2Good2Go

Compendium of waste free economy transformation success stories from SMEs

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Introduction

This compendium contains 22 circular business cases. They were carefully selected respecting several criteria that ensured a diversity of examples. You will find businesses coming from five different countries. Some are working on the local level, and some are on the global. Some have been operating for half a century, and some were established just a few years ago. Food, furniture, agriculture, and e-commerce – are just a few examples of industries covered by the cases.

Each case follows the same structure: in the beginning, a brief overview of the selected company is presented. Then, all information is provided in the following structure: What inspired the change? What were the company's main circular solutions, and how were they implemented? What external support have you received? What were the most significant challenges? What are your most significant achievements? What do you recommend for others?

The consortium hopes this compendium will inspire a new wave of circular solutions. We believe in the power of a good example. We know that sometimes companies need a little additional push to start their circular journey. Let this set of cases be that little push!

The consortium responsible for publication consists of: PAIZ Konsulting Sp. z o.o. (PL), Strukovna udruga djelatnika u upravljanju ljudskim resursima – Centar HR (HR), Fondazione Toscana Sostenibile Onlus (IT), University of National and World Economy (BG), Ekopotencjał - Przestrzeń Możliwości (PL), Knowledge Economy Forum (LT).

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The project aims to introduce waste free economy models into SMEs through:

- encouraging SME leaders to start the transformation process by developing Waste Free Economy Policies and Implementation Action Plans for their organisations, and setting examples for other SMEs;
- cataloguing and developing competencies, necessary for a successful transition to the Waste Free Economy, and encourage their development as sustainability change agents;
- equipping VET providers with suitable training materials, best practice examples and tools to support the adaptation of their training offers to SMEs.

ergodesign

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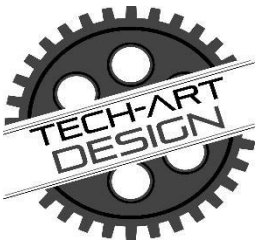
REBREAD



1. AgriBios. Virtuous transition to circularity

Quick overview	
Year of establishment: 2014	Industry: agri-food
Size: micro <10; small <50; **medium <250**	Operation level: **local**, national, EU, global
Brief case description: AgriBios is an agricultural cooperative society. It offers an effective opportunity to meet the needs of Pistoia's agricultural companies, namely the Horticultural-ornamental District. AgriBios offers its members a recycling and valorisation service for green waste and efficiently recuperates floricultural waste.	

What inspired the change?

Passion for agriculture and respect for the environment are the main features of AgriBios. The cooperative wanted to make these values the heart of its business through a concrete approach to a circular agricultural economy. There wasn't any pressure from stakeholders to grow into a circular economy business. On the contrary, they seemed to be against it. Maybe it's because they're seeing the results of these circular economy models just now, after years.

The organisation came about thinking that the ornamental nursery district of Pistoia had a need that could also work as a trigger for a circular economic process. That is, to recover and manage the waste materials of the production cycle by recovering and enhancing them (dead plants and cuttings).

What were the company's main circular solutions, and how were they implemented?

Without listening to personal impulses, they started strategic planning that first needed a market analysis. The analysis was entrusted to a consultant who used a dual survey matrix: PESTE (political, economic, social, technical, environmental), a methodology for the evaluation of macroenvironmental variables that, starting from a series of factors, allows you to sketch the scenario in which the company will operate; then the SWOT matrix was used to assess the strengths, weaknesses, opportunities and internal and external threats of the project to achieve a goal: "the economic, environmental and social sustainability" of the company.

Once they decided that they would be able to carry on the business idea, they chose the corporate form – cooperative. It seemed to respond to their social and ethical vision and the goal of the circular economy. This type of work was entrusted to external marketing consultants. These matrices and their analysis are in progress and must continually be monitored: it is essential to constantly monitor technological, legal, social, and environmental changes and the new opportunities that derive from them with a positive approach, to turn into opportunities even those aspects that may appear negative at first. The helm for controlling company performance is entrusted to a business plan of 5 years with S.M.A.R.T objectives (specific, measurable, achievable, relevant, time-based).

AgriBios worked on a machine that recovers inert materials for two years, and they're always working on perfecting it. In 2021 they studied peat-free compost, which is now available on the market. They're developing a system for improving the use of timber as a fertiliser and soil conditioner.

AgriBios' actions follow market demands and are driven by the need to recycle products and develop by-products. They are able to reuse soil, reselling it to their partners or third parties; inert material re-enters the nursery circuit of Pistoia.

They invested many years in creating a machine that allows to recuperate 90% of pumice and reutilise it for composts in the Pistoia area. Before the machine, in 2021, they recuperated only about 10% of pumice (2500 m^3 of the 30 000 m^3). They resell it to nurserymen and gardeners in the Pistoia area.

Overall, a lot of their raw materials exist within a circular model, and all providers for replacement materials are also within a 10 km radius.

AgriBios is still working on renewable energy. It's not easy because they use gasoline, and replacing it can be tricky. They'd like to work on an ecological conversion and make them run on electricity. They're also planning to implement photovoltaics for their offices.

What external support have you received?

AgriBios occasionally collaborates with a few agronomists and other technical experts who offer them consultations from time to time. They also worked with the Sant'Anna School (Pisa) and the University of Georgofili (Florence). And for initial strategic sessions, they have hired a consultant.

What were the most significant challenges?

Indeed convincing customers, suppliers, and institutions of the goodness and quality of the project was a tough challenge. Conferring the product by paying for it and then repurchasing it, although in the short term might appear as costly, in the medium and long term would have repaid. First and foremost in environmental terms and then, accounts in hand, in economic terms, as well as in terms of brand image. "The first district in Europe, perhaps in the world, to have a totally circular system of integral plant recovery".

Another of the most challenging steps was having a financial structure that could withstand the start-up phase. As they did not have any venture capital of their own, the first few years went by with negative cash flow, so they had to work with the banking

system and present business plans. The cooperative system was advantageous to complete the system of guarantees, as many of their customers and suppliers tried to accommodate us with forms of facilitated or bankable payments, recognising the goodness of the project. Today one of Agribio's strengths is the 230 members who support them in their choices.

It's difficult to make investments, often because of bureaucracy and permits, which are difficult to obtain. Most of the time, business timescales aren't compatible with the timescales of bureaucracy and research, which limits them significantly.

AgriBios aren't encouraged to adhere to circular economy models and practices. Companies that try to build a more environmentally-friendly business with their own money are sometimes even looked down upon by colleagues. Even fellow SME owners don't perceive the benefit of looking after the environment. It's somewhat of a cultural issue, and there needs to be a sense of civic duty. If there's no underlying culture of sustainability, implementing those kinds of changes will be hard.

What are your most significant achievements?

Agribios effectively responds to an important need of farms in the territory of Pistoia, particularly the ornamental nursery district, and represents a virtuous model of the circular economy. They are happy with the results and always strive for improvement.

At a local level, the benefits are:

1. reduction of green waste in landfills;

2. use of by-products in agriculture through the creation of a local supply chain;

3. recovery of large quantities of organic substances and compost that can counteract the mineralisation of soils;

4. less need to burn wood residues;

5. increased production of renewable energy from biomass.

What do you recommend for others?

The lesson learned is that: day after day, you must not lose energy to communicate this model of a waste-free economy.

As a guiding beacon, the younger generations are also essential – daily dialogue with them and involving them in finding solutions for an increasingly circular future.

2. Blagichka – the first Zero-Waste Restaurant in Bulgaria

Quick overview	
Year of establishment: 2014	Industry: agri-food
Size: **micro <10**; small <50; medium <250	Operation level: **local**, national, EU, global
Brief case description: "Blagichka - ZERO WASTE" is Bulgaria's first restaurant with zero waste, which employs disadvantaged young people. This is a place uniting, on the one hand, the love of food and the preparation of high-quality and tasty food products, and on the other hand, the belief that young people are the most crucial societal asset, and it is worth investing in them.	

What inspired the change?

An important reason for the transformation was the company founder and owner's attitude – she was very concerned about the environment and conscious about how much waste we leave behind.

The company was established in 2014 as a traditional catering company. At that time, the owner was unaware of zero-waste or circular economy and was not interested in those concepts. When she realised how much waste is produced daily, she decided to transform the business. In 2019 the catering company was transformed into the first zero-waste restaurant in Bulgaria.

What were the company's main circular solutions, and how were they implemented?

The transformation was carried out in three main aspects – changing how they supply food products, process them in the restaurant and deliver them to customers.

The first step was to change how the products were delivered to the restaurant. They found suppliers who agreed to use reusable packages when delivering their products. The company employees also started to use reusable packages in everyday shopping – e.g. glass containers, boxes, canvas bagc.

The second step was to change how the products are used in the kitchen. Every product which enters the kitchen is seen in its full potential. When processing the food in the kitchen, almost everything is being used, trying to have no waste. For example, fruit and

vegetable pills are used for making chips, banana pills are used for preparing vegan burgers, watermelon rind is used for making ice cream, and parsley stalks are used for making pesto.

The minimal organic food waste that is left as a result of the cooking process goes to a composter. There is a very big composter available in the restaurant. The composter is used as a natural fertilizer for the many plants grown and is available everywhere in the restaurant.

The third step for closing the cycle is focused on changing how the produced food is delivered to the customers. The delivery services to customers are implemented mainly by using eco-friendly transport – bicycles, electric trotters and scooters. There are several options for customers: (1) when food is delivered, immediately transfer it to your own dishes and give back restaurant packages; (2) pay a deposit for the packages and get it back on return (possible when directly ordering at the restaurant too); (3) bring to the restaurant their own reusable packaging that is used to deliver food afterwards (possible when directly ordering at the restaurant too).

At Blagichka, they also believe that giving a chance to disadvantaged young people is their mission and that every effort not to throw away waste pays off. The most considerable support provided to disadvantaged youth is giving them the opportunity to work in the kitchen and develop skills and work habits.

Part of the company's profit is invested in training organised for children from social and sheltered housing. Those training are focused on developing skills in young people to cook, plan their shopping for the week, choose quality and affordable food and take care of their body and spirit through the food they consume.

What external support have you received?

No external support in the transformation journey was needed or received. Nor it required substantial investments in infrastructure.

What were the most significant challenges?

The implementation of the zero-waste concept does not actually require many resources. It is much more related to the people's attitude. It is not easy to convince people that it is not so difficult to start living with less waste left behind.

At the restaurant, it took some time for the employees to get used to separate waste collection, using the composter for the organic waste left, and taking reusable packages when going for everyday shopping.

What are your most significant achievements?

Satisfied customers, highly appreciating the high-quality and healthy food received and supporting the waste-free cause.

Continuous support for disadvantaged young people.

Awareness raising and concrete actions for supporting society's waste-free and circular economy efforts.

What do you recommend for others?

Implementing the waste-free concept in the restaurant does not require high investments but is more related to the way of thinking and the personal attitude.

In their daily work, Blagichka waste-free restaurant follows the five principles of the ZERO WASTE philosophy:

- Refuse - Refuse the things you don't need
- Reduce - Reduce the consumption of the things you need
- Reuse – Reuse things
- Recycle - Recycle all that you failed to refuse, reduce or reuse
- ROT – Compost.

3. Bohema and their introduction of biodegradable materials to the footwear industry

Quick overview	
Year of establishment: 2013	Industry: Fashion (Footwear)
Size: **micro <10**; small <50; medium <250	Operation level: local, national, EU, **global**
Brief case description: Bohema Clothing, a brand founded by Wioletta Wiertel and Sebastian Szypuła, manufactures footwear that is generally vegan and also strives to be eco-friendly. They use bio-based materials, grape skin or pineapple leaves to produce the fabric. Their products are handmade in their small factory and other partner factories. The brand creates minimum stock levels, and much of the production takes place after orders have been placed.	

What inspired the change?

Initially, a company focused on making footwear by hand from Eco-leather that was of excellent quality. Then came a break and a search for something new, just looking for something that would help to keep the business going, as the footwear and clothing industry was changing.

Because Sebastian has been vegan for 20 years, they wanted to make something that highlights cruelty-free values and introduces it to the footwear and clothing industry.

What were the company's main circular solutions, and how were they implemented?

The owners' philosophy is based on three pillars: good for animals, good for the planet and good for people, which acts in making timeless fashion and long-lasting models, but also the comfort offered by the craftsmanship and the conditions in which the shoes are made, that the people who work on them earn a decent wage and work in good conditions.

After researching, they started contacting companies that produce biomaterial from pineapple leaves and grape skins.

The grape skin they use, 65% of this material is waste from wine production in Italy. The entire production of the material also takes place in Italy. The remainder is made up of bio-aqueous polymers, also chemical substances, but environmentally friendly, which

allows this material to be processed. The pineapple leaf is simply a material made from pineapple leaves, which are also waste material on plantations. And up until now, they have been incinerated. It was causing colossal leakage of unnecessary carbon dioxide into the atmosphere. The production will save this carbon dioxide emission, which was produced from incineration. Another is the material made from cactus leaves - the leaves grow back all the time, and hundreds of meters of fabric can be produced from a single cactus. In addition, the cactus is a natural carbon sink, which means that the fact that this plantation was created there again helps to lower the level of CO2. At the very level of material selection, the company takes great care to ensure that this cycle is closed and, of course, that the materials are recyclable. When it comes to components, they also try to use recycled materials, soles that are made of rubber or possible to recycle.

The company has a program on the website that if your shoes get worn out, and you want to throw them away, or you don't like them anymore, they give you the option to send them back to Bohema. You get a 20% discount on a new pair. This way, the customer can buy a new pair for cheaper, and the company now has gained more materials to upcycle from.

What external support have you received?

No external support in the transformation journey was needed or received. Nor it required substantial investments in infrastructure.

What were the most significant challenges?

To produce a quality product, pay employees well and use such materials, the final price of the shoes will be higher than the average leather shoe from a chain store. Owners were aware of this and introduced various programs to help the customer. There is a two-week return period without payments. Deferred or in instalments payments can also be used by Klarna System – you can pay 30 days later when you buy shoes.

The company cooperates with Polish ecological clothing brands, e.g. Osnova. They often rent shoes for photo shoots of new collections. Shoes used during the photo session models are sold at a discount.

Currently, a big challenge for the company is finding companies that recycle shoes made of biomaterials. The company has been on the market for a short time, and no one has returned used shoes to the company yet. If customers start returning used shoes, they would like to store them and then send them in larger batches to be recycled or disposed of in an environmentally friendly manner. They are thinking of taking the most sustainable approach to processing all this waste. However, it's still in the works, and finding business partners that fit their sustainable profile is challenging.

What are your most significant achievements?

The most significant achievement is that the company can make both comfortable and durable shoes from biomaterial.

Another achievement is participation in the fashion fair in New York.

What do you recommend for others?

The most important thing at the stage of company transformation is the constant search for new solutions, research and gaining knowledge. You can even gain an understanding on the Internet by searching for articles on Google Scholar or online training courses. It is worth taking advantage of the knowledge available on the Internet.

4. Boutique Ritika – dresses for rent

Quick overview	
Year of establishment: 2019	Industry: Fashion (clothes)
Size: **micro <10**; small <50; medium <250	Operation level: **local**, national, EU, global
Brief case description: Boutique Ritika Ltd. is a company that offers dresses for rent. It provides the product as a service: a business model in which the client acquires a service for a limited time while the company retains its ownership of the product, thereby maximising both the use factor and its useful life.	

What inspired the change?

Ritika – dresses for rent, was created during a period of numerous formal events that they had to attend. They could not provide new attire for every occasion without spending much money and putting more barely worn clothes in the wardrobes. That is why they have decided to implement this fashion model, vastly known in the US and Australia, where the life of formal attire could be continued. The circularity came naturally, along with the project.

What were the company's main circular solutions, and how were they implemented?

It is known that the fashion industry is one of the main polluters of the environment because now, vast quantities of clothes are produced, often of poor quality, used only a few times. They are thrown away due to tearing, easy wear and fatigue.

And with renting, instead of buying a dress, you take an already manufactured product, use it for its intended purpose, and pass it on. So, it's a find for the next lady who wants to shop and live smart like you.

It is precisely where the idea comes in – they have tried to select enough diverse, spectacular, and beautiful dresses so that clients can be different at every event, feel comfortable and combine all the components of the outfit well. Also, the client doesn't have to think about the selection, delivery, and cleaning, since she will find all the measurements of the dresses in the article description, and the other costs are calculated in the rental price.

What external support have you received?

No external support in the transformation journey was needed or received. Nor it required substantial investments in infrastructure.

What were the most significant challenges?

The biggest challenge for the business was the pandemic that put the company on hold for the first year and a half.

Another challenge (and opportunity) that they do not stop searching for more sustainable and circular solutions in their business (from the packaging concept to the quality of the clothes they acquire for the assortment).

What are your most significant achievements?

They own formal attires and dresses exclusively, rented out for four days. After the renting period finishes, the client returns the dress, they clean it, and then it's ready for the next person who can wear it and enjoy it.

A good example is that the dresses that were included in the first collection three years ago are still in excellent condition!

What do you recommend for others?

Don't hesitate to invest in the high-quality products (in Ritika's case – dresses material) as it will eventually pay off.

5. An established luxury-leather company's road to CE: Conceria Antiba

Quick overview	
Year of establishment: 1987	Industry: Fashion (leather tanning)
Size: micro <10; small <50; **medium <250**	Operation level: local, national, EU, **global**
Brief case description: Born for the design, processing and commercialisation of chrome and vegetable tanned leather, Antiba is an excellence in the sector of luxury leather, with constant attention for the environment and an internal ethics code which has the aim of spreading awareness to every supply chain operator.	

What inspired the change?

Antiba sells finished leathers to French and Italian luxury brands. Final consumers of luxury leather goods and shoes have been more concerned about climate change, biodiversity loss, and plastic pollution. Therefore, luxury brands have been urged to show their social and environmental sustainability commitments. After assessing their activities' footprint, brands have found that their supply chains are the most significant contributor in terms of carbon footprint. Therefore, brands have started to request their suppliers to measure their impacts and implement medium-long-term strategies to lower them.

So, the first reason is the requests from customers. Then, entrepreneurs must understand that finding new opportunities to upcycle waste and reintroducing waste as secondary raw material in the production process is cost-cutting for the company and opens new business opportunities. Thirdly, legislation is changing at a European level, and all companies will need to abide sooner or later.

What were the company's main circular solutions, and how were they implemented?

The journey to become a waste-free company has just begun. The company decided to start from the basics, by replacing plastic bottles with water purifiers and distributing thermoses to all employees.

Then, they investigated waste production process. Until the beginning of this year (2022), they used to send to incinerators huge quantities of single-use scotch that has been used in the production process since 2015. The cost for disposal was high. By chance, they found out that a local company was collecting for free a similar material like this and turning it into “recycled plastic”. They tested the scotch to make sure it respected the parameters for restricted substances and made a try. The company liked the material and now collects it regularly.

About 13% of the energy the company uses comes from renewable sources. They get 75% of their material from Italian providers. 35% of their packaging complies with the principles of circular economy. The company designs products that respect the LCA and works to avoid producing harmful waste: 45% of chemical products subscribe to gateway 1 & 3 of ZDHC. 32,6% from the entire production waste originated, is disposed to other companies (annual scale). The company makes sure that circularity strategies respect criteria of sustainability and climate neutrality, with structured measures like improvement targets, specific KPIs monitored annually and specific guidelines.

The real circular economy process started when a sustainability expert joined the company at the beginning of 2022. Immediately after, a chemical consultant with years of experience in LCA and sustainable chemistry started to work with Antiba. They translated customers’ requests into an action plan of small and big projects to be developed in coming years. The plan was then shared to company’s managers to ask for their approval and help to make the plan effective.

Technical competences were necessary, also a comprehensive understanding of the company production process (they have a manager who has been working for Antiba since 2000 who has helped a lot). Understanding of the market and customers’ requests is also a must. The development of specific competencies is still very much needed. Antiba is collaborating with local universities and regularly invites university teachers to see the factory and ask them if any young and talented students with specific competences may be interested in an internship with them.

What external support have you received?

Consultancy was essential because of the lack of specific competences within the company. Customers are very impressed when they tell them that they have the support of an expert chemical manager and a sustainability expert. Then financial support was given by the government at a local and nation level. They still use consultancies and apply for government funds.

What were the most significant challenges?

People’s mindset is the first obstacle. Habits are very hard to fight. Training managers who, in turns, will train employees is a good way to start. Then, you need experts. Experts need to talk and understand problems.

What are your most significant achievements?

The company staff is quite satisfied. Persuading the company's management about the importance, opportunities, and benefits of the circular economy was the first yet biggest obstacle and having success in doing so was a big achievement.

Increased competitiveness and easier access to public funds and bank credits will be natural consequences of all these actions they are planning.

What do you recommend for others?

Try to think broadly; a comprehensive approach is essential. Involve the management first. If they embrace change and try to set an example, then other employees will follow. Networking is super important: talk and discuss with experts, partners, even competitors and people working for other industries. You will discover new ways of solving problems by looking at how other industries face challenges.

Research and development are the engine for change, but it takes time and money. It’s important to know which goals your customers want to achieve but try to design your own path and embrace the projects that suit the best for your company.

Start with an LCA analysis (Life Cycle Assessment) to understand the overall footprint of the company and find out what is the worst section/department of the company in terms of environmental impact. Without data analysis through a proper life cycle assessment, any action planned risks being useless or not effective enough.

Explain to managers and entrepreneurs what a circular economy is about. Show them examples of communities and companies who have flourished by taking advantage of circular economies opportunities. Most managers and entrepreneurs think about money. If the circular economy is seen as an opportunity to make more money or to cut costs, they will be persuaded to try it out.

Suggestions on how to better spread, inform, communicate and raise-awareness on this topic would be training people working for banks, public administration, local government. Let them discover and understand what circular economy is about. Then, they will use this knowledge to finance properly all those companies and start-ups that will give a boost to the transition to a circular economy.

6. Upcycling starts at the stage of designing: B2B and B2C solutions by Deko Eko

Quick overview	
Year of establishment: 1987	Industry: E-commerce, Consulting
Size: **micro <10**; small <50; medium <250	Operation level: local, national, **EU**, global
Brief case description: Deko Eko mission is to turn waste into profit by facilitating the highest possible jump in value – from zero to a market-ready product. Around 2016 the company began to heavily focus on B2B solutions, which include analysis of the waste produced, consulting, reuse and upcycle ideas, “Brand Upcycling”. For B2C they provide an online store dekoeko.com, which offers hundreds of ready-to-order recycled products and upcycling, from home furnishings to fashion.	

What inspired the change?

Deko Eko has been operating for over 9 years. The inspiration for the circular business came from the owner of the company Agata Frankiewicz. She brought back idea from a trip to Asia, where she saw great examples of upcycled products. She was inspired by this pro-ecological approach.

What were the company's main circular solutions, and how were they implemented?

The company's new business model is based on a comprehensive analysis of the waste generated by client and the search for ways to manage it through upcycling, i.e. giving a higher value to seemingly used products and materials.

The company coordinates the entire process, starting from analysing the properties of the waste, ideas on what it can be recycled for, analysing the technical possibilities of producing new gadgets from this waste, ending with the production of a new product from the customer's waste. A number of companies and specialists in the field of chemical analysis of waste, recycling and handicrafts are involved in this process.

A breakthrough moment for the company was 2020 and establishing cooperation with Castorama. Castorama turned to Deko Eko with the problem of packaging film management. The idea of "ecological" pots began with the issue of waste itself emerging in Castorama stores - i.e., foil from protective packaging pallets, cartons, and individual products. Deko Eko was looking for an option to create a consumer product from this

waste. The foil waste is granulated and pressed to produce plastic pots. 5 recycling partners are responsible for the production process.

In this way, Deko Eko helps Castorama manage 1,500 tons of plastic waste annually. From this amount of waste, several hundred thousand upcycled pots are made of high-quality plastic that can be recycled.

Now the company has started a network cooperation with McDonald's on a project to recycle restaurant coffee grounds into the production of cups that will be used in sales.

What external support have you received?

The factor that allowed the business model to change and the company to grow quickly was the support of Prof. Bolesław Rok, the creator of Polish CSR - who saw the potential of upcycling in CSR activities, invested a small amount of money in the business and helped create a B2B offering.

In 2018, the company took part in an accelerator program in the Netherlands. There they saw huge potential in Deko Eko. With a group of experts, it was decided that the company would develop a B2B offering AND not further develop an e-commerce offering for the individual customer.

What were the most significant challenges?

Deko Eko started as “one man business” without much seed capital. While creating an e-commerce - online store with products (decorations, furniture) from waste, it was still not understood well what’s the purpose of designing new products from waste. People didn’t really saw value in buying upcycled products. The biggest challenge in the early stages of the company's development was convincing investors that there was potential in upcycling.

It was also difficult to enter foreign markets, with more conscious and wealthier customers, because the products offered by the store were designer and quite expensive - there were no investors who could help to scale up and thus lower prices. The company tried to enter the German market with the platform but lacked the investment capital to create an English version of the site, hire a manager, advertise. However, investors did not see the need to undertake CSR activities, to implement pro-environmental policies in companies.

What are your most significant achievements?

The company's biggest achievement has been to build an ecosystem of partners – upcycling designers and recyclers, with whom the company has worked from the e-commerce development stage.

It was also an achievement to survive difficult times and enter a niche in the market – which is upcycling, and to develop a sharp business model that allowed the company to accelerate its growth.

What do you recommend for others?

It is important to create a business in accordance with yourself and your beliefs. Combine your strengths and use them all in your business.

Starting the e-circular transformation, a company should see the value in its waste – try to turn it into profit.

7. Ergodesign – Circular Change by Design

Quick overview	
Year of establishment: 1993	Industry: Design and consulting
Size: micro <10; **small <50**; medium <250	Operation level: local, national, EU, **global**
Brief case description: Ergodesign, as a design consultancy, was born in the 1990s. Since 2010, they have moved from product- and user-centred design to strategic design, influencing the client's business model and the organisation as a whole. They believed in their competence in strategic design and design's power to change business. Then, they decided to move towards sustainability and implemented circularity as one of their main design features. In 2020, their own circular transformation as a consultancy began.	

What inspired the change?

As designers, they have always been sensitive to the social and environmental impact that their design solutions bring to the world. Starting with the Covid pandemic in 2020, the interest of the business world and the public has turned to the future. Also, the new policies of the European Union region with the Green Deal at the forefront are forcing a broadening of the time horizon for strategic thinking and action.

What convinced them about the circular economy is that it is an entirely new economic system. It is holistic in nature. And it is not theory but action-oriented. And this is something that optimistic design activism can work on.

And after 30 years, they have reached a new starting point: we are now looping the linear.

What were the company's main circular solutions, and how were they implemented?

What was the process of their transformation? They did it as a team. In each phase, a different group had a decisive impact.

1st Go Green: research and education, company readiness.

The first stage was learning time, which we called Go Green. An important activity was to integrate circularity into our company mission and vision. More than 20 internal workshops. Research projects on materials and tools. The creation of our own toolkit and best practices. The launch of their own podcast on the circular design.

Top-management and a specially formed group, the whole team was involved in educational training.

2nd Circular by Ergodesign: experiments and pilot projects.

After a year, they felt ready for our circular coming out. Their clients and real-life projects are the best challengers. They have already worked with a circular start-up on their circular project. They work with established brands to redefine their value proposition to be more user and planet friendly. They are also working with traditional companies to manage materials in their production.

They relied on change agents assigned from among our designers and consultants.

3rd Circular Change by design: official service offering and promotion of circular design.

They have worked to build the image and position of a company whose core competence is circularity. They are constantly working to broaden the spectrum of our know-how and capabilities. Above all, however, they focus on client projects to expand their case studies and implementations portfolio.

The whole team in each department works on specialised circular aspects in their field.

Initially, they relied on materials from the Ellen MacArthur Foundation. The methodology created by TU Delft experts was a great addition.

They currently offer:

- consulting on the circular transformation of their clients' organisations,

- designing circular business models,

- designing circular-ready products and services that bring environmental benefits to their clients.

What external support have you received?

No external support in the transformation journey was needed or received. Nor it required substantial investments in infrastructure.

What were the most significant challenges?

Developing a change process and continually updating objectives depend on the state-of-the-art developments. They are one of the pioneering organisations to have gone through this process.

Unknown practical application of circularity in business, and no significant case studies from which to take examples and KPIs for business. The global process of transforming the economy towards a circular economy is still in its infancy, and there are no ready-made solutions.

Market immaturity. While they are convinced that the circular approach is suitable for any business, most companies need education from the ground up about the paradigm, the solutions, and the benefits of it.

What are your most significant achievements?

They created their methodology and involved the entire team in this approach.

They build a position as a circular leader in the consultancy and design industry with a compelling practical offering to support our clients' businesses.

They developed a portfolio of implementations and case studies that is a measure of their circular impact.

What do you recommend for others?

1. It is crucial to nominate circularity as a new company value by the members of the board of directors because this way it can be spread. And create a team to work on it. As with all significant changes, a critical success criterion is to build the culture and make the team own it.

2. Many of the activities they have done themselves can be done by external experts or companies like theirs. Nowadays, methodology and know-how can be bought cheaper and faster than developing it yourself. It only reinforces the conclusion that circularity cannot be obtained within one company. It requires collaboration.

3. Incorporating circular economy and business principles should start with defining strategic business goals and involving key people in the change process. However, rather than transforming the entire organisation, they recommend changing through a few agile pilot projects in what they call start-up conditions. It allows smaller goals to be achieved quickly, teaches the organisation, and enables evaluation.

8. Ergolain – start from yourself

ERGOLAIN
DESIGN | INNOVATION | ERGONOMICS

Quick overview	
Year of establishment: 2001	Industry: Furniture
Size: micro <10; small <50; medium <250	Operation level: local, national, **EU**, global
Brief case description: Ergolain has adopted several circular practices in its company in recent years. One thing that stands out is a constant commitment to involve employees and make sustainability part of their own identity. Personal challenges, awareness raising through guest speakers and simple changes in everyday activities – that's the place where sustainability strategy starts. One of the concrete outputs of such an approach led to one staff member from the production team suggesting a new product design that not only allowed for reduced waste and got more considerable output from same amount of material but also became one of the company's bestselling products.	

What inspired the change?

Initial interest in circular practices came as a global trend in their company. No specific regulations or customer pressure inspired them. The company works a lot with Scandinavian brands. There were many practices that they took as good ones automatically and applied in their business.

Most change comes from top management, but all employees are involved in implementing those changes.

What were the company's main circular solutions, and how were they implemented?

The company started to change from an individual level. They have replaced plastic bottles with glass. There are no more rubbish bins in the office, they promote using fewer cars for employees, and you can rent a bike or scooter in the office. Sustainability challenges that promote sustainable behaviour help build a more coherent company culture and are very important in strategic change management. It allows employees "buy" sustainability as part of their own identity.

Recently, they have introduced a separate role in the company – sustainability project manager. Now, all initiatives the company implements in the sustainability and circularity domain are coordinated, and the change is planned more systemically.

They have implemented the LEAN methodology in production, which reduces both physical and process waste. They select suppliers that work sustainably and circularly. There are yearly interviews with each supplier, and during them, both companies discuss

possible ways to adopt even more circular approaches. If the supplier doesn't have a sustainability strategy, eventually, the partnership will be terminated.

The company had an audit on the materials they were using and how they could be changed. They found that, in some instances, they can use scraps that else would be disposed of as waste. Some new competencies were necessary for designers to have more knowledge about working with new materials.

Recently the company started to offer furniture renewal service. They are planning to expand this and provide service not only for their own produced furniture. There is a 5-year guarantee period to take care of their developed furniture too.

The company employ "here and now" tactics that focus on small but quick changes. That ensures that they are constantly innovating and changing.

There is a rule that our sale persons always need to suggest client sustainable solution, even though it usually costs more. There was much work with sale persons, so they would internalise the value of sustainability because you can sell only what you believe yourself.

One of the latest ideas companies implemented was a new table design called Big Green. The idea came from a production worker, who suggested a more efficient design that would allow to create a double amount of table tops and reduce waste by at least 15% from the same amount of material. This idea brings not only a positive sustainability effect but as well economical.

What external support have you received?

All investments were made from their own finances. It was beneficial that the company had many relations with global players, so they contacted businesses and asked to provide training for their staff on specific topics.

What were the most significant challenges?

Packaging is still a challenge. The company produces non-standard furniture, meaning no standard packaging solution might be applied. They are currently working in this direction, searching for answers.

There is still quite a big challenge with upholstered furniture. Some global companies are starting to innovate on a bigger scale with it, but still, there is much room for improvement.

In the beginning, some of the employees were more reluctant to change. Even though they positively evaluated sustainability, they were concerned about higher prices and value propositions for customers. Individual involvement in change creation, personal challenges and constant awareness-raising helped solve this challenge.

Sometimes the challenge is money. Some decisions require considerable investments and it's not always possible to secure all needed sum for all changes simultaneously.

What are your most significant achievements?

That company’s employees own companies’ strategy and see sustainability as part of their identity and personal responsibility.

A strategic focus on sustainable and circular practices allowed the reshuffling of former suppliers’ networks. Now the company has more robust and more value-based supply chains that are not based exceptionally on economic aspects. It works as a support and learning network too.

Big Green table design is a success. It is more environmentally friendly and one of the company’s bestselling products.

What do you recommend for others?

Build your change with your employees. They must be and feel an integral part of the company's strategy. Personal challenges and individual examples might help to build a new culture.

Everyone needs to understand – it won’t be otherwise. Everyone will need to change and be more sustainable and circular. Even if you think this change is not easy, you shouldn’t forget that later – it will be even more complicated. It’s better to be in front of your competition as it might also bring economic value.

9. GREENFILL3D and its pioneering work in eco 3D printing

Quick overview	
Year of establishment: 2021	Industry: 3D printing
Size: **micro <10**; small <50; medium <250	Operation level: local, national, **EU**, global
Brief case description: Centrum Druku 3D with GREENFILL3D brand is a company founded by Pawel Slusarczyk, operating at the intersection of three areas: 1. production of ecological bioplastics, based on biodegradable or recycled materials, admixed with natural ingredients (e.g. wheat bran). The three revolutionary materials used by the company are GF3D Branfill3d (wheat bran material), BioWOOD (powdered wood material) and BioCREATE (compostable material), 2. 3D manufacturing using these materials (advertisement stands, gifts, promotional gadgets), 3. running the largest online portal about 3D printing in Poland https://centrumdruku3d.pl/, 3D printing training and consulting services.	

What inspired the change?

In 2018 and 2019, CD3D Sp. z o.o., the company behind Centrum Druku 3D website, tried to create a 3D printing bioprinter that would use biomaterials instead of plastic filament to make structures for cell culture in laboratory conditions and for scientific purposes. The main idea was to create innovative bone implants, bio-printed from a composite of bioinert and biocompatible thermoplastic materials saturated with bone powder. After the implant was inserted into the patient's body, the thermoplastic material was supposed to dissolve in the body without harming his health. The released bone powder was supposed to stimulate the growth of existing bones, creating a new bone structure on the dissolving implant.

At the same time, the company carried out conceptual work on using its own bioprinters for 3D printing from food leftovers. In 2019, the company met with the MASPEX Group, which expressed initial interest in this solution, but no cooperation took place then.

The idea was implemented, but no investment fund would allow for the development of the business and the production of 3D bioprinters on a larger scale. Ultimately the project was shut down.

In 2021 Maspex Group (one of the biggest producers of food like pasta and breakfast cereals in Poland) came to Centrum Druku 3D to find another way to make packaging

and advertising applications. The reason for that was that paper production in China had run through significant manufacturing and logistic problems caused by the Covid19 pandemic, and resources were scarce.

The circular economy idea inspired the company to create a full circulation of the raw material – production waste (wheat bran) of the Maspex company. Owners of the CD3D decided to start a brand-new company dedicated to this area of operations and separate it from the editorial and training business. It is how GREENFiLL3D was born and turned the wheat bran into material for 3D printers. With a big farm of 3D printers, GREENFill3D 3D prints advertising stands that advertise the same pasta.

What were the company's main circular solutions, and how were they implemented?

At the stage of production of material for the 3D printer, cooperation was established with a partner company that also creates material for 3D printing. Also, the National Academy of Science and its scientists were involved in the first stage of research. They used several different solutions at the pre-processing step. In a laboratory environment, some projects can be purely scientific and do not work in an industrial environment. This experience proved that to be sure that something works, you must test it in the real world. So, you must be very conscientious about what the lab is doing and keep asking them questions. Before starting production, these materials should be adequately prepared.

The company now focuses on producing biodegradable applications and advertising stands using 3D printing. For that, they purchased new 3D printers that are substantially modified and adapted to the production requirements of biomaterial: change of software, wiring, and various mechanical components. They produce small quantities of products to avoid overproduction. They offer exactly what the customer needs.

The company believes it is necessary to change the approach in marketing and advertising to more circular solutions. Their bio gifts from a 3D printer can become a breakthrough in the advertising industry.

What external support have you received?

The company developed thanks to its financial resources and cooperation with Maspex – the most prominent Polish food producer. In May 2022 Polski Instytut Badań I Rozwoju (PIBiR) invested 0,85 mln. PLN for further development of GREENFILL3D technology in eco materials and adapting another solution as colour 3D printing.

What were the most significant challenges?

One of the biggest challenges was waiting for financial support to produce innovative printers. Moreover, it also turned out that there was no interest in this type of printer in Poland. The market for biodegradable materials is just starting to gain popularity in Poland.

Due to the lack of financing, the company had to abandon the idea of producing its original printers. It was a failure. As a result, a very difficult experience for the founders.

What are your most significant achievements?

The best achievement of the company is that they deliver new ecological 3D materials and products, and they are not afraid of taking risks.

Thanks to 3D printing, they support other companies in implementing circular technologies because that can change the whole logistics process in the industry. 3D printing will never replace mass production, but storage of, for example, spare parts can be avoided because, thanks to 3D printing, such parts can be produced to order rather than being stockpiled.

What do you recommend for others?

When starting a change in a company or working on an innovative solution, you need to approach the whole process with great humility.

Small steps must be implemented. It would be best if you talked to people in the right way. It wouldn't come from an ecological point of view because that is abstract. It's more of an economic factor: “this will allow us to speed up processes”. How can I use the materials I already have? The economic factor is the most important thing here, and ecology comes along with that. Companies adapt the things they already have (zero waste), and from such tiny things, they go further. It is essential to do things that are good for the company and, at the same time, good for the world and the environment.

10. Handelek and Rebread – master of saving the bread from going to waste

REBREAD

Quick overview	
Year of establishment: 2017	Industry: Food
Size: **micro <10**; small <50; medium <250	Operation level: local, national, **EU**, global
Brief case description: Handelek is a breakfast bistro and craft bakery founded in Krakow by Katarzyna Młynarczyk in 2017. It was supposed to supply the gastronomic premises with bread, serving traditional, Krakow-based, healthy, natural breakfasts. The COVID-19 pandemic caused a turn in the company's history, and in 2020, the construction of a new brand Rebread, focusing on introducing solutions to save the surplus of produced bread from wasting. The company replaces up to 20 per cent of the flour with ground stale bread and produces new products using stale bread, for example, alcohol, probiotics drinks, and cosmetics.	

What inspired the change?

The Handelek owners felt connected to the zero-waste idea, so they tried not to waste the bread they produced. Before the pandemic, a local farmer collected unsold bread from them and used it as feed for livestock.

Nobody thought the COVID-19 pandemic in 2020 could influence the company's development in a completely unknown direction. The lockdown made the local farmer stop collecting bread surplus.

In Poland, bread is sacred and wasting it is a sacrilege. Therefore giving a second life to stale bread in Poland has a special meaning - symbolic. And that’s why the owners could not allow the bread to be wasted and started wondering what to do not to waste bread.

What were the company's main circular solutions, and how were they implemented?

It took one year to implement the full circular economy process.

Facing the problem of wasting unsold bread, the owners of Handelek looked to the internet and started research for inspiration.

They learned about the possibility of making high-quality alcohol from stale bread. Lockdown fostered creativity. After six months of collecting unsold bread, they transported 0.5 tons to the distillery, from which about 550 bottles of spirit were made. It turned out that it was alcohol with a unique taste since the stale bread contained additions of grains, nuts, and cranberries.

The founders decided to establish a new brand – Rebread and implement a circular economy model by using the surplus of bread and changing the recipes in the bakery to circular ones – replace up to 20 per cent of the flour with ground stale bread and produce a new product using stale bread, for example, cosmetics.

They contacted other bakeries in Krakow that supply unsold bread to produce alcohol. Laboratory tests of the composition and properties of stale bread have begun. Based on the collected results, the team started considering how stale bread could be used. An interdisciplinary team worked with brainstorming and mind-mapping methods to create a new use for bread. The result of the team's work was the idea to use stale bread to re-bake the bread and cosmetics line.

Rebread is also working on the fermentation process of stale bread and uses such raw materials to make drinks – kvass, breadbucha, and probiotic drinks. In addition, together with the University of Agriculture, they are working on a meat substitute using edible moulds – this is the future of nutrition for the world. The last way is to process bread that has already become waste into fertiliser or biogas.

Together with the Green Fill 3D company, they are also working on 3D printing from biodegradable filament made 40% from stale bread.

What external support have you received?

For research projects related to testing the use of stale bread for re-production, the company received support from the Małopolska Center for Entrepreneurship in the form of a voucher for innovation. The research is conducted jointly with the University of Agriculture in Krakow.

What were the most significant challenges?

At the stage of implementing a closed loop of bread and collecting stale raw material, the company encountered a problem of the lack of space in small bakeries to store and segregate unsold baked goods. They had to replace the bread boxes that took up much space in the shops.

Looking for the solution to the problem, the team based on the basic principle of the company – “We do not buy anything new; we rely on what we have or what is wasted from others. We also do not want to produce new bags or containers with our brand”.

They found another circular solution to use bags that are waste from coffee roasting plants to collect stale bread in partner bakeries. The bags have been adapted to the needs of Rebread and perfectly fulfil their function.

What are your most significant achievements?

One of the most outstanding achievements is the implementation of a closed loop of surplus bread, which reduces food and bread waste. The process of using surplus bread has been tested, and any bakery can easily start such a process. What's essential is that bread baked with the use of ground remains of stale bread shows better properties and can be stored longer.

The company was awarded 1st place in the GOZ Biznes - Lider Małopolski 2022 (Circular Business – Regional Leader 2022) competition for all ideas and activities.

What do you recommend for others?

Circular activity is profitable. Until now, many bakeries asked the owners of Handelek if it was profitable to collect stale bread and turn it into flour. After all, it is cheaper to use fresh flour. Currently, in the era of rising food prices and limited grain supplies caused by the climate crisis and war in Ukraine, no one asks if it is profitable. Saving unsold food is no longer an eco-trend but a necessity.

What’s essential: the closed circuit should be local – then it is possible to achieve competitive prices and appropriate quality for the customer. One cannot ignore environmental costs.

When designing circular processes, the products and procedures must not constitute a repeated, additional burden on the environment: they are not energy-intensive, high-emission, and do not generate production surpluses. It is essential that the processing of waste does not cause other problematic waste.

11. Humana Nova – textile industry contributing to people, profit, planet solutions

Quick overview	
Year of establishment: 2011	Industry: Fashion
Size: micro <10; **small <50**; medium <250	Operation level: local, national, **EU**, global
Brief case description: The case represents the workings of the legal entity – social enterprise (social entrepreneur) Humana Nova in answering three pressing problems of today's societies: tackling textile waste disposal, employing disadvantaged groups and investing profits responsibly.	

What inspired the change?

Social cooperative Humana Nova Čakovec was founded in 2011 as part of the ESCO project "Education for social cooperatives – new opportunities for people with disabilities" implemented by the Autonomous Center – ACT (now ACT Group).

Guided equally by social, ecological, and economic goals, it set out to solve challenges in the local community. In 2011, people with disabilities comprised about 10% of the total population of Međimurje County (almost twice as much as in other counties), and there was no systematic solution for their employment. About nine per cent of the population consisted of members of the Roma national minority, who also belonged to the group of less employable persons. Around the same time, the textile industry in Međimurje County collapsed, so many textile workers lost their jobs.

What were the company's main circular solutions, and how were they implemented?

Social cooperative Humana Nova is a social enterprise that provides an answer to 3 pressing problems of today's society:

Integration of socially marginalized groups into society.

The initiative – WE EMPLOY people with disabilities and other social groups whose challenges in today's society do not have a quality answer. In this way, the Cooperative actively contributes to the sustainable development of the local community, increasing the satisfaction and quality of life of marginalized people and reducing poverty.

Disposing of textile surpluses and caring for the planet.

The initiative – WE DISPOSE of textile surpluses by recycling or reusing them through second-hand or redesigning. In 2020 alone, they prevented 400 tons of textiles from ending in landfills. They have a sewing facility in Čakovec, Croatia. If they use new materials, they use locally sourced materials and certified eco-materials from Turkey.

In a cooperative, they collect textiles that people bring directly to Humana Nova and leave in one of their containers or in the recycling yards of local utility companies with which they cooperate.

They put the usable, i.e. the wearable part of the collected clothing textiles on sale in their second-hand shop, where its life is extended. They also extract cotton from unusable textiles, which are cut into industrial rags and re-marketed for the industrial sector.

The textile that remains after this separation is processed in cooperation with company Zabok Regeneracija, where it goes into the grinding process, i.e. recycling. Through such processing, the discarded textile becomes a valuable raw material – which is then created into felt or non-woven textile, which Human Nova people pack, and Regeneracija exports to the European Union. In this way, they use all the collected fabrics and round off the process in which discarded textiles get a new function, and people get a chance for a dignified life.

Investment of profit in further development and survival.

The initiative – WE INVEST profits in preserving jobs, creating new ones, and further developing and expanding the business, i.e. in the community's well-being. Humana Nova's primary goal is social impact, profit generated is used for the benefit of the fulfilment of the cooperative goal. Although a cooperative is a legally formed business entity, governance is shared among its members.

What external support have you received?

Support was obtained through government grants and EU funds. But over 95% of the funds for the sustainability and development of the business refer to work on the market and sales of products and services.

What were the most significant challenges?

They never had sustainable support on national and regional levels, and they could not apply for public tenders due to the legal form of "cooperative".

There was the problem of low state support for the lower productivity of people with disabilities (and for marginalized groups, there was and is no support at all). In addition, the grants did not cover all the costs incurred due to workers' health problems. Reduced work efficiency of people with disabilities and a high rate of sick leave are challenges that Humana Nova faced (and still faces today). It was followed by a period of minimum wages for all employees (including the manager) lasting 22 months so that all workers would keep their jobs.

The change in organizational structure and culture, which was undertaken to achieve sustainability, led to conflicts between workers and cooperative members. Given that the changes were inevitable for the survival and sustainability of the business, they were

successfully implemented. But this was preceded by much time in "convincing" workers of the importance of new ways of working and developing individual responsibility.

What are your most significant achievements?

The textile waste management model was declared the best model in Europe by the European network representing social enterprises active in the circular economy – RREUSE.

In 2022 Humana Nova was recently awarded Climate Champion Award by EUKI (European Climate Initiative) within the framework of the "Climate bridges" project. The goal of which is to achieve transnational cooperation in solving climate change problems and implementing goals of the "Green Agenda for Southeast Europe".

What do you recommend for others?

When planning the transformation process, it is necessary to consider the company's long-term goals and its ecological, economic, and social impact on the circular economy. The transition to a circular economy is required to restore the ecological balance, maintain long-term economic stability, the safety of the planet and the survival of humanity in the future. The message is: "the sooner, the better". The advantages of switching to a circular economy are minimising the costs of raw materials, transportation, storage, waste disposal and processing waste into raw materials.

It is also necessary to think about which part of the business process it is possible to implement the model of circularity, to gradually introduce measures in individual components of the process or value chain that contribute to the preservation of natural resources and have a positive impact on the environment.

In transitioning to a circular economy, companies should not be alone but create symbiotic relationships with other companies. Cooperation between companies in symbiosis ensures the benefit of all involved and has several positive effects on society, the economy, and the environment.

12. Interlux

Quick overview	
Year of establishment: 1994	Industry: Medicine
Size: micro <10; small <50; **medium <250**	Operation level: local, national, **EU**, global
Brief case description: Interlux distributes medical, scientific, veterinary, diagnostic, and surgical products, systems for hygienic evaluation at working places, laboratory equipment, in vitro diagnostic reagents and disposable medical devices to the Lithuanian, Latvian and Estonian markets.	

What inspired the change?

Sustainability was always in the company‘s values, but the main push came from their focus on providing the highest quality services and goods. Thus ecology also came from that point of view. An additional inspiration came when we decided to join the UN Global impact programme.

What were the company's main circular solutions, and how were they implemented?

Interlux Group companies have developed, implemented and certified an environmental management system following the requirements of LST EN ISO 14001:2015. Thus, the Group's companies already have an integrated quality and environmental management system. Environmental procedures have been developed, are operating successfully and are being responsibly monitored.

When deciding on new suppliers or partners, Interlux Group's corporate officers follow an established procedure to assess the potential partner's sustainability, the product manufacturing process compliance with ISO 14001:2015, and the potential environmental impact. They aim to partner with socially responsible, sustainable, non-polluting companies supplying green products to the market. When deciding on a partnership, they assess potential partners' publicly available sustainability reports, responsible practices, supply chain, the environmental performance of raw materials used, environmental impact, and product credentials to ensure that they meet the highest standards of environmental friendliness, safety, and efficiency.

In 2015, a new Automotive Policy was adopted to reduce the use of automotive fuels and the negative impact of emissions on the environment. According to this document, a company's purchase of a car is also subject to an assessment of the long-term projected total cost of ownership (TCO) to achieve investment sustainability and environmental sustainability. It includes depreciation of the asset's value; fuel costs (based on the

company's fuel rate); tyre purchase and replacement costs (assuming a mileage of 40,000 km per set of tyres); maintenance costs; insurance costs; and statutory taxes. For the purchase and equipping of company cars, the policy also regulates "allowable costs". It defines them as those intended to facilitate the performance of work functions, protect the health and safety of employees, preserve the value of company assets and reduce the environmental impact.

As a supplier, Interlux ensures that the packaging of all the goods they sell is recycled. They have a contract with the PTO (Packaging Management Organisation) and pay for as much packaging as they sell to our customers.

Creation of the positions of Supply Chain Manager, Procurement Manager and Commercial Manager, the company has started to focus more on supply chain management, supplier selection and sustainability. In managing the supply chain, the purchasing manager and the supply chain manager must ensure that the tools, equipment and other goods used in the company comply with environmental standards. That packaging is recycled, and the company is careful to buy products with the most negligible ecological impact and are not harmful to human health. The commercial manager ensures that these processes are adequately supervised and monitored.

What external support have you received?

No external support in the transformation journey was needed or received. Nor it required substantial investments in infrastructure.

What were the most significant challenges?

The hardest part was staying calm in the face of market peers who did not always share the same values and who sometimes achieved much better financial results in the short term.

What are your most significant achievements?

The development, implementation and certification of an environmental management system following the requirements of LST EN ISO 14001:2015.

What do you recommend for others?

They believe that becoming circular and sustainable helps attract the best professionals in the market. In the strategic domain, it helps to partner with world-leading organizations whose values are the same.

Also, sooner or later, these values will bring a competitive advantage against those who do not value such things. Be patient!

13. KLIK – living and breathing circularity in business setting

Quick overview	
Year of establishment: 2020	Industry: Consulting
Size: **micro <10**; small <50; medium <250	Operation level: **local**, national, EU, global
Brief case description: Description of circular business initiatives performed by KLIK cooperative and daily living of circularity in business operations – from the circular design of the office to day-to-day office operations and project/consultancy efforts. This case represents a business entity living circular economy principles to its fullest and complete dedication to it regardless of the obstacles.	

What inspired the change?

KLIK, an energy cooperative, was founded to contribute to developing an energy-independent city and the energy transition of the local community.

The purpose of the Cooperative is to encourage the local population to invest in renewable energy sources, both in public projects and in their own households, to help citizens in the development and application of renewable energy projects, to be a place for all issues related to energy, climate, quality of life and to be the initiator of changes in his local community.

They did not have a transformation process to circularity because, from the beginning, they have been trying and striving to follow the model of a zero–waste economy. The very purpose of their founding is to encourage a circular economy, primarily in renewable energy sources.

What were the company's main circular solutions, and how were they implemented?

Križevci – solar roofs, the first project of group investment of citizens in renewable energy sources in Croatia, was the motive for them as investors and citizens to establish a local energy cooperative that will help citizens in the energy transition and climate resilience. Together with the city, they opened an Energy and Climate Office that advises, informs, and educates citizens on accessing renewable energy sources. They connect them with designers and contractors, have a showroom of various green technologies to bring them

closer to citizens, and collaborate with other local stakeholders to launch multiple "climate topics" in the local community.

They try to create as little waste as possible in their activities and recycle and reuse everything possible. They partially furnished the office itself with the reuse principle: they put together a dividing wall made of pallets and wood waste, adopted plants that people planned to "get rid of", and decorated their office with discarded armchairs and a sofa, shelves and other pieces of furniture that were “aimed for waste”.

What external support have you received?

They had support from the local community and the city – for example, they gained support in the form of donations of old furniture, flowers, and other things for decorating the space.

What were the most significant challenges?

The challenge is still cooperation with partners, and public authorities who still require much printing, do not respect digital signatures and require the company's stamp, which is why in KLIK, they still must print documents unnecessarily. As they help citizens apply for tenders for subsidies, they have much unnecessary printing because something always needs to be printed to be signed or filled in manually and then scanned, even though everything could be digital.

The employees themselves get involved in the process and try to reduce the waste generated by their activities and encourage other organizations to do the same.

What are your most significant achievements?

Establishment of Centre for the fight against energy poverty, helping in project preparations related to a circular economy (energy efficiency, renewable energy resource use), education related to benefits of switching to a circular economy – within the field of, e.g. energy usage to agriculture.

What do you recommend for others?

Their clients and partners react very well when they see that they use the reuse principle in furnishing the office. It is interesting for everyone and a big plus. They believe that only education and concrete examples are essential. It should start with companies that already respect such principles and spread them to their partners so that everyone can contribute to the transformation.

14. Luzem Zero Waste shop that transformed shopping with low-cost ideas

Quick overview	
Year of establishment: 2020	Industry: Commerce
Size: **micro <10**; small <50; medium <250	Operation level: **local**, national, EU, global
Brief case description: The zero waste LUZEM ("bulk store/by weight") case is one of the examples of how to do the transformation of a very popular business, which is a small, local grocery store, into a zero-waste idea. Circular activities of the described example can inspire owners of small grocery stores. They can be successfully used in any existing local shop.	

What inspired the change?

Around 2018, before the Luzem Zero Waste Shop opened, the founder was still working in another corporate business and encountered the "zero waste" idea for the first time in the office environment. She resonated with the zero waste movement and started changing her everyday life. For example, she and her husband stopped buying water in plastic bottles and started drinking tap water. Eventually, she encountered a problem while purchasing commodities because there were few shops in Poland where you could buy the products and have them packaged into your own container. The owner is from Ukraine, where it is pretty popular in markets and even some supermarkets. She saw that there was no such place where you could buy everything you needed at once by weighing the product and putting it into your own packaging, and at that time, together with her husband, they were looking for an idea to start their own business. Therefore, the primary motivation came from personal needs and interest in the zero waste movement.

What were the company's main circular solutions, and how were they implemented?

The main solutions were implemented at the stage of designing the shop. They encourage customers to bring their own packaging to pack their purchases in (with a discount of 5%).

When fitting out the shop, every element had to be thought through. They equipped the store with upcycled furniture. They made the shelves themselves for boxes. Refrigerators were obtained from the second circulation. The jars containing the product range are made of glass to avoid additional plastic consumption. The tea storage jars were donated by a person on the Facebook group who wanted to get rid of them. As the word spread, many people bring jars to use further. Moreover, the owners did much reading on storing produce to keep it fresh for as long as possible and avoid wasting food.

To introduce a change in the traditional grocery store business model, the founder was inspired by travelling abroad when she visited zero-waste stores. She observed how products were packed by weight and delivered to the customer. The owners also got inspired by the internet, bloggers, and zero-waste books. They started these preparations about six months before the pandemic. They also used to go to organic and zero-waste cosmetics fairs to choose the best products to stock in the shop. They implemented themselves in the organic and zero waste community and did networking. They gained much knowledge from the advice of experienced people they met at these fairs.

In 2021 the owners decided to open an online store. They moved the CE transformation even further as they now offer delivery by bike, in a “boomerang jar” – the customer can take the product out at home and return the jar. Other examples of circular product reuse include sacks and wooden pallets on which they receive bulk deliveries. As the store posts adverts, willing people collect them for further use. Or the case of bubble wrap, they got them from someone and have been reusing them for over a year.

They have also introduced a 60% discount on short-shelf-life products in partnership with Foodsi, a company that sells 'surprise' bundles with food to save them from going to waste. Using the application, the customer orders a package of goods with a short expiry date - a small package for PLN 10 and a large package for PLN 25 (60% cheaper).

The company does not make money from selling through Foodsi, but it is another effective advertising channel. Customers can get to know the store; additionally, no food is wasted.

What external support have you received?

No external support in the transformation journey was needed or received. Nor it required substantial investments in infrastructure.

What were the most significant challenges?

The biggest challenge for a store selling by weight is having a large warehouse for bulk-packed products and separate space for storing spices in collective packaging (due to their strong smell). The store has recently changed its location – it is now located in the basement, which is cooler in the summer. There is adequate storage space there now.

Reaching customers and promoting the store's offer is also a challenge. However, social media and networking helped. People started to get interested in the idea of a packaging-free shop, and it got more traffic. Also, with the establishment of the online shop, the profits went up. Progress is slow, but there is an upward trend, and the online shop gives hope to progress.

What are your most significant achievements?

The most outstanding achievement of the store owners is the skilful encouragement of customers (with a smile and a joke) to come shopping with their own packaging and the development of a circulation system for “boomerang jars” and even plastic bottles for cosmetics. Customers know very well that they can bring unnecessary jars to the store and plastic bottles they bought, dishwashing liquids and cosmetics. If the store is not open yet, sometimes they leave the bottles and boxes at the door. The store thus gives new life and closes the loop for around 300 jars a month.

What do you recommend for others?

The store founders like to share their experience and know-how with others. They helped set up a zero-waste store in another city. They don't perceive it as competition.

They believe such solutions should be promoted to enable people to buy by weight, in their own packaging – so that we can all reduce the amount of waste produced. Every local grocery store can take one small step towards not wasting food and products. A simple step is establishing cooperation with Foodsi or creating points to share surplus food and unnecessary products, jars, and reusable bags.

15. MIRET – environmentally friendly footwear

Quick overview	
Year of establishment: 2018	Industry: Fashion (Footwear)
Size: **micro <10**; small <50; medium <250	Operation level: local, national, EU, **global**
Brief case description: Miret is a company developing environmentally advanced footwear designed to have the lowest possible environmental impact. The ideal guiding the company is creating sustainable products, which would be compostable, recyclable, made from renewable bio-based sustainably-grown materials, locally sourced, locally manufactured, extraordinarily durable and CO2 neutral.	

What inspired the change?

The founders of the Miret company realized that they had to completely redesign the footwear in such a way that they took it apart and chose for its composition wholly new and natural materials for the soles, interior, and upper and outer parts. They believed this was the only direction to follow, which would take into account both the environment and our feet. They use the power of plants, which convert sunlight, water and CO2 into valuable, durable materials that can be used to make footwear. Except for plants, they also use wool. They choose the most potent natural fibres to create a quality, durable product. They also have a "zero waste" policy and ensure no plastic is used in the packaging. They suggest to customers to repurpose or recycle the used packaging.

What were the company's main circular solutions, and how were they implemented?

Using their manufacturing expertise, they redesigned sneakers from the bottom up, making them compatible with nature. For Miret founders, this was a change comprising their personal transformation, business setting change and finally, the industry change. The entire company was involved in that process. In Miret, they were learning from explorations, training, consultancy, and external support.

In 2019 they launched their first-generation 97% ecological MIRET sneakers and sold 800 pairs. They received a ton of feedback, which is one reason why they pushed the envelope and developed a much improved second generation of ecological sneakers.

Why 97%? Because it's complex and expensive. They've spent five years making MIRET 97% super-ecological sneakers. That means they are almost entirely made from natural materials, safe for the environment and your health. The remaining 3% is synthetic glue

and polyester thread. They are in the process of dealing with this 3% as well. Their vision is to create a 100% ecological and home-compostable sneaker, and with each new generation, MIRET sneakers are getting closer to this goal.

Miret sneakers are the only ones in the world to hold the STANDARD 100 by OEKO-TEX label for the entire product, not just specific components. This label means that MIRET sneakers contain zero toxic substances harmful to human health. Miret sneakers can easily create and maintain a healthy environment for your feet.

What external support have you received?

For the development of business, they used crowdfunding and venture capital.

What were the most significant challenges?

The biggest challenge was finding new companies in our value chain that could meet our vision of ecological and recyclable footwear since the traditional footwear industry is still lagging. It took much research, travelling, talks and negotiations, but they made it. They are targeting a new type of consumer, the one proud of wearing a modern and stylish product, but also the one who is ecologically aware.

What are your most significant achievements?

We are happier since we are doing something useful for the future of the Planet and society in general. We opened a new customer base with a variety of our products.

What do you recommend for others?

The most important thing is to have a lot of determination, persistence and understanding since you need to do a lot of experimentation and trial and error. It is a long-term process where the result is questionable.

16. MOLD – plastic as a solution, not a problem

Quick overview	
Year of establishment: 2017	Industry: Packaging
Size: micro <10; **small <50**; medium <250	Operation level: local, national, EU, **global**
Brief case description: Contribution to circularity – production of plastic products without the input of raw materials, i.e., solely from plastic waste and education on the importance of recycling of plastic for youngsters.	

What inspired the change?

The state of the market and the future of production were their primary motivators. The decomposition time of plastic products ranges from 100 to 1000 years, so plastic waste takes up landfill space. Since 2019, they have started production within a circular economy, with which they want to reduce the amount of waste in landfills to less than 20% of the total amount. They operate in a circular economy without the input of original raw materials, so according to EU calculations, they contributed to the reduction of CO2 by 62 per cent. In their vision, an important aspect is the education of preschool and school children on how to make recycled products and the benefits for humans and nature in recycling plastic.

What were the company's main circular solutions, and how were they implemented?

They manufacture plastic parts for most construction products from 100% waste plastic. In addition, they also have an educational interest – they produce toys made of 98% waste plastic and 2% paint. Their goal is to have a production facility made from 100% waste and zero waste.

Their plant consists of three parts: the recycling part, the production plant and the area where we pack the products. As much as 95% of their products are made from various plastic waste, such as plastic bags and other plastic products, depending on the composition of the material.

The investment was in the machinery and specific know-how. However, the entire company was involved in creating new products from scratch. They had their materials, i.e., plastic waste, from the beginning. The important thing was to obtain all the certificates and licences, which took time, stamina, and money. But now they are even expanding

their production capacities into new lines of production, combining varieties of waste (plastic and wood).

Private specialised companies bring them a variety of plastic waste. They sort, grind and turn it into granules from which they make their products. They have four branches of production, three of which are related to material recycling. They produce a construction range of products made from 100% recycled plastic and expand the content monthly. The good thing is that 98% of their products are cast into concrete and stay there permanently. They also have a sanitary program. They produce two different sanitary sets, such as water siphons, and they are currently cooperating with the strongest companies in Croatia in that branch.

They had many problems in the beginning until they managed to master what they could get from which material. For two years, they were just working on this idea, working on how to make the best use of that material and use it to get an article of a certain quality since you can't really recycle all things made of plastic.

On top of production, they are also passionate about teaching future generations the importance of recycling and how to create recycled products. They believe that these younger generations if taught early on, can also serve as teachers for their parents about the importance of plastic recycling and proper disposal. Through their 2D and 3D toys, children can quickly learn about the main concepts they want to teach them. In this field, they are the fourth company in the world that produces toys from recycled materials, while in Croatia, they are the first in this regard. They got all the necessary permits for selling toys because the Croatian Institute of Public Health also tested the product. They also signed a contract with the Football Club "Hajduk" for four items. They are in negotiations with domestic retail chains and a large corporation in Argentina for the sale of toys. They are active in bringing children to the premises to show them what they do; on top of it all, they have created educational catalogues on facts related to plastic.

What external support have you received?

They got support from the county and banks for the start of their business, but for this more advanced circular economy stage comprised of waste management and processing, they were found wanting. They would have loved to get more support from the government since they are the only ones doing the process in its entirety.

What were the most significant challenges?

They had little knowledge of waste processing and learned as they went along. However, they were all determined to succeed and find great satisfaction in every little step they made in their set direction.

The mindset of people in their county is still rather rudimentary concerning recycling and circularity – as stated earlier, they decided to start with educating preschool children by offering kindergarten education. In this way, kids are educating their parents at home.

What are your most significant achievements?

Employees are happier since they are doing something useful for their children's future and society in general. Mold opened a new customer base with the variety of their products, including toys for children, making them the first company in Croatia. They are doing something for the Planet by tackling the problem of plastic pollution. Also, they are growing in revenue and size, financially almost doubling their revenues in 2022 from 2021.

What do you recommend for others?

Be mindful of obtaining finances in different stages of the business cycle.

Experiment and iterate (trial and error) for new things and products.

Persistence pays off in the long run.

17. PakMarkas – monitoring is essential for circularity

Quick overview	
Year of establishment: 1994	Industry: Packaging
Size: micro <10; small <50; **medium <250**	Operation level: local, national, **EU**, global
Brief case description: PakMarkas is a packaging company that was founded in 1994. Responsibility for their surroundings pushed the company to adopt green philosophy and make the clean environment company's top priority. They've implemented a comprehensive monitoring system and publish social responsibility reports each year. They've invested in infrastructure that allowed them to save money and significantly reduce waste. They completely switched to green energy and recently developed several new sustainable products.	

What inspired the change?

Green fields, maples, and lakes surround the territory of PakMarkas. Responsibility for the surroundings and the urge to preserve them led to the implementation of green philosophy. A clean environment is the company's top priority. They have implemented the environmental management system ISO 14001, and they ensure that all requirements of this standard are met. Also, their activities are guided by principles laid down by environmental policies. They constantly review them so that they are well-timed.

What were the company's main circular solutions, and how were they implemented?

They continually monitor the environmental impact: we keep track of quantities of air and water emissions and consumption of paper, films, photopolymers, electricity, and gas. They monitor amounts of hazardous waste during the process of production: they sort waste from production: corrugated cardboard, BOPP (biaxially oriented polypropylene film), PE (polyethene), PVC (polyvinyl chloride) and deliver them for recycling. In late 2013 - early 2014, they installed a modern building management system to control the status of cooling systems. This system services the industrial premises by automatically maintaining the most suitable air temperature. A modern cooling system offers remote control of the climate in the workshop and enables the company to administer maintenance costs.

Every year they submit an updated social responsibility report for the accounting period of 12 months to the organization of the United Nations Global Platform and all the interested parties of the Company. The report includes a review of compliance with all

the Ten Principles of the Global Compact: human rights, labour, environment, and anti-corruption.

In 2015, they acquired modern waste shredding and extraction system. The waste volume was reduced by five times. The unit was installed in the summer of 2016. In 2016, the company was awarded the international FSC® (Forest Stewardship Council) Chain of Custody certificate. In the last year, around 90% of the label production was on FSC-certified paper.

Since 2018, Pakmark's products have been produced using only green energy.

In 2021, they offered new products to our customers:

Water-soluble labels. These are eco-friendly water-soluble labels that are up to 100% degradable. For this reason, the labels are entirely safe: environmentally friendly, non-toxic, and non-flammable.

Flow-Pack paper packaging. Packaging for food products in direct contact with food. This easily recyclable, biocompatible packaging is a breakthrough in the sustainable packaging market.

One of their latest initiatives to become more environmentally friendly was to join the Future Packaging Club, set up by Nature's Future, in the summer of 2021. The club brings together companies looking for ways to use more sustainable packaging, willingly share their best practices, implement environmental initiatives, and raise public environmental awareness.

What external support have you received?

No external support in the transformation journey was needed or received. Some infrastructure investments were made, allowing them to save money and reduce waste.

What were the most significant challenges?

The biggest challenge is to find or create the perfect solution. The packaging sector has much room for being more circular, but some things are not yet solved. Thus, investment to find those solutions is necessary, but sometimes it may take a long time.

What are your most significant achievements?

Yearly sustainability report and that all their production is made using renewable energy.

Additionally, for the past several years, they have continuously made investments to create new sustainable products, which we released into the market in 2021.

What do you recommend for others?

Educate employees on responsibility and understanding that environmental protection and preservation is not only a responsibility of the company but of every individual.

18. Sciarada Industria Conciaria – tradition meets innovation

Quick overview	
Year of establishment: 1977	Industry: Fashion
Size: micro <10; small <50; **medium <250**	Operation level: local, national, EU, **global**
Brief case description: Sciarada is a leather tanning company based in Tuscany, the only company in the Tuscan leather district to hold Bureau Veritas certification; sustainability is one of their pillars, and it means offering high-quality fashion products, limiting environmental impact as much as possible. Sciarada prides itself on evolo®, a tanning process that complies with the circular economy's principles.	

What inspired the change?

The company started the transformation towards a circular economy to reduce the costs of raw materials and waste management. Moreover, the numerous certificates obtained by the company are a testimony to their efforts in moving towards eco-innovation and minimal environmental impact.

What were the company's main circular solutions, and how were they implemented?

Regarding energy supply, they exclusively buy gas produced from renewable energy sources.

They recently did some studies around the eco-compatibility of leather. Tanned leather cannot be biodegradable, but it's still possible to recuperate it, reusing the waste. So, they try to implement the least possible amount of potentially toxic chemicals, and their studies demonstrated that even if tanned leather cannot be biodegradable, it can be composted. Gradually they're trying to eliminate harmful substances from our processes.

With the University of Bologna's support, they could attest that about 9,5% of what they produce can be recuperated and reintegrated into the production process.

Before with 100 kg of leather, they typically used about 65 kilograms of chemicals for tanning it. Now, they can use less than half (29 kilograms) with a new method they patented.

There are also natural polymers they have worked with, along with the University of Bologna. They also worked on (tires) achieving better products than the polymers they initially worked.

As a testimony of the company's attention to the topic of environmental impact and of the effort to constantly improve business processes, Sciarada solely uses electric vehicles to transport products inside the company.

In 2021, "Premiata" launched the first "circular" sneakers, made with Sciarada's leather: this regenerated suede was done with a process called evolo®.

What external support have you received?

Sciarada has collaborated with the University of Bologna to develop and test the efficiency of eco-innovative methods.

What were the most significant challenges?

Generation turnover: the new generation of workers has different views from the older ones, but often it's also a benefit for the company.

They know that plant-based products exist, but often they don't work as well as the ones they're used to (such as chrome). They've worked for many years in this industry and still couldn't make a tanning product that compares to it.

When approaching vendors, they typically don't ask for circular-economy products. Now they haven't considered recycled packaging when dealing with vendors, but maybe in the future.

What are your most significant achievements?

Sciarada thinks circular economy methods have benefited them regarding their brand image, and sometimes they also help reduce costs and optimise profits, other than building an environmentally-cautious reputation.

They have earned several certificates which attest to their effort with circular economy and make them more competitive in the market. Sciarada is the only company in the Tuscan leather district to hold Bureau Veritas certification; sustainability is one of their pillars. It means offering a fashionable product of the highest quality and with limited environmental impact.

One of Sciarada's most significant achievements is evolo®, the result of eight years of constant commitment to technological research for a better and more responsible future, a method of leather working which respects the environment and follows the principles of the circular economy. This method significantly reduces the use of chemicals, limits the waste of water, and re-uses raw materials without adding chrome.

There's also the "DHERMA" collection, which features exceptionally versatile items, thanks to its characteristics, and lends itself to creating general footwear, bags, and leather goods. DHERMA is not only the name of an article. However, it represents the realisation of the need Sciarada felt to promote a compromise between nature and men to create products of the least possible environmental impact.

What do you recommend for others?

Commitment to technological research, even if it takes a long time. That will make your company one step ahead of competitors.

Even though environment and sustainability must be a top priority, sometimes you must be true to yourself and agree on compromises (i.e., when plant-based alternatives can’t produce the same quality output).

19. Tech-Art-Design Simon T – follow your heart and passion

Quick overview	
Year of establishment: 2010	Industry: Furniture
Size: **micro <10**; small <50; medium <250	Operation level: local, national, **EU**, global
Brief case description: The Tech-Art-Design company, founded by Szymon Tkaczyk, produces designer furniture using car engines from cars like Jaguar, Mercedes, Porsche, Audi, Maserati, and BMW. Creating furniture from car parts is not only an upcycling business that allows you to reduce the amount of waste. By creating furniture from car parts, the company helps to preserve the memory of customers' beloved cars, which, for example, were destroyed in car accidents and had to be disposed of.	

What inspired the change?

While travelling, he drew inspiration from places related to furniture design. While in the Netherlands, he observed that garages had an extended function to the living room in detached houses. Here, cars were often used as decoration, e.g., an old Bugatti, which looked fantastic in such an arrangement. Then he decided to combine all his interests and open a new path for his business – he treated the elements of cars, e.g., the engine – as decoration and started to produce designer furniture from car parts (engines) for homes and car showrooms.

What were the company's main circular solutions, and how were they implemented?

He began his investigations by selecting car brands with aluminium engines. As it turned out, many of them were mainly German and Italian producers. He ordered them from all over Poland. Szymon starts the project by finding a V-engine with a specific structure with a sporting origin and an exciting design. In his projects, Szymon decided to focus only on this type. Engines are usually used, so they are dirty and have oil leaks, but at the same time, they are always full-fledged. Next, the engine is disassembled down to the last screw. Each consists of approximately 60 parts and 60 subassemblies. No element can be omitted in the acid washing process or the case of aluminium parts – in sandblasting, soda blasting, glass blasting, i.e., various methods that give the desired metal texture. These are pre-treatment stages that last up to eight hours. It is followed by painting the parts with an epoxy primer, a special primer for aluminium that fills in the porosity after sandblasting. Then the correct colour chosen by the ordering party is applied.

The owner ensures that all waste from engine cleaning, maintenance and furniture production is segregated and sent for disposal because it is hazardous waste. All metal waste is recycled. For cleaning engines and painting, Szymon uses "cleaning clothes" – used textiles unsuitable for recycling.

What external support have you received?

The company at the stage of transformation has developed thanks to its own financial resources and knowledge. The owner did not use any external support.

What were the most significant challenges?

The biggest challenge was developing a technique for renovating the old engine so it could be used as a utility piece of furniture. The owner faced several technical problems, such as the heavy weight of the engine, metal corrosion, eliminating the smell of gasoline, adapting the furniture to home conditions and many others. The technical knowledge that his grandfather passed on to him became the starting point for many experiments on the design of motor furniture.

What are your most significant achievements?

Currently, Szymon is accepting more and more applications from abroad, e.g., from England, the Czech Republic, Slovakia, Spain and Germany. There is no specific price list. The valuation is individual each time. Some customers provide the engine, which is the basis of the furniture. Others ask Szymon to search for a specific model, e.g., Jaguar.

The collaboration he is most proud of is an order for the owner of the Roleski company, also a car collector. For him, he prepared a table with an oak top made of Jaguar E-Type V12, one of the most recognizable cars in the automotive world. A sofa, armchairs, and Jaguar-style lamps joined the table. All of them have been placed in a large showroom with a collection of cars behind the glass.

What do you recommend for others?

When deciding to change the path of your business, it is essential to follow your heart and passion.

What is essential is persistence in exploring knowledge and working with trial-and-error methods until the right solution is obtained.

20. Urban Embassy – Experience to Remember for Coffee Lovers

Quick overview	
Year of establishment: 2021	Industry: Food
Size: **micro <10**; small <50; medium <250	Operation level: **local**, national, EU, global
Brief case description: Urban Embassy is a specialised café aimed at leaving a smaller environmental footprint. The company offers coffee and a variety of coffee drinks prepared from special sorts of high-quality coffee roasted in local bakeries. Alternative vegetable milk is also produced and used in prepared coffee drinks. A unique selection of tea from Bulgarian herbs is also offered to the customers. Plastic-free and disposable packaging products are only used to deliver goods to customers.	

What inspired the change?

The company is established to implement the waste-free model in practice. That is mainly due to the founders' personal attitude, who lead an eco-friendly lifestyle and are conscious about how much waste they leave behind.

The company owners were aware of the existing bad practices in the coffee industry, for example, coffee served in paper cups with a plastic field or cups intended to be processed in a specialised composter which, however, is not available in Bulgaria for now. Striving to avoid those bad practices and become part of the solution, not of the problem, they decided to use only plastic-free and disposable packaging containers for all their products. They wanted to reduce their own environmental footprint and encourage their business partners and customers to do so.

What were the company's main circular solutions, and how were they implemented?

The first step was to supply glass containers for all their products – for the coffee bean blends, for the nut drinks they produced from various nuts (almond, walnut, pistachio), and for the coffee drinks that they offer to the customers.

The coffee bean blends are stored at the shop and sold in glass containers. Nut drinks are also stored and sold in glass bottles. The coffee drinks are also delivered in glass coffee cups.

The Return-Reuse-Recycle model is used as far as the glass containers are concerned.

The customers can bring their own glass containers when buying coffee bean blends and nut drinks or borrow and reuse the glass containers offered by the company, with an option of returning them.

The coffee drinks can be consumed on-site and offered in reusable glass coffee cups. The customers can also order the coffee drinks for takeaway use, in which case the client can bring and use their own coffee cup or borrow a company-owned reusable glass coffee cup, pay for it, use it, and collect the money back when returning it.

What external support have you received?

The company at the stage of transformation has developed thanks to its own financial resources and its own resources of knowledge. Additional investments were made mainly for supplying glass containers. However, about ten months later, the investment return is about 50%.

What were the most significant challenges?

About 1-2 months were needed for the clients to get used to the new practices at the café.

What are your most significant achievements?

Satisfied customers, highly appreciating the high-quality coffee products and nut drinks, and supporting the waste-free cause.

Awareness raising and concrete actions for supporting the circular economy efforts of the society.

What do you recommend for others?

Communication is essential – when the customers know the motivation and understand the practices, they start to accept new things.

In the beginning, customers are frustrated by the limitations (e.g., no cow milk), but soon they start liking not only the products but also the ideas.

People with knowledge and good examples can easily undertake small steps to change.

21. Vivai Stanghini – family values based circularity

Quick overview	
Year of establishment: 1987	Industry: Agriculture (Plant nursery)
Size: **micro <10**; small <50; medium <250	Operation level: local, **national**, EU, global
Brief case description: Vivai Stanghini is a nursery company which prides itself on being one of the first companies in Pistoia's nursery sector to adopt circular economy practices. Being a family-based business, they all share the same values regarding environmental sustainability and have developed various minimal-impact practices, which they also teach to other companies.	

What inspired the change?

Being a family-owned company also means being able to share the same belief system. The people who run Vivai Stanghini believe in looking after the environment, and the goal of sustainability is at the core of the business. What also inspired the change is the opportunity to stand out as a company and pave the way for practices which, in Italy, amongst other places, took a long time to attract entrepreneurs. They teach best practices to other companies for free to improve the environment in which they live.

What were the company's main circular solutions, and how were they implemented?

The transition to circular economy models is still ongoing progress. For example, they're also working on implementing photovoltaic systems, which will be their next investment. It's been a gradual process, also because they invested their own money in it – they invested more than 2 million euros, starting in 2004 when they decided to improve the extent of their environmental impact.

Their circular economy practices also concern green waste and their vases, all made from recycled plastic; many of the raw materials and semi-finished products they use are recycled.

Regarding the packaging on the products the company supplied with, the company owners state it would be hard to ask them to reduce it. However, once they've received the product, they send the plastic packaging back to them so they can recycle it, so it's still somewhat of a circular process. Through Vivai Stanghini's drip irrigation system, they can save much water; the percolation is about 18%. They have also implemented more innovative pumps to reduce the use of energy.

What external support have you received?

The company didn't receive any funding: often, waiting for bureaucracy is a lengthy process, so when they want to implement innovation, they try to do it independently without seeking external support.

What were the most significant challenges?

Vivai Stanghini's staff has noticed that bureaucracy stands in the way of innovation; for example, in the 90s, they implemented our first closed circuit system to save water, but at the time, the municipality technically didn't allow it, even if it was for the benefit of the environment. But the province believed in it and supported them, and now the municipality promotes it too.

Nowadays, everyone they have relationships with appreciates their environment-friendly initiatives, but it has not been easy. Some people's mindsets are still very much distant from the culture of sustainability.

What are your most significant achievements?

Every year, they document the innovations they implemented at environmental and safety levels. It makes them proud that they were somewhat precursors of environmentally conscious practices as a small enterprise. Their drop-by-drop irrigation and water recovery system works well, so the plants grow homogeneously. By decreasing the use of water, they recover the cost of electricity and fertiliser that has no chemical content but derives from the processing of slaughterhouses; this both means better product quality and improved brand image. Being sustainable makes them stand out as a company and attracts more customers. The whole "green economy" concept is starting to be popular, so Stanghini's approach attracts more customers and suppliers.

What do you recommend for others?

Vivai Stanghini hopes other businesses can follow their example, but they must believe in it in the first place strongly.

Bureaucracy, as we know, often stands in the way; there should be a way to make change more accessible for everyone. A recommendation for others is not to let the lengthy processes of bureaucracy discourage them.

If there's a strong will at the core of change, results will come. It might be time-consuming, but it pays off in the end.

22. Zero Wave – Turning Waste into Resource

Quick overview	
Year of establishment: 2020	Industry: Food
Size: **micro <10**; small <50; medium <250	Operation level: local, **national**, EU, global
Brief case description: The company is engaged in producing 100% biodegradable tableware and food products made from a material that has so far been treated as waste and discarded, generating a massive amount of natural gas (methane). They use a circular economy technology, turning waste into valuable resources.	

What inspired the change?

This start-up company is founded with the idea of implementing the circular-economy concept. The company is established with the mission of turning waste into valuable resources. The founders of Zero Wave are all people who are very much concerned about the environment and conscious about how much waste we leave behind.

As beer lovers, they have been thinking a lot about how the waste from beer production can be reused. That is how they decided to start experimenting in the kitchen: using the waste from beer production, which is full of protein and fibres, to transform it into food products.

What were the company's main circular solutions, and how were they implemented?

The company founders were very much interested in how to reuse the residual malt after beer production. This material is currently treated as waste and is discarded after use, generating a tremendous amount of methane in the atmosphere.

The first step was to study the residual malt after beer production. The conducted research revealed that it is 100% usable. It also turned out that this product has amazing nutritional characteristics – it is rich in protein and fibre, and at the same time with a minimal amount of carbohydrates and fats.

The second step was to do some experiments in the kitchen, trying to find the best recipes for producing food products.

The next step was to start the production. The crackers, produced from the malt after beer production, are entirely vegan, without added preservatives and stabilisers,

containing protein and fibres, which makes them suitable for all sports people who want to get their daily intake of valuable nutrients after a strenuous workout.

What external support have you received?

No external support in the transformation journey was needed or received. Nor it required substantial investments in infrastructure.

What were the most significant challenges?

The main challenge was to understand for what purposes waste could be used. But after they learned about nutritional potential, it was easier to experiment further.

What are your most significant achievements?

They are promoting the circular economy and sustainable development as the future business model – by turning waste into valuable resources (producing 100% biodegradable tableware and food products).

They are saving tons of methane in the atmosphere – by re-using a material that has so far been treated as waste and discarded, generating a vast amount of natural gas (methane)

They are fighting the elimination of disposable plastic utensils – by producing 100% biodegradable utensils.

What do you recommend for others?

We live in a time when every carbon footprint saved is the way to a better tomorrow.

It is imperative to think about sustainable development and take action to achieve that. Producing food from waste products is such a good example.

2Good2Go