerships are reliable, XTEND would expand to Swarovski's other markets and begin to foster partnerships with other jewelry brands. XTEND would further its impact by accepting jewelry based on materials rather than brands. It would then broaden its reach to other players across different industries. As the market matures, XTEND would continue to supply recycled base materials for brands to use to ultimately achieve circularity.

Conclusion & Outlook

Advancements would involve partnerships with brands prescribing acceptance criteria and KPIs. Concomitantly, a logistics network would be established with 3PL providers while the software and database would be developed. Piloting would begin in a small region where the system would be assessed and revised until major flaws are addressed. The solution would then be established on the market and ready for expansion.
As we learned to scrutinize the solution in different perspectives during this challenge, hurdles are anticipated from operating logistics and seeking 3PL providers with sustainability in mind as well as forecasting market receptiveness because of XTEND's unique model.

How did you celebrate your victory?

„Celebrating remotely amongst the team members was quite the obvious choice given that we in 2 locations, Manila and Paris. However, we are grateful that our immediate family members were there to celebrate this feat with us - from eating a box of pizza to gathering around a bag of croissants! Eating sure is the ultimate champion pleaser!"

What was the biggest challenge for you – apart from the use case?

„Going out of our comfort zones which translated to learning some new form of skill or knowledge. We all have particularly rich professional backgrounds, yet joining a competition since the last time we can remember, added to that, the mechanics of actually participating in it virtually and time pressured, did fuel us to think creatively!

What was your personal motivation behind your participation?

„Networking - from a learning stand point. The subject on sustainability and the challenge on innovation allowed us to learn and grow the interest we have for both!"

What kept you going when it got tough?

„The opportunity presented at hand was a good motivator for us to do an excellent work."

What do you personally take away from this experience?

„People from different backgrounds coming together to create a solution is powerful. Innovation does not have to be grand. It can be achieved by taking existing systems in place and putting them together in a new way."

A moment when you had to outgrow yourselves both as a team and personally?

„Humility amidst the challenge of remaining creative and innovative. We knew we were progressing yet we were curious if we were heading towards the right direction. In the end, we chose to celebrate small wins that enabled us to keep going and keep evolving as a team player and as a group participant."

A moment when you grew stronger as a team?

„When we embraced a - "team" mindset and started looking at the solution from the point of view of each other instead of just from a personal standpoint. Finally, we curated ideas that best represent our final material than our personal view points. This allowed us to get in to the finals, and win the grand prize in the end."

How did you come up with the name of your idea and was the naming process an easy one?

„One of the team members referred to it as such and the rest simply followed. Dorcas explains, „The word "XTEND" just popped into my head as I was mapping the back end of our solution that aims to extend jewelry lifespan. After that moment, the name kind of just stuck."

Would you recommend taking part in innovation challenges? Why?

„Absolutely, because there is nothing to lose but more to gain. We recommend it to anyone who wants to imagine and create new things to drive change. It`s quite stimulating and fulfilling to learn something new and create something that might just be what the world is looking for."

WMF Care
Pre-Rinse Free Wash

The Use Case

Sustainalize products with WMF

The Team

Aashima Lamba

Rohan Agrawal

Aashima Lamba: I am a computer science graduate with an experience of 3 years working as a System Engineer at Infosys, one of India's largest IT companies and then as a Business Technology Analyst at Deloitte. I am also an experienced entrepreneur currently running a successful startup to empower the exploited workers in the Indian unorganized sector. I am currently interning as a Business Operations Intern at Upflow. Rohan and I closely work together from ideation to final presentation without brainstorming together at every step.

Rohan Agrawal: I am a software engineer with a degree in computer science and a work experience of 3 years in Microsoft as a Technical Consultant for global Digital Transformation projects. I have consulted several large companies in Europe and USA and am currently interning at Schneider Electric as a Strategic Innovation Intern. Aashima and I don`t have clear task divisions and work closely throughout the process.

As business school students at ESCP Paris, we were looking for a way to implement our school learnings in a practical business scenario. Ekipa presented the perfect platform for this purpose, and we were exhiarated to know that the case studies were in the field of sustainability which aligned with out areas of interest.

The Problem

To understand the problem well, we spent considerable time reading and re-reading the problem statement multiple times. After developing a deep understanding of the needs, we started to trace the entire lifecycle of the products. Using this lifecycle, we identified areas where resources are consumed by the product and opportunities where we could optimize the resource consumption to make it sustainable. Our main objective to ensure a practical solution with least effort and maximum outcome. It was then that we read studies about how pre-rinsing is a common practice which wastes about 22,000 litres of water per household every year and is not really needed in modern dishwashers. To validate the issue, we conducted personal interviews and surveys for our primary research and also performed secondary research through extensive reading. Post validation, we brainstormed on ideas to tackle this issue while keeping the pillars of practicality and cost in mind.

The Solution

The problem identified among the consumers is a behavioral problem. Such behavioral problems are difficult to change as they are deep rooted in the consumer minds and even direct awareness campaigns are unable to change these behaviors. Clever psychological Illusion is a proven tool to effectively improve such behavior. Our solution uses this principle of illusion.
Our idea proposes WMF to start adding a label to its non-electric product range showcasing 'Rinse Free Wash' as a new line of products knows as WMF Care. The label would mean that dishes featuring this label can be directly loaded to the dishes without any kind of pre-rinsing. Please note that WMF does not need to really add any functional changes to its products. This is just an additional label incorporation. When even the preliminary capabilities are sold to users as features, they are tempted to use it and would feel more confident about the effectiveness of their dishwasher on these dishes.
Additionally, we can educate the consumers in parallela about the futility of pre-rinsing the dishes by campaigns with strategic partners like dishwashing soap manufacturers.
Existing solutions to this problem directly tackle the issue in means of awareness campaigns run by NGOs and blogs written by different bloggers about the futility of the pre-rinsing exercise.
Our solutions leverages a psychological route to approach this issue.

Future Vison 2031

In an optimal implementation, all consumers would gradually understand that dishes don`t need to be pre-rinsed before loading to the dishwasher resultantly saving millions of litres of water. Gradully, such labels should become obsolete and would be phased out as they would have successfully achieved their purpose.

Conclusion & Outlook

Behavioral issues are diffiult to change the biggest hurdle is to change this mindset. Although we are confident that our solution would be effective, it would need to be complemented with awareness campaigns to educate the consumers so they don`t start assuming that only certain kinds of dishes can be put in the dishwasher directly. A key learning for us was the fact that solutions can be simple yet effective. Clear communication and clarity between stakeholder is important.

How did you celebrate your victory?

„On the day of finals, we were in different cities, so we could not meet together to celebrate. Hence, we had a video call to celebrate our win, reflecting back on our journeys. We then went out along with our friends to nearby pubs and celebrated our wins with them as well."

What was the biggest challenge for you – apart from the use case?

„The biggest challenge for us was to ensure that our solution remains simple. Often, with enough time at hand, we overthink our solutions to make it perfect. Resultantly, our solutions end up merely looking good on paper but not practical. We ensured we keep reviewing our solution's simplicity and get constant feedback from our mentors and friends throughout the journey."

What was your personal motivation behind your participation?

„Both of us are deeply passionate about the cause of sustainability. With our engineering backgrounds and an ongoing business degree, we believe that the urgent global need for becoming sustainable can be solved by leveraging technology to optimally serve practical business needs to gain tangible outcomes. We saw this participation as an opportunity to contribute to making a real change with our ideas."

What kept you going when it got tough?

„We were lucky to have very supportive mentors with us. Pursuing a new innovative idea is a path of constant uncertainty and self-doubt. Having candid conversations with our mentors about our challenges and doubts and their constant guidance helped us keep going."

What do you personally take away from this experience?

„We learnt that bringing theoretical principles to practice is tough. Although, it is easy to say that we need to become sustainable and innovative, finding the right opportunities while ensuring practical economic constraints is where the challenge lies. The key is to understand the ground realities of businesses and their operating environments, so that the energy that people are spending in conceptualizing sustainable solutions could add real value to the industries."

A moment when you had to outgrow yourselves both as a team and personally?

„Although we had based our solution on recognized articles and research papers, we still wanted to test our solution before suggesting it for the competition. Hence, conducting primary research to connect with people of different age groups and understand their habits and validating our solutions was an exhilarating experience. We wanted to ensure that we are not merely suggesting solutions for this competition's sake but rather solving a real problem."

A moment when you grew stronger as a team?

„Having worked diligently on our idea for a duration of 2 to 3 months, there were times when it was difficult to be available at the same time in the middle of so many other commitments such as internship, academic projects and so on. We truly believe that during such incidents collaborating and filling in for each other to keep going made us even more strong as a team."

How did you come up with the name of your idea and was the naming process an easy one?

„We didn't initially put too much thought on the name. To be completely honest we did not realize the importance of a self-explanatory and simple name until the last phase of the competition. We then started looking back on all our consumer interviews from primary research and tried to find that common thread through which we could connect our idea to the sentiments of people. That is how we could come up with our proposed name "WMF Care"."

Would you recommend taking part in innovation challenges? Why?

„Yes, we strongly recommend taking part in innovation challenges. Such challenges align academic thinking closer to real world problems. Often, we cook up solutions sitting in our isolated offices (and homes in these times) without really understanding the nitty gritties of problems. Such challenges with clear asks from businesses forces us to think and address the problems holistically and move our ideas from being mere theoretical concepts to practical implementable solutions."

04

Facts & Figures

4.1 Facts & Figures

100
Submitted Solutions

108
Registered Teams

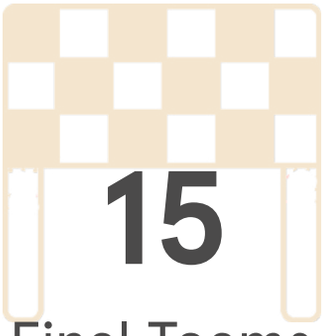
4
Initiators

8
Companies

347
Clicks on the Social Wall

275
Times the #INNOVATE2030 was used

List of sources p.145



15

Final Teams

8

Winning Teams

31

Coaches

6

Jury Members

3.740.729

reached people, through our social Media

320.000

Price Money

List of sources p.145

05

Conclusion

In order to successfully guide you through this afterword, we will recap where we started. The initial idea of this project was that sustainable development largely depends on both peoples awareness and action, as well as leveraging the potential of novel technological innovation to drive positive change. We have also argued that the young, digital generation have a lot to offer when it comes to creating said innovations. In order to make this happen, we have utilized the SDG framework to guide us on our quest to "sustainabilize" societies and have chosen the SDG 12 "Responsible Consumption and Production" as a starting point. Now, following an exciting 6-month journey, where do we stand? What can we conclude from half a year of collaboration, hard work, and "co-creating" to enable sustainable innovation?

To begin with, while there certainly is much awareness as well as action around the topic of sustainability, much potential remained (and still remains) untapped. Through this project we have definitely realized that the topic of transforming consumption and production patterns not only already is a vital concern in the eyes of all stakeholders involved in this project, but that they are actively seeking out opportunities to drive positive change. We have shown this in the variety of topics the use cases have dealt with such as circular economy approaches, transforming logistic aspects of supply chains, rethinking product materials, or tracking product life cycles. Hence, many organizations are currently focused and actively pursuing sustainable development related to consumption and production patterns. With so many young people engaging and developing novel and innovative solutions within these vastly different topic areas, we have also noticed that there is much willingness on the side of the digital generation to collaborate. Thus, we can definitely confirm a trend towards awareness in "sustainabilizing" consumption and production patterns, which, if given the chance, can be transformed into powerful actions that drive meaningful change. The awareness that the current problems affect the whole world awakens the spirit of innovation and the desire to create something new or to improve the old. Therefore, we will continue to create a space of collaboration and dialogue between different stakeholders to drive sustainable development.

Furthermore, we accomplished to enable the digital generation to unfold their potential. We have created both a safe learning environment as well as a lively collaborative space in which they can unleash their creative potential and contribute to sustainable development. For example, ***Ommatidio*** said "the experience of the challenge itself is amazing, because we talked with a lot of interesting people all over the world. I can advise future players to be creative as much as they can and always trust in their ideas! [...]

This challenge provides you with the opportunity to bring your idea to reality, and one should avail such an opportunity while thinking about bringing positive changes to the environment".
The winning tam for Duisport`s innovate export packing Use Case ***The UK-Poland Group*** said "The experience, network and opportunities that come out of such a challenge are incredible! We would recommend that any early career researchers participate in these challenges, the organisation and level of support throughout is great. You will learn a lot and become more prepared for work in industry. " An opinion which another one of the winning team -***WMF Care***- shares; „Such challenges align academic thinking closer to real world problems. Often, we cook up solutions sitting in our isolated offices without really understanding the nitty gritties of problems. Such challenges with clear asks from businesses forces us to think and address the problems holistically and move our ideas from being mere theoretical concepts to practical implementable solutions."

Hence, it becomes clear that apart from having great and innovative ideas, the digital generation is also greatly appreciative of being actively involved in shaping their own, our, and the planets future. We strongly believe in and will therefore continue providing these opportunities to the young generations.

Lastly, throughout this first edition of the Innovate2030 project series, we realized that collectivity is key to driving sustainable development. For years, we have actively promoted this by bringing together different stakeholders from politics, science, business, and the digital generation in our innovation projects. However, the importance of this aspect became most visible when we accompanied the teams as well as the other stakeholders throughout the project, observing how team-based innovation enables creativity, co-creation, and ultimately successful team-based innovation. We therefore believe that this power of the collective needs to be transferred to society as a whole to address the different sustainable development goals in a meaningful way. Therefore, collectivity will be integrated and woven more prevalently into the narrative of the upcoming project editions. We essentially seek "partnerships for the goals" (SDG 17) in order to jointly tackle the challenge within each of the other SDGs. And we would further like to raise awareness of the fact that collectivity is key for subsequent behavioral changes to drive sustainable development around the globe, involving those who are most likely to participate in its future - the digital generation.

06

Appendix

6.1 Bibliography

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6.3 Imprint

About ekipa GmbH:
Ekipa is a startup from Frankfurt am Main. We unite the digital generation with established companies and organizations.
Ekipa is an open innovation platform where digital natives, especially students, young professionals, young researchers and startups develop innovations together with companies and organizations.

Contact Details:
ekipa GmbH
Kaiserstraße 56
60329 Frankfurt am Main
Deutschland

E-Mail: hello@ekipa.de
Tel: +49 151 / 525 924 17

CEOs: Justin Gemeri, Nico Heby, Linh Phung

Authors/Editorial: Katharina Heby, Viktoria Voloshan, Irene Sanchez, Nico Heby, Justin Gemeri

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Digital Natives for a Sustainable Future

ekipa