



**SUPER**  
Interreg Europe



European Union  
European Regional  
Development Fund

**STUDY**  
**“Support for eco-innovative companies  
during Covid-19 pandemic  
in Vidzeme planning region”**

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**GATEWAY**  
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## Executive summary

**The objective of this study** was to evaluate the support system for eco-innovative companies during the Covid-19 pandemic in Vidzeme region.

During the study 15 interviews were held, 9 with businesses or business-related associations, including manufacturers and service providers of eco-innovative products/services, as well as promoters of eco-innovative practices and 6 interviews with organizations that provide support to companies including eco-innovative companies.

The main results viewed that the challenges created by the pandemic were generally greater than the opportunities. The study reveals also that the challenges faced during the pandemic were generally similar for all market participants, but each company had a unique set of circumstances they had to solve, depending on their niche, specifics of their product/services, client target segments.

In Latvia the number of *de minimis* beneficiaries operating in areas of smart specialization in Vidzeme region during the pandemic period shows that most of the beneficiaries were food and beverage producers, wood processing companies, wood products and furniture producers, professional services providers as well as professionals in the creative industries and leisure services.

The companies that were least affected by pandemics are operating in environmental protection and manufacturing of sustainable building materials, but the greatest impact was on the company which operates in waste management (mostly due to the growth of waste volumes while different restrictions were in force and obstacles in manufacturing operations).

While there have been many different state and municipal programs to support all companies that suffered during the pandemic in Latvia to combat the pandemic effect, no targeted programs have been identified in Vidzeme region aiming particularly at eco-innovative companies. At the same time, eco-innovative businesses were continued to be supported through implementation of various growth programs, some of which had been established before the pandemic, but some - during the crisis period.

During the pandemic, the government decided to prioritize support for companies involved in HoReCa, tourism, on-site customer services, logistics, and other sectors, which had the greatest direct impact from the Covid-19 pandemic restrictions regarding movement of both people and goods.

The main struggles specifically identified for environmentally sustainable innovation development included increased demand for packaging that reduced the amount of potentially recyclable waste. The entire waste-free movement nearly disappeared, and waste-free stores greatly suffered from either having to close down or reduced turnover.

As well as the process of developing many eco-innovative products were blocked from being moved further due to restrictions.

Based on the conclusions and recommendations for future planning of support, it is recommended to develop a mechanism that would allow prompt surveying of the affected companies, quick evaluation of their needs and, preparation of an offer package, custom to each sector, from which each company could choose a specific type of support, which they might find most useful. In addition, support levels should be differentiated according to company size, and taking into account that smaller companies are much more vulnerable.

## Introduction

Vidzeme Planning Region (VPR) is a regional development management organisation, one of the five planning regions in Latvia, and represents the interests of all Vidzeme residents living in 11 municipalities.<sup>1</sup> It occupies almost a third (19770 km<sup>2</sup> or 30.6%) of the entire territory of Latvia.<sup>2</sup>

In Vidzeme region, most enterprises operate in forestry and logging sector, crop and animal production, hunting and related services, wood processing, and accommodation services.<sup>3</sup> Vidzeme ranks 3rd most innovative regions in the country with its 10.8% of innovatively active companies' right after Riga city and its suburbs. Value-added manufacturing provided by 4 sectors: wood processing (34%), non-metallic mineral products (26%), food production (13%), furniture production (8%). In Vidzeme, enterprises are spread over a wide area, which positively contributes to the balanced growth of the region, but at the same time, the opportunities for small and medium size enterprises (SMEs) to invest in research and innovation development are more limited.

The overarching goal of the SUPER project is to improve SMEs uptake of environmentally sustainable innovations into their business. Project activities entails evaluation of its effectiveness, detection of potential inhibitory and/or promoting factors for the development and growth of eco-innovative companies and finding solutions on how to improve the existing support mechanisms.

Issues related to the supply chain, attracting customers, markets have become topical for many companies during Covid-19 pandemic, which has also influenced the development of eco-innovative processes or products.

### **The aim of the analysis**

The circumstances of the Covid-19 pandemic have had both positive and negative effects on business operations. In line with projects' goals, it has also become important to assess the impact of Covid-19 pandemic on the eco-innovative SMEs and to identify and evaluate good support practices in Vidzeme region, as the pandemic period has not only been challenging in terms of financial survival, but it also has brought many systemic changes to the business environment itself. Therefore, in order to evaluate the effect of the pandemic, during March of 2022, 15 interviews were held with various organizations and businesses that are representing the eco-innovation environment in Vidzeme region.

Various support tools are available for eco-innovative companies. The support system includes all actors and resources that help entrepreneurs to successfully generate and implement innovations. The support system includes participants such as scientific

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<sup>1</sup> <https://lv.linkedin.com/company/vidzeme-planning-region>

<sup>2</sup> [http://www.vidzeme.lv/en/about\\_vidzeme](http://www.vidzeme.lv/en/about_vidzeme)

<sup>3</sup> Policy instruments to support local and regional innovation ecosystems for the sustainable development of smart specialization in Vidzeme region, VPR, 2019.



institutions, business incubators, business development organizations, financial institutions, etc.

## Methodology

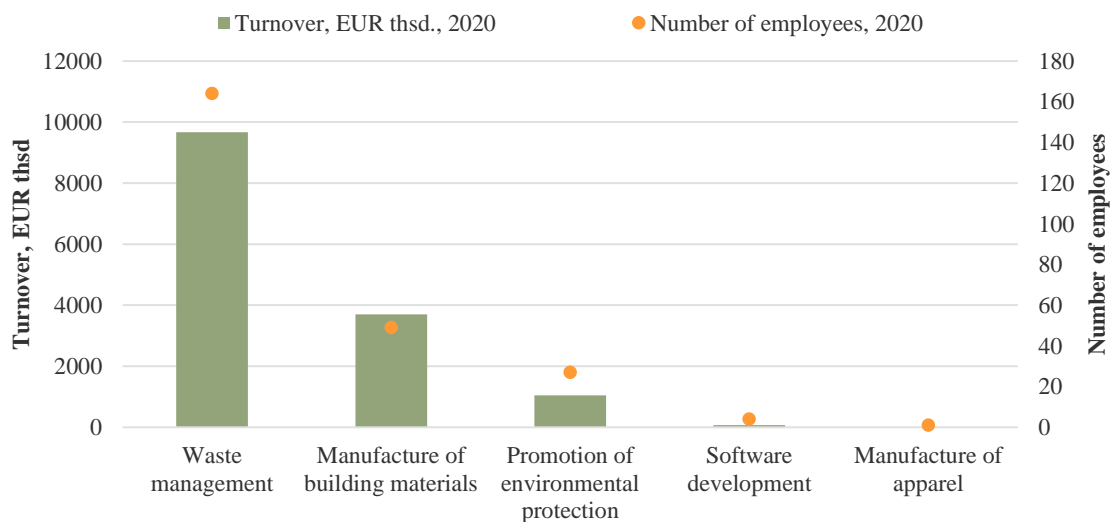
The study aimed to evaluate the support system for eco-innovative companies during the Covid-19 pandemic by collecting and evaluating qualitative data from the following sources:

- Interviews with participants of the regional support system in Vidzeme region;
- Interviews with eco-innovative companies in Vidzeme region;
- Publicly available statistical data, information from surveys and media.

Case-based data and opinions gathered from interviews and publicly available sources was then inductively analysed to obtain key conclusions mainly on difficulties and opportunities faced by eco-innovative companies, as well as support programs to combat the pandemic effect during this period.

Of the total 15 interviews held, 9 were businesses or business-related associations, including manufacturers and service providers of eco-innovative products/services, as well as promoters of eco-innovative practices. Key characteristics of the interviewed companies are visualized in Figure 1.

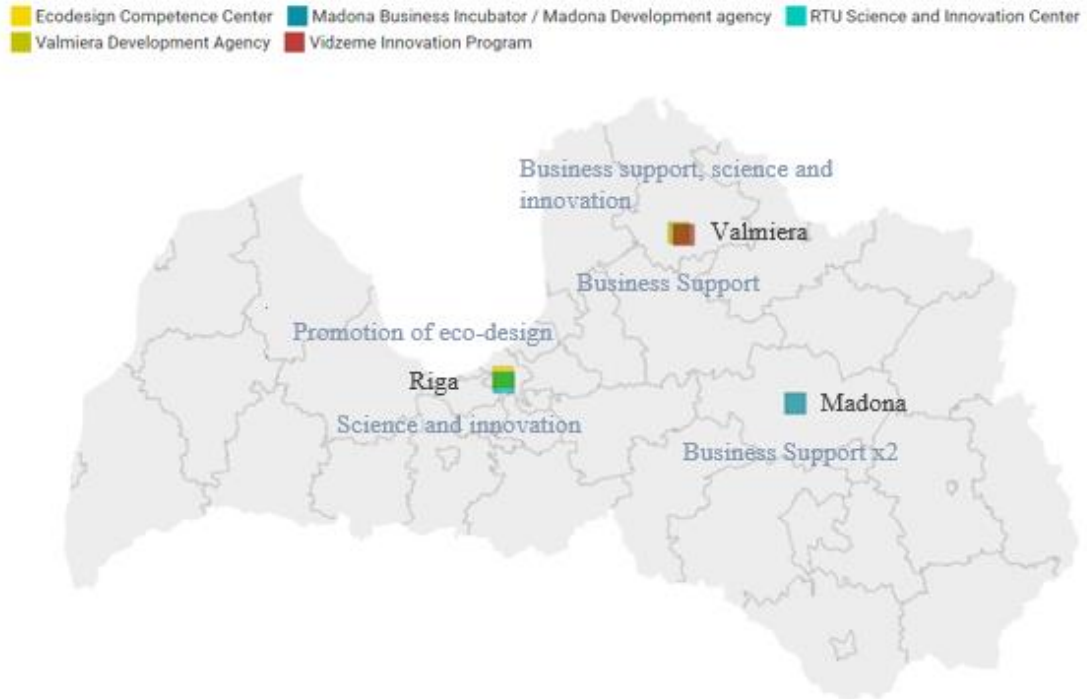
*Figure 1 Sector, turnover and the number of employees of the interviewed eco-innovation companies\**



\* 1 company operating in the sector of silviculture was excluded from the Figure 1, as there was no data available on its turnover and the number of employees

Besides the interviewed businesses, another 6 interviews were conducted with organizations that provide support to eco-innovative companies. The support organizations that were interviewed are seen in Figure 2

*Figure 2 Locations of the interviewed eco-innovation support organizations*





## Challenges and opportunities brought by the pandemic on eco-innovative companies

Overall, both the interviewed eco-innovative businesses and organizations expressed that the challenges during the Covid-19 pandemic for eco-innovative companies were largely no different from those faced by any other company. Namely, they included the following:

### Production

- Sharp rise of prices of raw materials and logistics services;
- Delayed deliveries and sometimes even shortages of the necessary raw materials;

### Operations

- Higher operating costs due to additional (and frequently changing) hygiene safety measures;

### Sales

- Reduced market demand because of lower purchasing power, as well as various restrictions, mostly regarding travel and on-site sales channels;

### Investments and support

- Diminished on-site networking opportunities, which is especially important for small start-ups, often resulting in lack of personal connection with potential investors;
- General uncertainty among all market participants, negatively impacting investment decisions;
- Relatively slow and bureaucratic decision-making regarding financial support with ambiguous support criteria, limiting the support access for the most vulnerable and smallest companies.

Similarly, the opportunities that came up in the opposition of these challenges were also similar to those embraced by most companies in the pandemic period:

### Sales

- High demand for digital sales channels and remote services;
- Possibility to reach wider audiences through digital platforms, making it easier to reach customers in export markets;

### Operations

- More available access to any support programs (and even multiple at the same time), such as accelerators for start-ups or free digitalization courses, regardless of their location;

- Opportunity to utilize the slower pace of operations and the available financial support to restructure and streamline existing operations, as well as consider automatisisation opportunities.

The challenges created by the pandemic were generally greater than the opportunities, as it became clear from the survey responses. To evaluate the overall average pandemic impact on a quantitative scale, a simple survey answer scoring mechanism was implemented, whereby company responses were scored respective to their general sentiment. This approach revealed that the average pandemic impact for the surveyed 6 companies was moderately negative, i.e., -0.5 points within a scale from -1 to +1. The greatest negative impact was on supply of raw materials / logistics (-0.8 points), closely followed by exports (-0.7 points) and market demand (-0.6 points). Impact on human resources was felt the least (-0.1 points) (Table 1).

*Table 1 Pandemic impact of surveyed companies by scored responses and impact dimensions\**

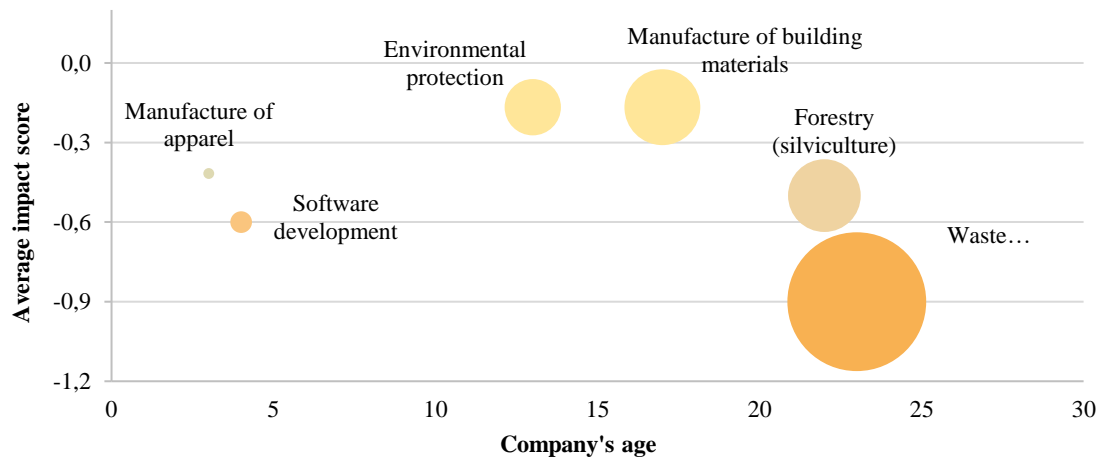
	Pandemic impact on...							Average score
	Company's sector	Market demand	Export	Manufacturing	Supply of materials	Human resources	Investments	
<b>Environmental protection</b>	+0.5 (interest in science and research, modernization of agriculture)	0	-	-0.5	-1 (late shipments)	0	0	<b>-0.2</b>
<b>Manufacture of building materials</b>	-	-1 (reduced purchasing power)	0	0	0	0	0	<b>-0.2</b>
<b>Manufacture of apparel</b>	-	-1 (travel restrictions)	-1 (reduced export opportunities)	0	-0.5	0	0	<b>-0.4</b>
<b>Forestry (silviculture)</b>	0	0	-1 obstacles in logistics)	-0.5	-1 (late shipments, price increase)	0	-1 (reduced investment opportunities)	<b>-0.5</b>
<b>Software development</b>		-1 (reduced demand)	-	-1 (lack of microchips)	-1 (materials not available)	0	0	<b>-0.6</b>
<b>Waste management</b>	-1 (reduced consumption, growth of unrecyclable waste)	-	-	-1 (surplus work for hygiene requirements)	-1 (late shipments)	-0.5	-1 (reduced investment opportunities)	<b>-0.9</b>
<b>Average score</b>	<b>-0.2</b>	<b>-0.6</b>	<b>-0.7</b>	<b>-0.5</b>	<b>-0.8</b>	<b>-0.1</b>	<b>-0.3</b>	<b>-0.5</b>

\* Survey answers were scored as follows: Negative impact: -1; Minimal negative impact: -0.5; Neutral impact: 0; No response: Not counted, Minimal positive impact: +0.5)

When looking at the average pandemic impact score of each company and the relationship with company's sector, age and size (in terms of employees), there is no distinguished correlation between any of these variables. However, it can be noted that the pandemic impact score was the least for companies in environmental protection and manufacturing

of sustainable building materials, but the greatest for the company which operated in waste management (mostly due to the growth of unrecyclable waste volumes and obstacles in manufacturing operations) (Figure 3).

Figure 3\*: Average calculated pandemic impact of surveyed companies by scored responses and relationship with company's age and size (in terms of employees)\*\*



\* Bubble size is proportional to the number of employees in the company in 2020

\*\* Survey answers were scored as follows: Negative impact: -1; Minimal negative impact: -0.5; Neutral impact: 0; No response: Not counted, Minimal positive impact: +0.5)

The struggles specifically identified for environmentally sustainable innovation development were as follows:

- Increased demand for packaging, which has been a double-edged sword. Because of the hygiene safety precautions, demand for packaging skyrocketed. On one hand, in line with the sustainability trend over the past years, it increased demand for packaging made of ecological materials, such as paper, cardboard and various recycled materials. However, there was a limited capability to fulfil this demand, as, firstly, these materials had extreme shortages, often because of excess purchase volumes, and, secondly, this resulted in high price rises, so this meant that many manufacturers resided to using cheaper types of materials, often disposable and unrecyclable (e.g. disposable food packaging, polymer face masks). This reduced the amount of potentially recyclable waste.
- The extensive use of packaging meant that the progress in building the behaviour change of consumers by eco-innovative promotion campaigns, including those advocating for waste-free stores, was thrown back by several years. During the pandemic, the entire waste-free movement nearly disappeared, and waste-free stores greatly suffered from either having to close down or reduced turnover.
- Pandemic forced to shut down fairs and the small markets, which were often the main sales channels for craftsmen which produce articles from ecological

materials. Because of this, the only solution for the craftsmen was to create e-commerce stores, but many of them did not have the digital skills to set it up on their own, so they needed assistance from third parties, but not all could afford it.

- The process of developing eco-innovative products is often technology-intensive, requiring parts or elements during the process that are difficult to substitute, so the pandemic supply chain disruptions meant that many products were blocked from being developed further.
- The conducted interviews clearly revealed that there were no targeted support mechanisms for eco-innovative businesses to fight specifically the impact of Covid-19 pandemic in Vidzeme region. Instead, state and municipality support programs provided support to any company that met the specified criteria. However, the logic behind development of these criteria often was quite obscure. For example, one support program which targeted exporting companies, had set that support could only be granted to those companies whose export volume in 2019 reached at least EUR 1 million<sup>4</sup>. This means that smaller startup companies, which have been recently founded and had not been able to reach such export volumes yet, could not qualify for this support, and thus had a greater risk of stunted further development. Among the 6 eco-innovative companies that were interviewed, 4 companies did not qualify for support according to the set criteria, while just 2 did and were able to receive support. However, 1 of the 2 companies admitted that they did not particularly need it, but they applied as it was available to them.
- Some eco-innovative companies even faced barriers regarding support that have been placed by certain state support institutions. A representative of the Institute for Environmental Solutions shared that the state investment and development agency LIAA had set restrictions for recipients of the Innovation Vouchers support program, specifically, that the recipients could use the received funding to contract services from public Latvian research institutions only and not private. Whereas no such restrictions exist to contract services from similar institutions from other EEA<sup>5</sup> countries. The Institute for Environmental Solutions expressed that there were many companies that turned to them, as they have expertise in eco-innovation areas nowhere else found in Latvia, but, as per conditions of the Innovation Vouchers support program, they were not able to cooperate.

Despite the many challenges, opportunities for eco-innovative companies also arose during the pandemic, mostly regarding increased demand for certain eco-innovative products. The following examples were named by the interviewees:

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<sup>4</sup> LIAA, Atbalsts eksportējošiem uzņēmumiem Covid-19 krīzes seku pārvarēšanai. Pieejams: <https://www.liaa.gov.lv/lv/covid19/atbalsts-eksportejosiem-krizes-seku-parvaresanai>

<sup>5</sup> European Economic Area

- Increased demand for packaging, including of ecological materials, which can be attributed to both challenges and opportunities, as already mentioned before;
- Rising export opportunities for manufacturers of sustainable wooden housing and their parts;
- Stable market and even growing need for supply of eco-innovative construction materials;
- Growing interest for scientific and research services to foster innovations in various areas related to environmental sustainability, particularly agriculture and food production.

In addition, it has to be mentioned, that, even though the interviews conducted were focused only on the changes brought by the pandemic, many of the interviewees indicated that they have long adapted to these changes and they were of no concern anymore. Instead, some interviewees expressed a high-level concern regarding the expected impact of Russia's attack on Ukraine, launched during February of 2022.

One of the eco-innovative business representatives shared, that in his view, pandemic is over, and that the Russo-Ukrainian war should be the focus instead. It is expected that the war will have a huge impact on Latvia and its economy, as on the European economy as a whole. Businesses are already being highly affected, as the prices of raw materials are changing by the hour, which, in turn, severely affects sales and purchasing decisions, as well as the overall ability to plan. Some companies working on an innovation projects had to halt their operations in Russia and thus they lost a certain share of their business.

## Good practices for support of eco-innovative companies

### General support programs used by eco-innovative companies

There have been many different state and municipal programs to support all companies that suffered during the pandemic in Latvia. All of the financial aid received by companies, which can be classified within *de minimis* category<sup>6</sup>, has been registered within a publicly available electronic accounting system<sup>7</sup> that provides data for the period from 2020 Q1 to 2021 Q4. The database identifies both providers and beneficiaries of financial aid, so it is possible to group companies that received the support by both region of business and smart specialization according to the NACE activity category of the company. To analyse data for the purposes of this study, data was filtered to include only companies that operate within areas of smart specialisation (RIS3), and to exclude support received by individuals, as well as the large companies.

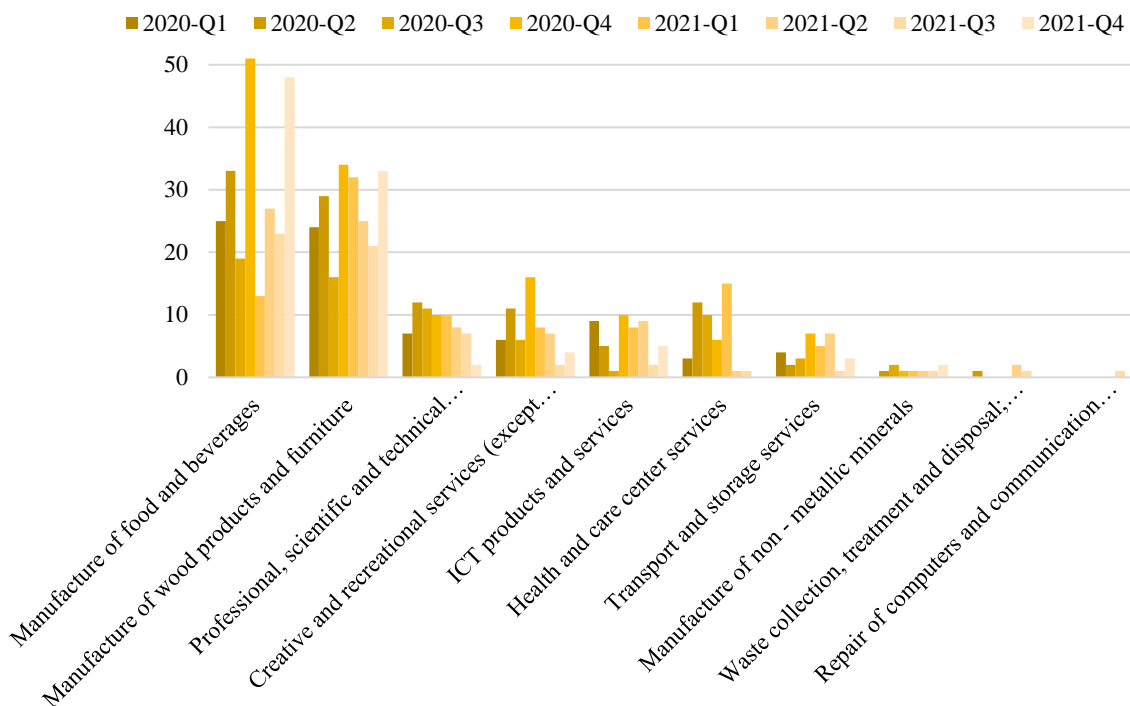
To sum up, the number of *de minimis* beneficiaries operating in areas of smart specialisation in Vidzeme region during the pandemic period shows that most of the beneficiaries were food and beverage producers, wood processing companies, wood products and furniture producers, professional services providers as well as professionals in the creative industries and leisure services. Considerably smaller number of beneficiaries operated in the repair and maintenance of computers and communication equipment, as well as waste management and recycling (worth taking a note, since both areas are closely related to the circular economy).

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<sup>6</sup> De minimis aid: aid at the level of a single undertaking not exceeding EUR 200 000 over a period of three years does not affect trade between Member States and / or distort or threaten to distort competition. For companies operating in the road haulage sector, the de minimis aid ceiling shall not exceed EUR 100 000 over a period of three years. Definition from: <https://www.fm.gov.lv/lv/de-minimis-regula>

<sup>7</sup> Ministry of Finance. De minimis aid accounting system. Available: [https://deminimismekletajs.fm.gov.lv/lv/sadalas/komercdarbibas\\_atbalsta\\_kontrole/de\\_minimis\\_atbalsta\\_uzskaites\\_sistema/](https://deminimismekletajs.fm.gov.lv/lv/sadalas/komercdarbibas_atbalsta_kontrole/de_minimis_atbalsta_uzskaites_sistema/)

Figure 4 The number of *de minimis* beneficiaries\* in Vidzeme region by areas of smart specialisation, according to NACE categories, 2020 Q1 to 2021 Q4 <sup>8</sup>



\* Excluding individuals as well as large companies (with a turnover over EUR 50 million and a number of employees over 250)

Overall, the most significant *de minimis* support programs within smart specialization areas in Vidzeme region were the following:

- By the amount of granted financial aid:
  - Regional business incubators and creative industries incubator;
  - Initiatives to strengthen the local economy;
  - Subsidized jobs for the unemployed.
- By the number of beneficiaries:
  - Support for partial repayment of credit interest to producers of primary agricultural products;
  - Short-term loans in agriculture to mitigate the pandemic effects;
  - Subsidized jobs for the unemployed.
- By the amount of granted financial aid per 1 beneficiary:

<sup>8</sup> Finanšu ministrija. De minimis atbalsta uzskaites sistēma. Pieejams: [https://deminimisnekletajs.fm.gov.lv/sadalas/komercdarbibas\\_atbalsta\\_kontrole/de\\_minimis\\_atbalsta\\_uzskaites\\_sistema/](https://deminimisnekletajs.fm.gov.lv/sadalas/komercdarbibas_atbalsta_kontrole/de_minimis_atbalsta_uzskaites_sistema/)

- Norway Financial Mechanism's program 2014-2021, Entrepreneurship Development, Innovation and Small and Medium-sized Enterprises;
- Support for the development of rural tourism;
- Support for social entrepreneurship.

### Good support practice in Vidzeme region

Since 2019, Vidzeme Planning Region offers innovation brokerage service with the aim to improve the competitiveness of remotely located SMEs by facilitating their international cooperation and innovation. This support measure has turned out to be helpful also during the pandemic when companies faced unexpected and disruptive circumstances and were looking for new supply chains, markets, sales channels, and collaboration partners.

Innovation brokerage service enables SMEs residing in a region with an inadequate innovation ecosystem to access a transnational knowledge pool provided by an extensive network of innovation actors, allowing SMEs to establish more fruitful innovation-generating partnerships. The process of cross-border partnership building is facilitated and managed by local innovation broker. Innovation broker evaluates SMEs profiles, acknowledge needs, and based on findings, offer clients the best matching partnership alternatives available in the TIBS network and provide follow-up support for value-added partnership building.

In 2021, 16 companies received consultations ensured by the VPR innovation broker. The main sectors represented were forestry/wood industry, agro/food industry, and sustainable innovation. Since 2019, Innovation brokerage services in Vidzeme region yielded following results:

- 162 SMEs contacted in total
- 46 SMEs received at least first stage broker services (SWOT analysis and corresponding recommendations), from them
- 17 SMEs had been matched by brokers with compatible businesses, and
- 7 SMEs with brokers assistance realised joint smart specialisation strategy project with partner from abroad.

Faced with the challenges posed by the Covid-19 pandemic and its impact on the economy, SMEs have been most interested in accessing funding for the development and growth, developing new products or services, and exploring new markets together with foreign partners. As a result of the Covid-19 pandemic, companies have become more interested in using and developing digital tools, realizing that IT and remote solutions are the way to reorient their business processes.

### Specialized support programs for eco-innovative companies

While there have been many general support programs to combat the pandemic effect in Latvia, no targeted programs have been identified in Vidzeme region aiming particularly



at eco-innovative companies. During the pandemic, the government decided to prioritize support for companies involved in HoReCa, tourism, on-site customer services, logistics, and other sectors, which had the greatest direct impact from the Covid-19 pandemic restrictions regarding movement of both people and goods.

At the same time, eco-innovative businesses were continued supported through implementation of various growth programs, some of which had been established before the pandemic, but some - during the crisis period. Most prominent of these programs are listed in Table 2.

*Table 2 Support programs/events promoting eco-innovations in Vidzeme region*

Name	Date	Event type	Support ↓	Eco-innovation focus areas
<b>LIAA/ALTUM investment loan with a capital discount for investments with at least 20% focused on the use of green technologies<sup>9</sup></b>	2022 Q1	Investment loan with a capital discount	30% capital discount on investment loans from EUR 10 mln (discount volume – up to EUR 10 mln)	Various areas, including: Energy storage and recovery; Development of eco-friendly materials and products; Smart mobility and clean transport; Water management; Reduction of air pollution; Waste management; Extension of product life cycle
LIAA/ALTUM investment loan with a capital discount for investments aims to support large investment projects from EUR 10 mln, where at least 20% of the investment is focused on the use of green technologies in the production of products and services or aimed at mitigating the effects of climate change. The loan will provide a capital discount of up to 30% of the total eligible investment costs, but not more than EUR 10 mln. <u>The loan program targets medium-sized and large companies.</u> Investment loans are provided for projects in priority areas of smart specialization, such as knowledge-intensive bioeconomy, biomedicine, medical technologies, pharmacy, photonics and smart materials, technologies and engineering systems, smart energy and mobility, as well as ICT.				
<b>Norwegian Financial Mechanism's program Introduction of green innovations and ICT products in production<sup>10</sup></b>	2021 - 2024	Open tender	EUR 5.8 mln for green innovation projects (EUR 200 – 600 thsnd for each, 45% – 55% of project costs)	Introduction of new products and technologies in production with reduced environmental impact in various areas of green industry innovation

<sup>9</sup> Altum. Entrepreneurs will have access to a loan with a capital discount of up to 10 million euros. Available at: <https://www.altum.lv/lv/jaunumi/uznemejiem-bus-pieejams-aizdevums-ar-kapitala-atlaidi-lidz-10-miljoniem-eiro>

<sup>10</sup> LIAA. Open competition: Introduction of green innovations and ICT products in production. Available at: <https://www.liaa.gov.lv/programmas/norvegijas-finansu-instruments/projektu-konkursi/atklats-konkurss>

Norwegian Financial Mechanism's program Application of green industry innovation and ICT products and technologies aims to increase the competitiveness of Latvian companies in the fields of green innovation and information and communication technologies. The program targets companies of all sizes. Program will accept applications during the period of 2021 – 2024. As of March of 2022, 19 projects have received support from the program. Among companies implementing these projects are SIA Ekju (for development of innovative methods for manufacturing wooden garden furniture), SIA NDB Timber (for development of a new product – wood panels – using wood waste), SIA CrossChem (for production and distribution of AdBlue, a liquid used to reduce the nitrous oxide emissions of diesel engines), as well as others.

<b>Norwegian Financial Mechanism's small grant scheme</b>	2021	Small grant scheme	EUR 850 thsnd for green innovation projects (EUR 10 – 130 thsnd for each, 35% – 70% of project costs)	Development of new products or services in various areas of green industry innovation
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Norwegian Financial Mechanism's small grant scheme Development of green innovation and ICT products aims to support development of a prototype of a new product or technology in various areas of green industry innovation, but with a restriction that the prototype is not intended for commercial use. The program targets micro, small and medium sized companies. As a result of the scheme, 12 companies received support, including SIA ZOLT (for development of an innovative construction waste removal service and logistics management platform system), SIA EMPYRIO (for development of a compact incineration system prototype for sewage sludge utilization), SIA ZELTINI (for development of a sustainable tourism and mobility solution Z-Triton DIY) and others<sup>12</sup>.

<b>EIT RawMaterials Baltic HUB Accelerator program<sup>13</sup></b>	Annual	Acceleration program	3-stage based financing support for each company: 1 <sup>st</sup> stage - EUR 15 thsnd, 2 <sup>nd</sup> stage - EUR 30 thsnd, 3 <sup>rd</sup> stage - EUR 45 thsnd	Circular economy principles; Substitution of critical and toxic materials; Recycled materials; Improved mineral and metals production; Sustainable mining
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EIT RawMaterials Baltic HUB Accelerator program, in Latvia organized in cooperation with RTU Science and Innovation Center, aims to support start-ups in development of new raw materials, focused on circular economy principles, use of recycled materials, substitution of critical and toxic materials in products and for optimized performance, improved mineral and metals production and sustainable mining. The program targets companies of all sizes. Each project will have the opportunity to receive funding support up to EUR 90 thsd.

<b>EIT Climate-KIC Acceleration program</b>	Annual	Acceleration program	3-stage based financing support for each company:	Cleantech
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<sup>11</sup> LIAA. Small grant scheme: Development of green innovation and ICT products. Available at: <https://www.liaa.gov.lv/lv/programmas/norvegijas-finansu-instruments/projektu-konkursi/neliela-apjoma-grantu-shema>

<sup>12</sup> EEA grants. Support beneficiaries. Available at: <https://eeagrants.lv/excel-export-lv/>

<sup>13</sup> RTU. RTU offers support to start-ups and innovators in the field of raw materials. Available at: <https://www.rtu.lv/lv/universitate/masu-medijiem/zinas/atvert-rtu-piedava-atbalstu-jaunuznemumiem-un-novatoriem-izravienam-izejmaterialu-nozare>

<b>Baltics &amp; Slovakia ClimAccelerator<sup>14</sup></b>	1 <sup>st</sup> stage - EUR 4 thsnd, 2 <sup>nd</sup> stage - EUR 10 thsnd, 3 <sup>rd</sup> stage - EUR 3 thsnd
<p>EIT Climate-KIC Acceleration program Baltics &amp; Slovakia ClimAccelerator aims to support growth of innovative cleantech start-ups in the region. Within the program, best start-ups are selected for further participation in a 3-stage program that provides both mentoring and financial support, as well as access to investors. <u>The acceleration program targets micro to medium-sized start-ups.</u> The program has assisted development of such Latvian cleantech startups as <u>SIA EMPYRIO</u> (development of a compact incineration system prototype for sewage sludge utilization), <u>SIA Hyrevisio</u> (development of high-resolution optical systems for water transport control systems which are effective in poor visibility conditions), <u>SIA Alternative Plants</u> (development of raw materials for natural cosmetics from plant stem cells), and others.</p>	
<b>EIT Food Test Farms program<sup>15</sup></b>	Annually      Hackaton for start-ups      EUR 3 thsd for several projects      Agritech; Sustainable food industry
<p>EIT Food Test Farms program, in Latvia organized in cooperation with RTU Science and Innovation Center, aims to serve as a matchmaking program for agricultural start-ups that are looking to validate their solutions with farmers or agricultural land to do a pilot project. <u>The program targets micro to medium sized start-ups.</u> Its goal is to aid the testing phase of products or solutions, as well as demo phase by showcasing the business to potential customers and investors.</p>	
<b>Innovation acceleration program Future Hub</b>	Annual      Acceleration program      Support for development of the prototype      Food and agrotech; Mobility, Energy and smart cities; Supply chain and logistics; Sustainable business and circular economy
<p>Innovation acceleration program Future Hub was established in 2021 by innovation consultant Helve and several banks (e.g. Swedbank Latvija, Citadele), with the aim to support sustainability start-ups in the Baltic and the Nordic region. The program is implemented in a unique matchmaking format, where start-ups are linked with specific challenges announced by large enterprises (such as Rimi Baltic, Latvenergo, Latvijas Pasts, Orkla, etc.) in order to tackle the problem with their own solution during a period of 2 months. <u>The program targets micro to medium-sized companies.</u> However, no company from Latvia actually has been selected for the participation within both 2021 Spring and Autumn rounds, as the ideas from other European countries have been acknowledged as being superior.</p>	
<b>EIT Climate-KIC project Climathon<sup>16</sup></b>	Annually      Hackaton for start-ups      EUR 1 – 2 thsnd for each of the TOP 3 ideas      Sustainable mobility; Circulation economics; Energy efficiency; Sustainable food system; Bio-waste management; Adapting to climate change in the urban environment

<sup>14</sup> Baltics & Slovakia ClimAccelerator: Accelerator for climate-positive startups. Available at: <https://balticsk-climaccelerator.eu/>

<sup>15</sup> EIT Food. Test Farms programme. Available at: <https://www.eitfood.eu/projects/test-farms>

<sup>16</sup> EIT Climate-KIC project Climathon. Available at: <https://climathon.rtu.lv/>

Hackaton Climathon is an international and annual EIT Climate-KIC project that aims to raise awareness of the challenges of climate change, as well as to support start-ups tackling sustainability challenges. The project targets individuals, micro and small companies. Each year the hackaton has a different focus. For example, in 2021, Latvia's Climathon was organized in Valmiera and Liepaja, and it focused on the challenges facing Latvia's municipalities with the goal to move towards greener and smarter urban environment. In 2021, TOP 3 ideas included promotional activities for sorting and reusing waste, intelligent microclimate solution for public historical buildings, as well as climate change modelling tool.

## Conclusions

The key conclusions from the conducted interviews with representatives of eco-innovations field in Vidzeme regions can be summed as follows:

- The challenges faced by eco-innovative companies during the Covid-19 pandemic were largely similar to those met by most companies, as they all were the cause of severe hygiene precautions and restrictions for movement of both people and cargo, thus disrupting global supply chains and creating the ripple effect in many areas;
- Nonetheless, there were challenges specific to eco-innovations field identified:
  - Inability to meet the demand for ecological materials at reasonable prices, which led to increased use of cheap, single-use plastic and other non-recyclable materials, and thus - reduced amount of potentially recyclable waste;
  - Severe regression of the waste-free movement;
  - Increased sales barriers for those lacking digital skills, but who often needed it the most, namely, small producers of items from ecological materials;
  - Shortage of parts and elements needed to develop technology-intensive products, including those needed for laboratory operations;
  - Lack of targeted support mechanisms for eco-innovative businesses to fight specifically the impact of Covid-19 pandemic, as well as limited access to support for micro and small companies;
  - Certain state-imposed barriers regarding the spending of support funding (i.e., the LIAA Innovation Vouchers support program, which restricts companies from contracting local private research institutions).

There were also several recommendations from the interviewees regarding the future support and management during crises, which were as follows:

- Reduction of the bureaucracy which arose due to continuous changes regarding restrictions and safety documentation, the monitoring and organization of which

required considerable operational costs, thus increasing the overall burden arising from the crisis;

- Careful assessment of which restrictions to actually impose on businesses, especially in cases when the support provided cannot alleviate the consequences on this interference;
- Re-evaluation of support criteria and monitoring of the actual impact of the crisis in each company, as many of those who needed the support, still did not qualify for the very specific criteria set by the state support programs.
- Creating targeted support instruments specifically for eco-innovative companies, as development of eco-innovations is much more time and technology-intensive than product or service development in traditional sectors. Much more resources are needed for research, and the outcome of the development process is not very predictable, so private investors are often cautious of such projects.

Even though the interviews conducted were focused mainly on the changes brought by the pandemic, many of the interviewees indicated that they have already managed to adapt to these changes. In addition, some interviewees expressed a high-level concern regarding the expected impact of Russia's attack on Ukraine, launched during February of 2022. As experts in a stakeholder meeting identified that the new crisis is heavier and is affecting more large scale organisations.

Based on the conclusions and recommendations above, it becomes apparent that the challenges during the pandemic were generally similar for all market participants, but each company had a unique set of circumstances they had to solve, depending on their niche, specifics of their product/services, client target segments, etc. Regarding future planning of support, it can be recommended to **develop a mechanism that would allow prompt surveying of the affected companies, quick evaluation of their needs and, preparation of an offer package**, custom to each sector, from which each company could choose a specific type of support, which they might find most useful. In addition, support levels should be differentiated according to company size, and taking into account that smaller companies are much more vulnerable, and were able to receive the support less often.

In addition, distribution of surveyed company data (i.e., what specific issues which companies are facing, and what support they need) across various market participants, would allow for **increased opportunities for inter-sector cooperation**. Because, while state and municipal support programs can offer financial support, companies from other sectors can offer specific solutions to specific problems, which the company in need often could not have imagined. A good example of this was the prompt launch of manufacture of facemasks and protective shields at the beginning of the pandemic, often from companies that previously had not done it. This was all possible because the companies were informed of the issues at hand. Therefore, there could be a great benefit if a

mechanism could be developed whereby companies can all share structured information of the issues, needs they face during crisis situations (e.g. scarcity of certain materials or parts, specific digitalization needs, lack of certain services), and receive possible solution offers from other parties.

From the partner meeting it was obtained that all countries had similar challenges caused by pandemics. However, the approach for granting the available support has been differed in different countries. For example, in Netherland, Sweden and Denmark, the support was given first and later the companies needed to prove that they met the criteria to receive the support. While in other countries, like Latvia, Lithuania and Spain the aid receivers firstly needed to prove that they eligible for aid and only then could receive it. The ease and availability of financial supports during crises was rated in two ways. First positively, since many businesses were affected negatively during the crises, the support mechanisms worked as a positive support for affected areas. On the other hand a question was raised of supporting non efficient businesses, that in normal market situation anyway would not survive, but were kept alive only thanks to available aids. For the future planning it has to be considered and created mechanisms that would directly help companies in need, but avoid over stimulating the market by keeping alive businesses that in normal market situation would not be efficient and keep their business ongoing.

One more recommendation that was discussed during the stakeholder meeting was to create a checking mechanism at national level in order to identify the approach of crises situations prior the actual crises in different industries and sectors. The data are reported regularly and are available already; the need would be in creating one time algorithm identifying signals of trouble in any industry or sector and then the support institutions could act accordingly by creating new support mechanism or adapting the existing ones. This approach of validating existing data is expected also to reduce the bureaucracy and reporting periods for applicants, since the reported data would be already available to the support providers and analysed, the applicants would not need to repeat the provision of the same information that has been already reported.