

Evaluation of GREEN GROWTH and FOOD FROM FINLAND Business Finland Programs

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FOREWORD

Business Finland's programs are strategic, time-bound initiatives designed to promote innovation, international growth, and sustainable development among Finnish companies and research organizations. These programs are a key tool in implementing Business Finland's innovation and export strategies, and they play a central role in building business capacity, boosting exports, developing expertise, and fostering networks, ecosystems, and collaborative platforms.

This evaluation focuses on two Business Finland programs that originated prior to the establishment of Business Finland in its current form. The first, Food from Finland, was launched in 2014 for the period 2014–2018 to promote food industry exports during turbulent times. The program was subsequently redesigned and extended for the period 2019–2023. The second, Green Growth, was implemented from 2011 to 2015 to support the transformation toward a more sustainable economy.

The objective of this evaluation was to provide insights into the results, relevance, added value, and long-term impacts of the two programs. Both had been evaluated previously for their results and short-term effects. However, sufficient time has now passed to allow for a deeper analysis of their long-term impacts.

The evaluation yielded solid findings and forward-looking recommendations. Long-term observations showed that participation in the programs clearly supported busi-

ness growth. In the case of Green Growth, the turnover of participating companies increased significantly more than that of a control group. For Food from Finland, export growth among participating companies outpaced that of the industry—demonstrating the value of the services provided and highlighting that active participation was a key factor in success.

The evaluation was carried out by MDI Public Oy and VTT. Business Finland extends its sincere thanks to the evaluators for their thorough work and warmly acknowledges the steering group and all contributors for their valuable input throughout the evaluation process.

Helsinki, April 2025

Business Finland

EXECUTIVE SUMMARY

Green Growth program was implemented by Tekes in 2011–2015. Its goals were to identify and support potential new growth areas in a sustainable economy based on low energy consumption and the sustainable use of natural resources. The program aimed to encourage innovations that significantly improved energy and material efficiency and to finance companies and value networks with growth potential in a resource-efficient and sustainable green economy. The aim was to identify and advance new potential growth areas thematically and in international target markets for green growth.

Food from Finland program, implemented in 2014–2023, was involved in the building of an internationally competitive and sustainable food industry in Finland. The program supported companies in increasing their exports and internationalization expertise. Finpro launched Food from Finland program and it received funding from the Ministry of Economic Affairs and Employment and the Ministry of Agriculture and Forestry. The quantitative objectives of the program included: Doubling the value of Finland's food exports to 3 billion euros, by 2025. In 2019 Food from Finland was transferred to Business Finland in the fusion of Tekes and Finpro.

Ex-post evaluation of the Green Growth program and final evaluation of the Food from Finland was implemented in the winter of 2024–2025. Evaluation examined the success of the implementation of the programs, the relevance

of the programs, the success of program continuations, the results and effects of the programs, as well as the added value of the programs. The evaluation of the Green Growth Program focused in particular on identifying the program's longer-term impacts and added value after the end of the program. In terms of the evaluation of the Food from Finland program, special interest was placed on the program activities impacts on the volume of company exports. In addition, the evaluation produces development recommendations to Business Finland for the development of program activities and the development of program themes.

On the whole, both programs answered to a clear need for intervention in their program themes. In terms of Green Growth, it was important to respond to the growth potential of future green business markets by promoting the readiness and ability of Finnish operators and preparing them to seize the opportunities associated with green business growth. Previous programmatic and other actions in the theme were mainly focused on the Cleantech sector, so in the context of the Green Growth program it was important to get a wide variety of industries involved in the change and at the same time enable new growth e.g. with legislation. The program aimed to promote systemic change by influencing societal actors and by activating and funding RDI projects that would create new innovations and green business growth for the future green markets.

Similarly, in the Food from Finland program, one of the main ideas was to expand the export of Finnish operators to new countries, when it was seen that Russian export markets were falling down in 2014. In general, the program aimed to overcome the negative trade balance of the food industry in exports and imports. It was important to open new markets, because about 30–40% of Finland's food exports were directed to Russia. It was also important to develop the ability of smaller operators in the sector to internationalize and export. Finnish food exports were generally seen as having growth potential in global markets, though some of the companies involved, however, needed significant support.

The good relevance of both programs was due to the background work that was done in the planning of both programs, where customers were consulted, market research were carried out and messages from Business Finland's fore-casting activities were taken into account.

In the implementation of the Green Growth program, Tekes promoted a new type of wide-ranging influence program, which included, in addition to its traditional RDI activities, influence actions aimed at systemic change and international influence work. In the initial years, influence work was carried out in the Green Growth program and efforts made to lay the groundwork for wider actions enabling green growth. In the second phase, in the final years, the program was shaped into a more traditional Tekes-type

program activity, as a program that funded RDI projects. The main challenge in the early years of the program, was that compared to normal Tekes program activities, the benefits did not emerge as quickly as desired. The focus was thus subsequently shifted more strongly towards RDI activities in order to generate more quickly concrete outcomes.

The Food from Finland program, was one of the first Finpro growth programs, paving the way for the subsequent development of that program concept, focusing on export activities and improving the internationalization ability of its target group. The program was divided into two phases: the first part of Food from Finland was Finpro's export promotion program, while the second was Business Finland program, which aimed to introduce a wider variety of activities and services to the program, including RDI-projects. In the Food from Finland program, the means to create the desired impacts were appropriate, though some were more effective than others. For example, catalyzing co-operation and networking events, export promotion trips and customized customer meetings on the target markets and the promotion of electronic sales have all brought success. In some of the export promotion activities however there have been no tangible longer-term benefits, with benefits remaining small and non-continuous. A certain challenge for the program was the heterogeneity of its target group, the program faced challenges serving customers in very different situations and in selling different products. Also,

the expected synergy benefits between Business Finland's RDI projects and export operations were not realized in all respects. As the program progressed, its implementation was successfully focused, in accordance with the recommendations of the previous evaluation, on the target groups that would benefit the most from the program, the most potential target markets and the most effective methods of operation.

A great success in Food from Finland program was that the important stakeholders were connected to the program implementation process well. Promoting food industry exports requires the support of food industry expert organizations and authorities, something which was specifically included in the program. The Food from Finland program also created a very efficient integration between the management of the food industry, the Food from Finland program team, and the international team of Business Finland, which in one direction brought together the resources of various actors and increased the effective implementation of the program. Good operating method was also to promote export and internationalization together with similar operators in other countries (like operators from Sweden, Denmark, Estonia and Latvia). As such, an important part of the success of program implementation here was the competence and resourcing level of the personnel involved.

Both programs have connections to previous, simultaneous and later development programmatic activities. Green Growth was followed by several different Business Finland



programs which have been connected to the sustainability theme and further promoted the growth of green business. Food from Finland, as Finpro's growth program, has produced lessons related to other growth programs and export promotion activities that have followed it, and through this the program has created its own kind of continuities.

In sum, significant lessons have been learned from the implementation of both programs. The Green Growth program can, moreover, be seen as one of the programs that influenced the shape of the current program concept. Similar features can be observed in Business Finland's current mission-related programs, which include a wide range of different types of measures. From the Food from Finland program, lessons were learned specifically about more effective ways to promote food industry exports.

The Green Growth program sparked discussion, challenged and influenced general thinking, where the promotion of green growth was sought to be extended from the cleantech sector to various industries and organizations in society. The Green Growth program served as one link in the chain, which has led to the fact that today the green transition is strongly on the agenda of Business Finland and more widely in society. The program can also be seen to have contributed to the improvement of business opportunities for green growth. In the program, interesting business models were generated and growth opportunities were opened up. The program also increased confidence in the

ability of Finnish companies to develop and commercialize interesting green solutions internationally. Considering the activities of Tekes and Business Finland, the program in its own part strengthened the status of the theme of green growth in Business Finland, something which has been further strengthened since the program ended.

In the Food from Finland program, exporting and the internationalization of companies was activated and supported, making export growth possible. The general goal of doubling food exports from 1,6 billion to 3 billion euros was however not achieved during the program, but in relation to the challenges in respect of food export activities to other countries and the challenging developments occurring in the operating environment, the growth of the industry's exports can be considered a success. The value of food exports in 2023 was approximately 2.2 billion euros. The program has made it possible for SMEs in particular to make contacts, gain access to electronic sales and marketing channels, increase visibility and thus improve their ability to export and internationalize. A key effect of the program has also been the improvement in terms of strategic understanding skills in the business field in relation to export and internationalization among the group of companies that participated in the services. The program was important platform in increasing cooperation and networking in the sector, gathering together resources and coordinating export promotion activities etc.

Both programs have had positive impacts on the business of the participating companies according to the statistical analyzes conducted. The Green Growth program supported and enabled business growth among the companies that have received funding and implemented RDI-projects. According to the statistical analysis, in terms of turnover, these companies have clearly grown more than similar reference companies. The programs benefits and impacts on business were also felt to be greater in the companies where the turnover growth has been greater. From this it can be concluded that at least part of the growth of companies is based on green business. The export development of companies participating in the Food from Finland program has been clearly better in 2014–2023 than the overall export development of food manufacturing and beverage industry. The program has been particularly successful in promoting exports to EU countries. A significant observation is that those companies that have more actively participated in the program's export promotion services have also increased their exports more. This suggests that the programs services have had an impact on the growth of international business for several companies.

The evaluation produced recommendations for Business Finland for future actions. Recommendations were made from two perspectives: thinking about the development of the programs themes and industries, and more generally about Business Finland's program activities and Business

Finland's role in innovation and RDI policy. The recommendations were related to ensuring the functionality of the innovation-commercialization-internationalization continuum in the coming years, ensuring a sufficient support structure for the promotion of food industry exports, securing the status of the programs development themes, and developing the program instrument.

1. INTRODUCTION



Business Finland and its predecessors, Tekes and Finpro, have invested significantly in R&D development work across various fields and themes, as well as promoting the commercialization and export of innovations, through program activities. Business Finland's program activities have developed over time and the programs have been shaped to the needs and opportunities of different industries and different development themes.

In recent years, the theme of sustainability and the growth of green business have risen up the economic and political agendas. Indeed, green growth is now viewed as displaying significant potential for the Finnish business sector where a carbon-neutral future and the implementation of circular economy thinking are increasingly seen as the missions guiding Business Finland's operations. However, these themes have a long history and the theme has, historically, been funded through several programs. These actions have clearly however contributed to the elevation of the theme to its current level of importance. One such program was Green Growth, implemented by Tekes in the period 2011–2015.

The food and beverages industry is an important sector of the Finnish economy and thus of Finnish society for numerous reasons. The industry is an important employer and is significant in terms of commercial volume, as well as being important in terms of national security of supply. In recent decades, the desire, across the food industry, to increase exports to other countries has become more prevalent. Finnish food products have been identified as displaying significant market strengths (e.g. on food quality and purity, and on the uniqueness of certain materials and products) generating the potential to further penetrate global markets. This initiative has clearly been driven by the current difficulties associated with exporting to the Russian market which was, historically, a prime focus of Finland's export strategy thus creating the need for the industry to expand its export target countries list. In response, Finpro launched the Food from Finland program, focusing on export growth and the internationalization of the industry. The program was implemented in the years 2014–2023. From 2019, when Finpro merged with Tekes to become Business Finland, Food from Finland was implemented in the new organization as a new program with the purpose of reflecting the diversity of Business Finland's services.





2. GOALS AND IMPLEMENTATION OF THE EVALUATION



2.1. GOALS

This Report presents the evaluation of the results and impacts of two Business Finland programs, Food from Finland (2014–2023) and Green Growth (2011–2015). In the latter case, this represents an ex-post evaluation of the program, while in the former case, it represents the final evaluation of the two-part program (Food from Finland 1, 2014–2018 and Food from Finland 2, 2019–2023).

The aim of the Green Growth Program was to identify and support potential new growth areas in a sustainable economy based on low energy consumption and the sustainable use of natural resources. The program aimed to encourage innovations that significantly improved energy and material efficiency and to finance companies and value networks with growth potential in a resource-efficient and sustainable economy. The aim was to identify new potential growth areas for sustainable business, defined by lower energy consumption and the sustainable use of natural resources, and to enable a significant increase in energy and material efficiency in production and service chains

throughout the life cycle of products. The projects funded under the program covered energy efficiency, material efficiency, bioeconomy and biomaterials, recycling, raw material recovery, waste treatment, new business models and innovative service concepts.

The total volume of the green growth program was 160 M€ (of which Tekes accounted for 129 M€). The volume of business projects was 129 M€ (of which Tekes accounted for 61 M€) and the volume of research projects 31 M€ (of which Tekes accounted for 20 M€).

The Food from Finland program was involved in the building of an internationally competitive and sustainable food industry in Finland. The program supported companies in increasing their exports and international expertise. Finpro's Food from Finland program, launched in 2014, received funding from the Ministry of Economic Affairs and Employment and the Ministry of Agriculture and Forestry. The vision of the Food from Finland program was to build an updated, renewed Finnish food economy that produces innovative, highly branded, sustainable, healthy and safe food and beverages for the international market. The program focused on the development and growth of the Finnish food industry and export promotion through high value-added branded products and services. The quantitative objectives of the program included: Doubling the value of Finland's food exports to EUR 3 billion, by 2025

In Food from Finland program, during the period 2019–2023, 31 M€ of funding was provided to 100 projects, of which 24 million was allotted to companies and 7 to research organizations. Of the company funding disbursed, about 8 M€ went to large companies. Additionally, at the very end of 2018, when the decision was made to launch a new program, 2 M€ of funding was provided to 12 projects, of which 1 million went to companies and 1 to research organizations.

The evaluation of the Green Growth Program focused in particular on identifying the program's longer-term impacts after the end of the program. Of particular interest here was the impact the program had on the operating methods and business operations of the companies involved and, more broadly, on the development of the green economy in Finland. In addition to assessing the success of the program's implementation, the evaluation of the Food from Finland program focused on assessing the success of the program transition from Finpro's Export Program (FFF 1) to the Combined Export and Innovation Program (FFF 2), which also got funding for its operational expenses from the Ministry of Agriculture and Forestry. Of particular interest here, in terms of the evaluation of the Food from Finland Program, was the effects of the program's activities on the volume of company exports.

The evaluation questions to which answers have been sought were as follows:

- What concrete results have each of the programs created, how relevant have the programs been, how well have the objectives set for the programs been achieved, and what impacts have they had?
- What was the main added value of the programs?
- What can be said about the advantages/disadvantages, results and impacts of executing programs that have a wide scope vs. narrow scope (e.g. regarding the scope of thematic focus or scale of services).
- What implications and practical recommendations can be made regarding both the extent and modus of stakeholder collaboration, to increase resource-efficiency and the footprint of Business Finland?
- For which types of goals do intensive stakeholder collaboration and partnerships particularly enhance impact, and how do they achieve this?
- What was the contribution in terms of business development, exports, jobs and internationalization for the participating companies?
- Regarding implementation and program services, what has worked well and what has not, with reasons explained. What were the mechanisms of impact in respect of the successful services?
- What were the critical bottlenecks or obstacles, if any?

- How does the perspective of sustainable development manifest itself in the programs and in the results and impacts attained?
- Regarding the Food from Finland program during the period 2019–2023, how well are the notes and recommendations from the previous evaluation reflected in its implementation and results?

The Green Growth program ended almost 10 years ago and was originally evaluated in 2017¹. As a result, this evaluation has not sought to assess the success of the way the program was implemented, the nature of network cooperation or the effectiveness of services. However, this evaluation has used Natural Language Processing (NLP) analysis to examine the project reports (interim reports and final reports) of the companies in the Green Growth program, based on the project achievements and the factors that have promoted and hindered the attainment of project objectives at the project level. Correspondingly, in the evaluation of the Food from Finland program, special attention has been paid to the impacts of no funding services and the program continuum (transition from FFF1 program promoting exports to the Business Finland program (FFF2)).

1 Luoma ym. 2017. Innovation for sustainable growth. Evaluation of Tekes Cleantech programs Climbus, Densy, Groove, Freen Growth, EVE and Green Mining. Tekes Report 1/2017.

2.2. DATA AND METHODS

Various qualitative and quantitative data and methods were used in the work. The most important data sources used were the Business Finland project and funding database and Business Finland CRM. In addition, reports relating to the preparation, running and evaluation of programs (including interim and final reports), project funding data and data on services were also used in the evaluation. Finally, Business Finland also provided useful data on companies' financial statements and annual export volumes for the statistical analysis.

The main methods used were as follows:

Statistical impact analysis: The main econometric methods used in the evaluation of the Green Growth program were Matching and Difference-in-differences analysis. Matching is an approach designed to render the treatment group (program participants) and the control group (non-participating firms) similar, based on their known characteristics. Coarsened exact matching was used in matching firms. Difference-in-differences analysis tracks how much the growth of the financial indicators differs between the participating and the control firms. The growth is based on comparing the indicator distributions (medians, percentiles) of the participating and control groups

form before and after joining the program (we also assign control group firms to the corresponding years as they would have participated). The methods used are described in greater detail in chapter 3.3.

Another statistical analysis concerned the export development of companies that participated in the Food from Finland program. The analysis looked at the development of companies' exports during Food from Finland part 1 and part 2 in the years 2014-2023. The review took into account both the development of exports as a whole and the development of exports to EU countries. At the same time, the analysis compared whether there were differences in the export development of companies that participated in the program's non-funding services with different intensity, and on the other hand, whether the export development of companies that received funding and implemented projects differed from those that did not. The results of this analysis are presented in chapters 4.4.2 and 4.4.3.

Advanced Text Analytics: The Advanced Text Analytics method, leveraging cutting-edge artificial intelligence, was used to analyze Business Finland's monitoring data, such as project reports, through advanced Natural Language Processing (NLP) and Large Language Models (LLMs). This approach systematically processes and interprets extensive textual data to uncover hidden patterns, trends, and insights that traditional analysis might miss. The primary

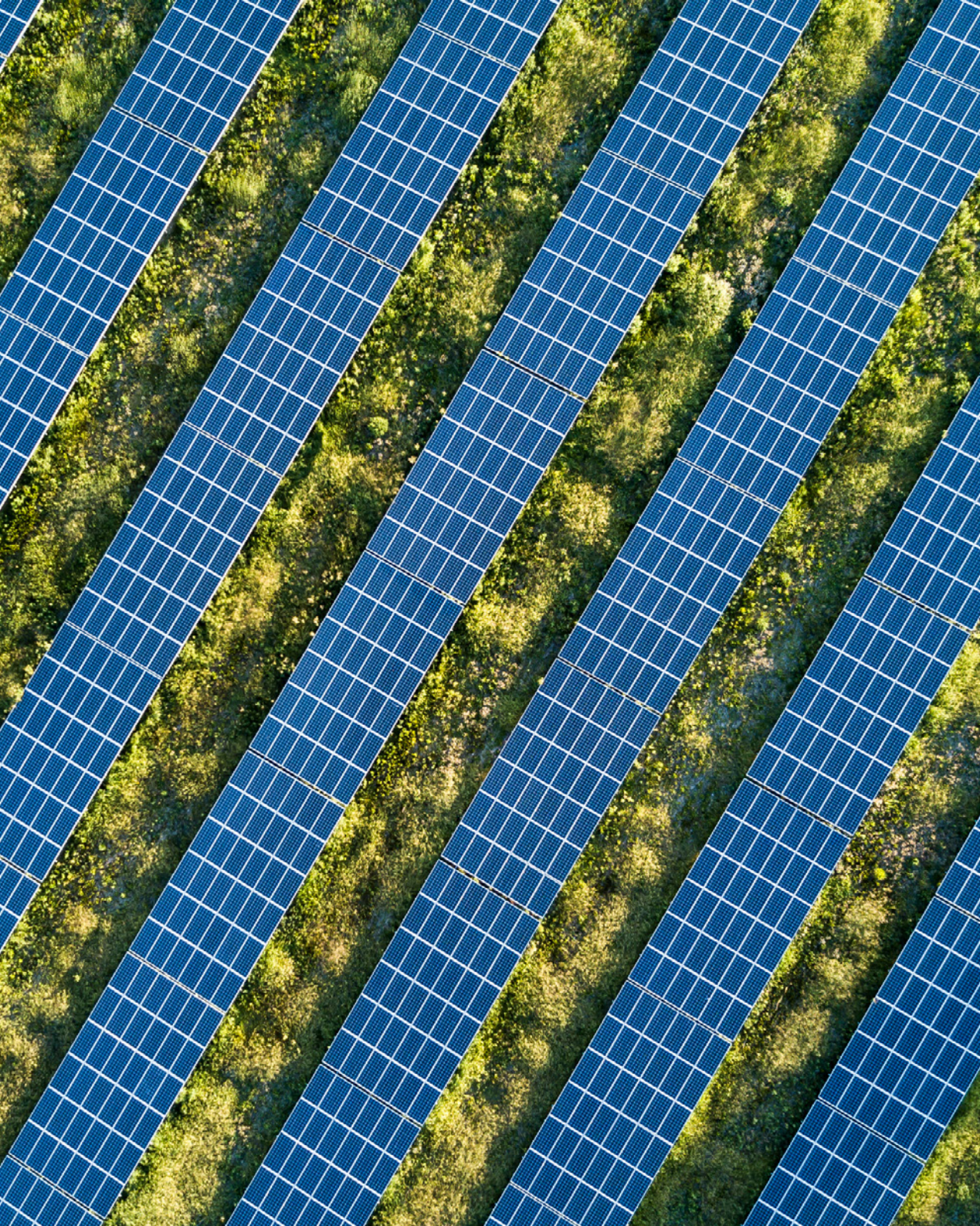
goal is to evaluate the alignment between the objectives outlined in funded proposals and the actual outcomes attained, quantifying impacts according to predefined Key Performance Indicators (KPIs) related to business development, exports, job creation and internationalization. The methodology involves refining an NLP-based impact assessment framework, training an NLP model to classify and pinpoint specific disclosures of impact within reports, and integrating these findings with statistical data for a comprehensive understanding of the programs' impacts. This approach also facilitates the identification of early signals of impact throughout the project's duration, enabling a more proactive assessment of potential long-term effects, thereby generating valuable insights to inform future program development and enhance the strategic relevance of Business Finland's initiatives. The method is described more thoroughly in chapter 5.

Interviews. Thematic interviews were used to explore the views of the program staff, Business Finland experts, key stakeholders and other experts on the implementation of the programs (incl. best practices and challenges), results and impacts and added value, as well as development needs. The interviews were divided into initial exploratory 'in-depth' interviews and later 'expert' interviews. These sessions were carried out as semi-structured thematic interviews. A total of 17 interviews were conducted of which 11

concerned the Food from Finland program and 6 the Green Growth program. The interviewees were selected in collaboration with Business Finland.

Survey Electronic surveys were used to evaluate, among other things, the effectiveness of the Food from Finland program and project implementation, results and impacts, best practices and development needs. The survey regarding the Green Growth program focused on the longer-term impacts and added value of the program from the perspective of the organizations that implemented projects and the green growth theme more generally. The surveys were conducted electronically via *Webropol*, adhering to standard survey research methods, such as the pre-testing of the questionnaires. The survey's target groups and response percentages are shown below:

- Project implementers of the Green Growth program: 83/269 (some email addresses were no longer active) (Response rate 31%)
- Food from Finland project implementing companies: 41/115 (Response rate 36%)
- Food from Finland program research project implementers: 9/22 (Response rate 41%)
- Companies that used the non-funding export services of the Food from Finland program: 94/494 (Response rate 19%)



Literature analysis. All previously produced materials, such as program planning and development documents, reports, statistics, interim reports and monitoring data etc., as well as relevant recent research related to the themes of the programs were also analyzed in the evaluation. A document analysis, conducted as a desk study, was undertaken to map an overall picture of the development of the operating environment, objectives and execution of the programs, as well as to assess the background, implementation concept, results and added value of the evaluated programs. The outcomes of this phase were also used in subsequent phases to refine the needs in respect of primary Advanced Text Analytics data collection.

Case-studies. The mechanisms of impact generated by Business Finland program actions are often complex, lengthy and difficult to grasp. Case studies can be used to examine and describe this complex dynamic, particularly in terms of indirect effects, long impact chains and the externalities generated by program activities. Case studies were used to describe, from the perspective of different types of companies, the various aspects on which the funding and non-funding export services have had an impact and how effects related to company growth have begun to emerge. For each case study, a representative of the company was interviewed, survey data was utilized and all available material related to the case company examined. 0.5–1 page written descriptions of these case studies were produced for this final report.

3. EX-POST-EVALUATION OF THE GREEN GROWTH (2011–2015) PROGRAM



The Green Growth Program operated in the field of the green economy, focusing on solutions for the sustainable use of energy and natural resources, aiming to create new business and growth by reconciling the economy, the environment and people's needs. The vision of the program was to make Finland the world's leading expert on the sustainable use of energy and natural resources, enabling Finnish companies to gain a competitive advantage in the global market.

The aim of the Green Growth Program was to identify and support potential new growth areas in a sustainable economy based on low energy consumption and the sustainable use of natural resources. The program aimed to encourage innovations that significantly improve energy and material efficiency and to finance companies and value networks with growth potential in a resource-efficient and sustainable economy. The aim was to identify new potential growth areas for sustainable business, defined by lower energy consumption and sustainable use of natural resources, and to enable a significant increase in energy and material efficiency in production and service chains across the life cycle of products.

The main program customers were SMEs seeking growth or business renewal in the face of changing energy and raw material prices, laws and regulations. The target customers also included research institutes producing foresight data and new areas of expertise, as well as public actors and third-sector organizations that wanted to create new models of an eco-efficient society.

The program's customers represented a wide range of industries. The program's projects were implemented quite widely by organizations from various types of industries. Together, the projects were implemented by organizations from 39 different industries (TOL 2008 2-digit level industry). The largest number of projects were implemented by 72 Scientific research and development organizations, 85 Educational organizations (Universities, universities of applied sciences, research institutes) and 71 Architectural and engineering services; technical testing and analysis industry organizations and 28 Other machinery and equipment manufacturing industry organizations.

The program particularly targeted companies that were looking for new ways of operating in green economic growth or who wanted to renew their business in line with the ideas associated with sustainable development. The projects funded under the program covered energy efficiency, material efficiency, bioeconomy and biomaterials, recycling, raw material recovery, waste treatment, new business models and innovative service concepts.



GREEN GROWTH PROGRAM IN A NUTSHELL (LUOMA ET. AL. 2017)²

Objectives

- To identify potential new growth areas for sustainable economy business that were based on lower energy consumption and the sustainable use of natural resources.
- A leap forward in energy use and the material efficiency of production and service chains over the entire lifespan of products.

Focus areas

- Energy and material efficiency.
- Bioeconomy and biomaterials.
- Recycling, recovery of raw materials and waste processing.
- Business models, service concepts and comprehensive solutions.

Total volume

The total volume of the program 160 million euros, out of which Tekes funded 129 million euros. Volume of company projects was 129 million euros, out of which Tekes funded 61 million euros). Of this Tekes funding, 27 million euros was loan to the companies and 33 million euros was grant for the companies. Volume of research projects was 31 million euros, out of which Tekes funded 20 million euros.

Projects

149 company projects (with 126 companies) 70 research projects (with 23 public organizations).

Target customers

Companies seeking growth or renewal of their business in the face of changing energy and raw material prices, laws and regulations.

Participating companies and research organizations

41 large companies, 11 medium-sized companies, 19 small companies, 55 micro companies and 23 public organizations.

² Luoma, Päivi, Lauri Larvus, Mari Hjelt, Juha Vanhanen, Minna Päällysaho, Elina Heikinheimo, Mikko Kara, Katriina Simola and Scot Harder (2017). Innovation for sustainable growth Evaluation of Tekes Cleantech programs Climbus, Densy, Groove, Green Growth EVE and green Mining. Tekes Report 1/2017

3.1. RESULTS AND IMPACTS BASED ON PREVIOUS DATA

Based on the evaluation produced by Luoma et al. (2027), the Green Growth Program successfully accelerated market access for many participating companies. This was mainly due to funding, but also to international activities and business coaching provided as a program service. The program also accelerated the creation of new solutions and business development, as program funding enabled greater risk-taking in both projects and business development. Based on the business survey conducted in the evaluation, the funding and services of the program affected the companies' own RDI activities, specifically by increasing their RDI investments and resources and by enabling customer-oriented pilots and demonstrations. In terms of competence and networking, the program's funding and services contributed to strengthening business expertise and strategic vision and enabled new strategic partnerships. To some extent, the program was also seen to have clarified the prerequisites for companies' international growth, enabling the introduction of new internal business practices and creating new, more broadly defined business ecosystems.

Based on the results of the evaluation the focus of the program on developing business models seemed to be one reason for the high share of market acceleration. In addition, piloting, demonstration and business scale-up were

also in focus, as well as supporting the commercialization of developed solutions. One of the significant benefits of program participation was greater credibility in the eyes of customers and potential funders, as many companies were looking for funding for their growth (Luoma et al. 2017).

According to the evaluation, an important program outcome was the active interaction between a variety of green growth actors in Finland and internationally to find synergies between different technologies and service activities. Green Growth program company participants, especially the large players, viewed the enabling of cooperation between large companies and SMEs and between companies and research organizations to support the creation of ecosystems as the primary program benefit. Sharing examples of success stories and growth opportunities at various program events seemed to have catalyzed the development of business ecosystems and the building of confidence in the ability of the Finnish business ecosystem to produce globally marketable technology and business solutions (Luoma et al. 2017).

Summary of the Green Growth program (Luoma et al. 2017).

- Timed well to take advantage of the global drivers and to support the strategic choices of Finland and Tekes
- Hand-picking of potential businesses and projects inside Tekes' portfolio and elsewhere as well as acti-

vation of companies brought in customers with interesting business models and growth prospects

- There are several examples of business innovation that can be traced back to the program, their potential for international growth will be seen in the coming years
- Many of the solutions developed have remarkable material and energy efficiency benefit potential
- However, many other factors, including regulatory development, have also contributed to the development
- Increased RDI resources, specifically helped to accelerate market entry, which is crucial in this fast-changing market environment
- Interaction between a variety of green growth actors in Finland and internationally
- Defined future needs (such as digital cleantech) that were elaborated to further Tekes' activities
- Built confidence in the ability of Finnish business ecosystem, also SMEs, to produce globally marketable cleantech solutions
- However, the concrete synergy between companies and projects in the program as well as the systematics to link to other national activities could have been improved
- The continued development of wider systemic outcomes, organizational impacts, cooperation and

innovation platforms, and business ecosystems remains however difficult to identify and track

3.2. THE PROGRAMS ADDED VALUE AND THE SUSTAINABILITY OF IMPACTS ON THE PARTICIPATING COMPANIES, AS WELL AS THE ADDED VALUE IN THE DEVELOPMENT OF THE GREEN ECONOMY

The projects of the Green Growth program were very broadly targeted across the different focus areas of the program. Relatively speaking, according to Business Finland project database, the projects were more focused on environmentally-friendly themes than on energy use. In the projects aimed at the environment, the most effort was put into developing environmentally-friendly products and processes (34.6% of the projects), solutions related to waste management, by-products, and recycling (27.0% of the projects), and solutions for mitigating and adapting to climate change (13.3%). Conversely, the projects focused on energy were primarily directed towards industrial energy use (15.6%), bioenergy (13.3%), and the energy use of waste (8.1%) and buildings and households (7.6%).

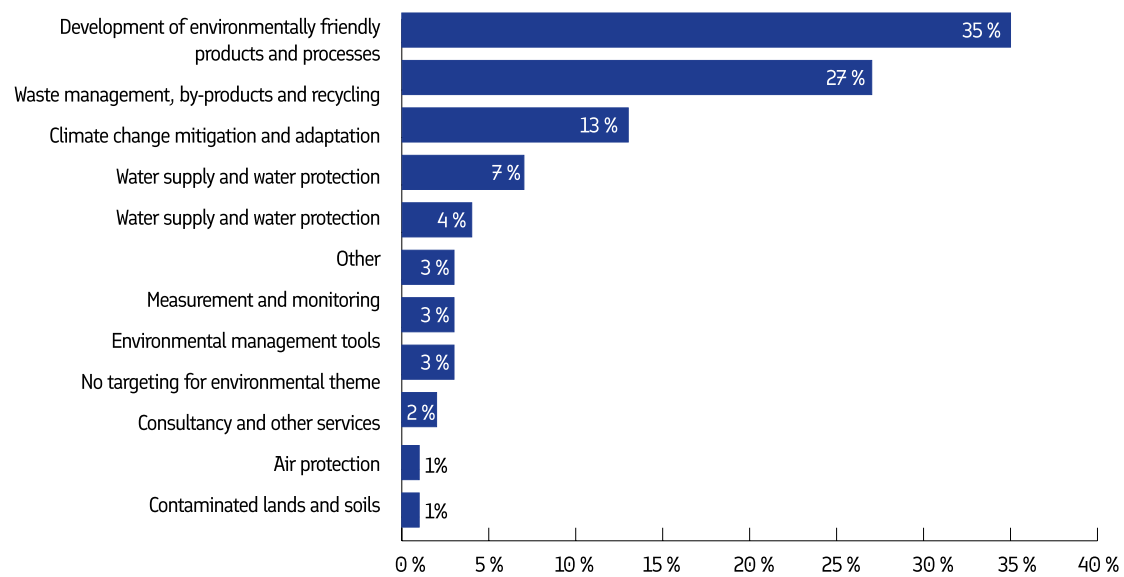


FIGURE 1. THE TARGETING OF GREEN GROWTH PROGRAM PROJECTS ACROSS DIFFERENT BUSINESS FINLAND'S DEFINED ENVIRONMENTAL THEMES. SHARE OF PROJECTS THAT REPORTED THAT THE PROJECT FOCUSED ON A CERTAIN THEME.



3.2.1. FINDINGS FROM THE PROJECT SURVEY AND INTERVIEWS

The long-term impacts of the Green Growth program in relation to the goals of the program were investigated by means of an electronic survey directed at the companies and research institutes that had received project funding in the program. The questionnaire was sent to all project managers and contact persons of the program’s projects (a total of 219 projects, of which 149 were business projects and 70 research institute projects). A total of 83 replies were received. 47 replies were received from companies and 36 from research institutes. Thus, the response rate from the projects was 38%. The number of responses can be considered quite good, as more than 10 years have passed since the end of the program. Questionnaires were sent to the e-mail addresses utilized during the implementation of the program and the project. As such, it is very likely that a large number of the surveys sent did not reach their intended respondents, as many people have certainly changed their email addresses over the past 10 years. Dozens of anonymous email addresses were returned, but there is no exact information on how many surveys reached the respondent. Therefore, the exact response rate cannot be determined.

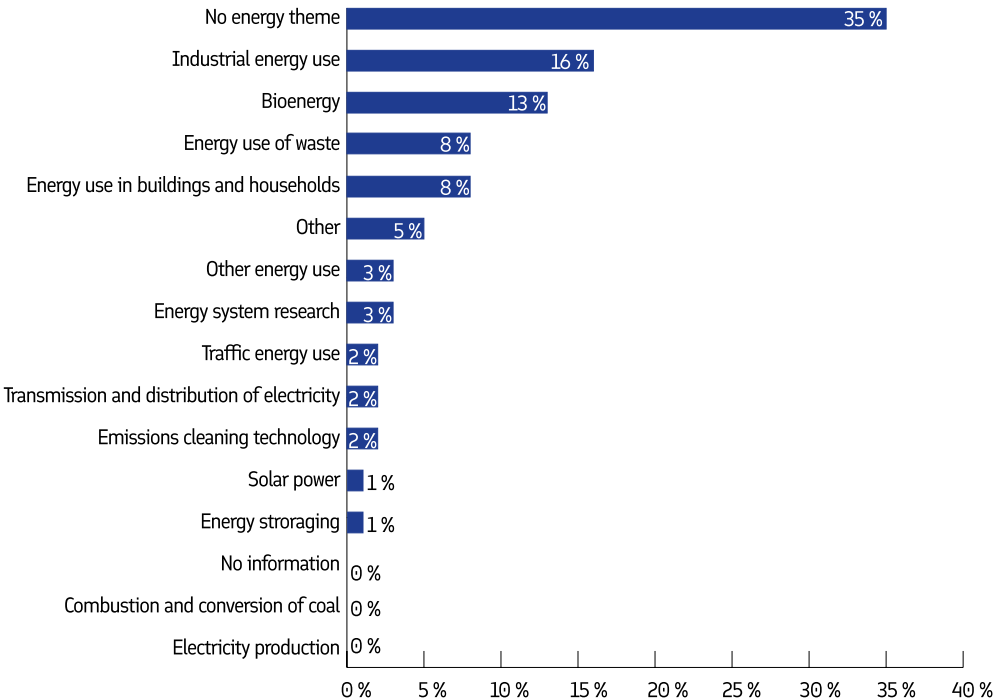


FIGURE 2. THE TARGETING OF GREEN GROWTH PROGRAM PROJECTS ACROSS DIFFERENT BUSINESS FINLAND’S DE-FINED ENERGY THEMES. SHARE OF PROJECTS THAT REPORTED THAT THE PROJECT FOCUSED ON A CERTAIN THEME.

However, the results of the survey strongly indicate that the program and the project implemented in it have promoted the growth of business based on lower energy consumption and the sustainable use of natural resources, as well as strengthening the prerequisites for international growth in the organizations involved. Less than half of the respondents estimated that the program had had a great

or very large impact on them. Of the themes asked, the effects of the program/project on strengthening interaction between green growth actors in Finland and internationally were assessed as the most positive. 60% of all respondents felt that such interactions had been strengthened a lot or very much.

The program is also estimated to have had a moderate impact on the change in strategy and business models towards lower energy consumption and the sustainable use of natural resources, as well as on improved energy and material efficiency. As a rule, it is clear that the effects on international growth and the efficiency of production and service chains, for example, are perceived by companies as greater than those of research institutes. Indeed, the answers from the research institutes state that the impact of an individual project on the research institute’s own business, energy or material efficiency, etc. was very small, especially since research projects rarely redevelop the research institute’s own operations, focusing instead on solutions to the needs of business life.

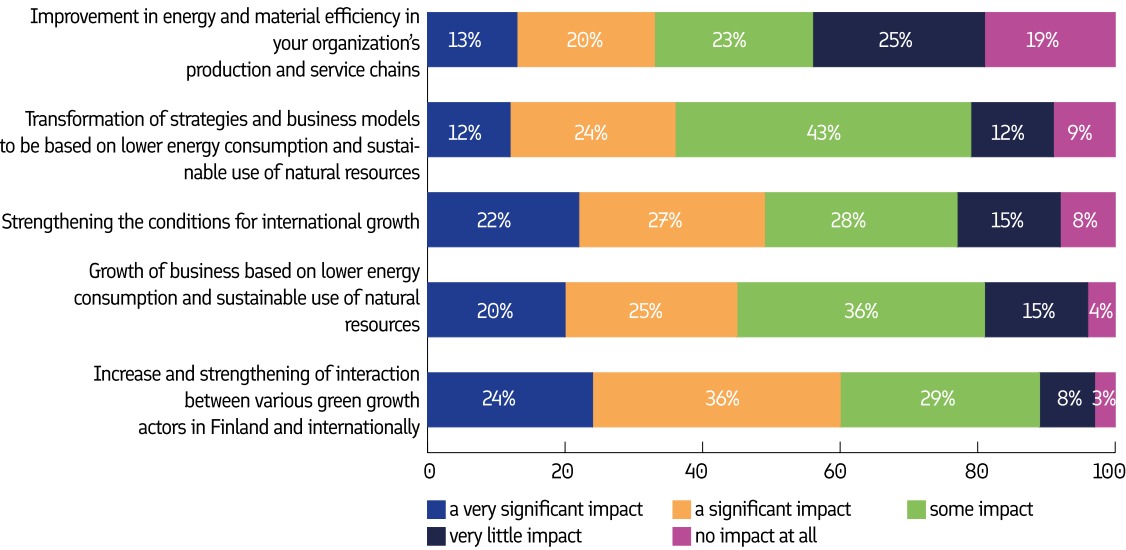


FIGURE 3. HOW DO YOU ASSESS AFTERWARDS THE LONG-TERM IMPACT AND ADDED VALUE OF THE GREEN GROWTH PROGRAM AND YOUR PROJECT IN YOUR ORGANISATION ON THE FOLLOWING OBJECTIVES OF THE PROGRAM (N=83)

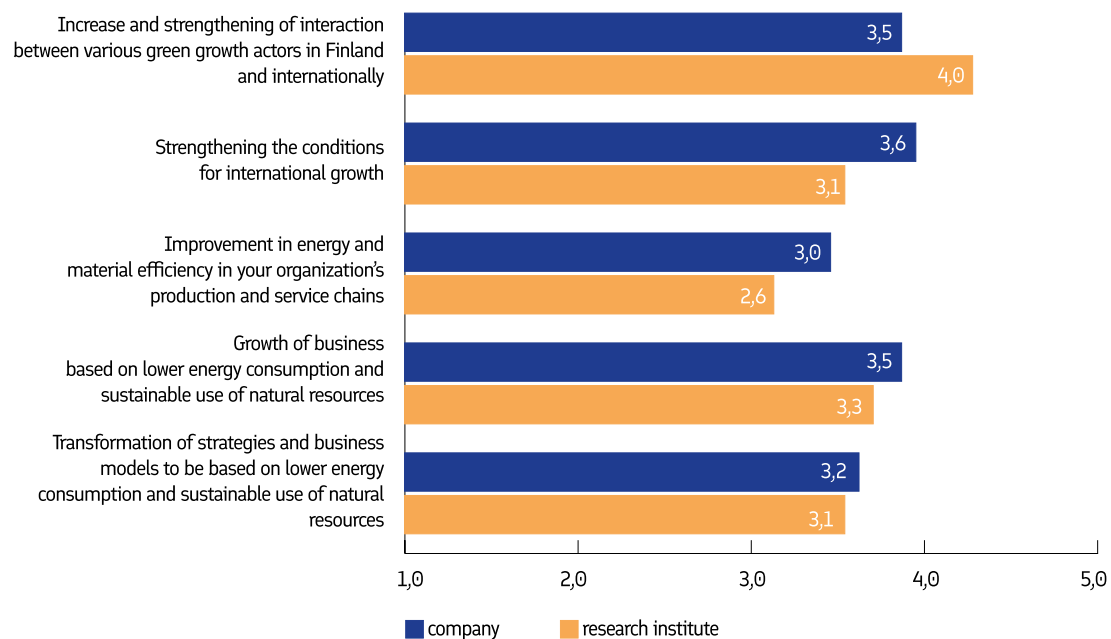


FIGURE 4. HOW DO YOU ASSESS AFTERWARDS THE LONG-TERM IMPACT AND ADDED VALUE OF THE GREEN GROWTH PROGRAM AND YOUR PROJECT IN YOUR ORGANISATION ON THE FOLLOWING OBJECTIVES OF THE PROGRAM (N=83)

Based on respondents' views, the long-term added value of the Green Growth program is particularly evident in the strengthening of cooperation between large companies and SMEs, as well as between companies and research organizations. It also enhances business opportunities created by the green transition, the growth of business and R&D activities based on energy efficiency and the sustainable use of natural resources, and the improved ability of Finnish companies to develop and commercialize solutions based on the sustainable use of natural resources. The added value brought by the program is perceived however as slightly less significant in the creation of development platforms and business ecosystems, as well as in the generation of socially significant energy and material efficiency benefits.

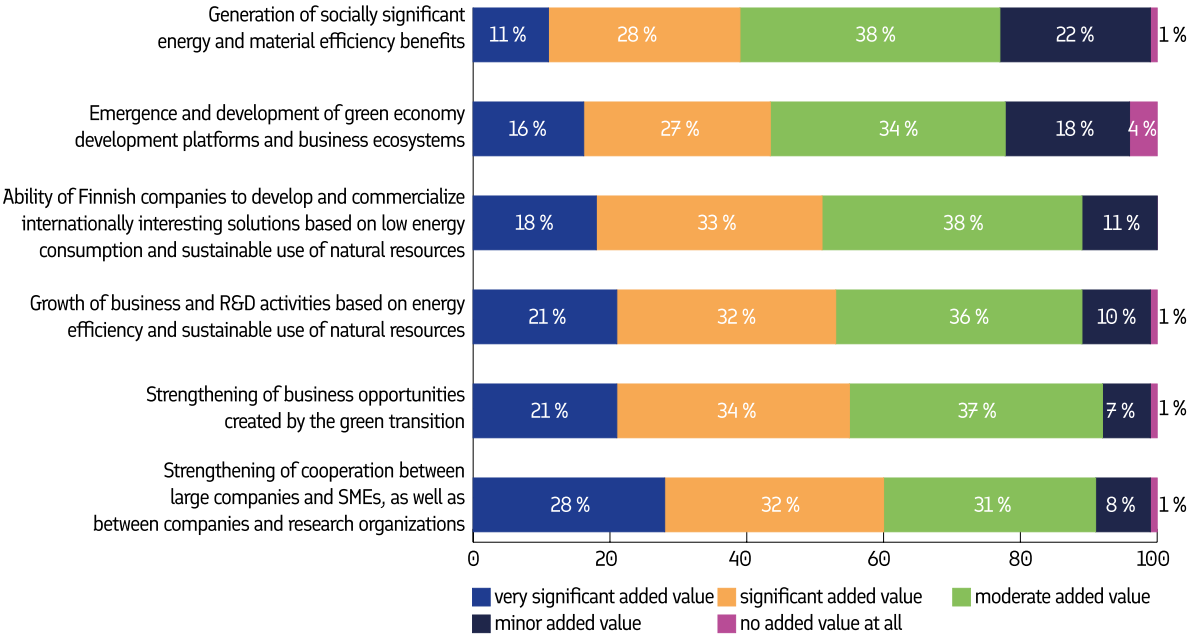


FIGURE 5. HOW DO YOU RETROSPECTIVELY ASSESS THE ADDED VALUE OF THE GREEN GROWTH PROGRAM IN THE BROADER DEVELOPMENT OF THE GREEN ECONOMY IN THE FOLLOWING AREAS (N=83)



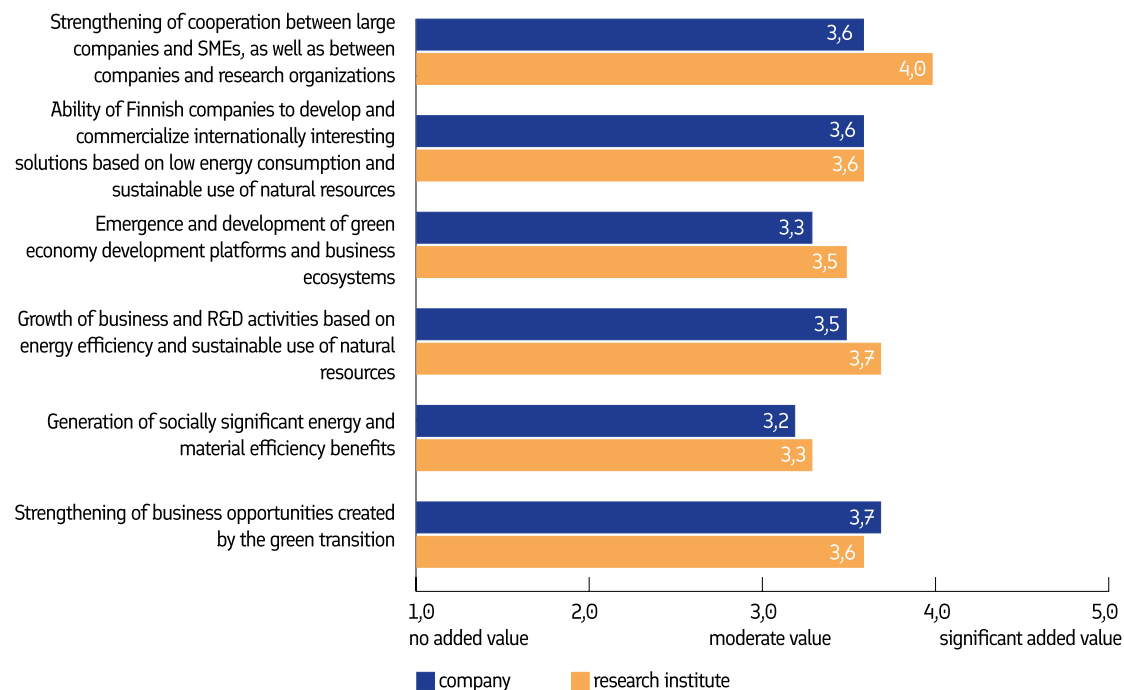


FIGURE 6. HOW DO YOU RETROSPECTIVELY ASSESS THE ADDED VALUE OF THE GREEN GROWTH PROGRAM IN THE BROADER DEVELOPMENT OF THE GREEN ECONOMY IN THE FOLLOWING AREAS (N=83)

The interviews carried out in the evaluation support the survey’s picture of the long-term effects and added value of the program. Green Growth has been a foundation strengthening and path-opening program for enabling green growth and increasing the credibility of business opportunities in relation to the topic. The program strengthened the under-

standing of what kinds of growth opportunities there would be in green business and alerted companies into thinking about how it applies to their current and potential future business operations. The program was able to increase theme-related cooperation among various actors and to create a basis for ecosystem-like thinking in the theme of green growth.

In addition, the program also opened up thinking in Tekes regarding the program concept itself. In the Green Growth program, a wider range of activities related to the theme at Tekes were brought together into a larger whole. In addition to the traditional technology-focused R&D activities, the programs could also do more extensive things to promote business growth. The program went from the traditional level of technology development to the level of broader business model development and towards the solving of societal challenges. The broad theme of the program, which crosses industry sectors and technology themes and the promotion of more systemic change in society and businesses, was new for Tekes. The focus of the program is one of the first examples of the strengthening of Business Finland’s current mission thinking.

OPEN RESPONSES AND VIEWS ON THE PROGRAM FROM THE SURVEY

RESEARCH INSTITUTES

For research institutes, the Green Growth program provided an opportunity for networking and enabled the emergence of new research topics. The program helped research organizations to gather together networks of actors and to create and facilitate international contacts. The project in the program has also served as a reference for new international research consortia and at the same time strengthened the capacity to implement international projects. In their responses, representatives of research institutes emphasized that the development work began in the projects helped to identify the needs in terms of further research subsequently giving rise to several follow-up projects that were later to be transformed into commercial activities. The program's projects yielded many results, which have served as the starting point for subsequent projects and for the implementation of the results. Through the program, many research directions have gained international visibility.

The program is also considered to have had a significant impact on the creation of a competence cluster related to circular economy materials technology. Finland is currently considered to be among the world's top experts in this field. In addition, it is seen that the information produced in the program's projects has increased awareness of, for exam-

ple, taking sustainable development values into account in the stakeholders involved (companies - research institutes - funders).

As a whole, the significant added value here is considered to be that cooperation with companies in research projects has been able to influence the understanding of business solutions based on energy efficiency and thus promote the creation of green business. For example, one project was carried out with cleantech SMEs, in which companies and stakeholders were already at a high level in terms of the sustainable development business. Nevertheless, progress was made during the project, and through communication, the results were also successfully disseminated to Finnish cleantech networks, research communities and decision-makers, including Parliament. The effects were positive and attracted widespread interest when the results were communicated.

COMPANIES

The participating companies who responded to the Green Growth program survey view that the program as a whole was successful and well-timed in relation to the requirements of the operating environment. The contacts and cooperation networks gained during the program are considered first-class and are seen to also generate added value in the long term. The program played an important role in the current situation as regards support for sustain-

able growth. The program also provided an opportunity to exclude business choices that were not identified as having potential. On the other hand, criticism was levelled at the fact that the projects could have focused even more concretely on the growth of companies' business operations nationally and internationally.

The projects developed solutions related to low energy consumption, the sustainable use of natural resources and energy efficiency, which have been utilized both directly in the companies' business operations and later, for example, in the large-scale utilization of circular economy raw material flows and in the creation of new products and business areas. The results of the projects, such as solutions for waste treatment and material recovery, will also be applied in new areas that were not originally the subject of the projects.

“Without this project, our company would not have reached the position we are in today.”

“Without the support of Tekes and Business Finland as an enabler of our international growth, our company would not be a multinational group company today. The support of Tekes and Business Finland has been invaluable to us.”

An unfavorable investment climate during the Green Growth program was cited as an obstacle to the spread of several of solutions created and to business growth more generally. It was also thought that some of the companies

involved in the program did not yet recognize the huge potential associated with green economy growth during the program and therefore failed to make the transition to real green business. In addition, it should be noted that the creation of material efficiency benefits and business based on it often takes a long time. Although the program and projects effectively developed the right kind of energy-efficient and green technology, it may take decades for it to scale into successful business ventures

3.3. STATISTICAL IMPACT ANALYSIS

Based on the 2017 assessment, the Green Growth program successfully supported potential growth companies in a sustainable economy, and it was estimated that interesting business models and growth opportunities had emerged as a result. A significant level of expectation was also attached to the future business growth of these companies. The following is an ex-post evaluation of the companies' business development based on a comparative design based on the companies' financial statement data 5 and 8 years after the start of the Green Growth program.

THE ECONOMIC IMPACT OF THE GREEN GROWTH PROGRAM ON PARTICIPATING FIRMS

The economic impacts investigated included the effects of participation in the program on companies' revenue growth and changes in profitability (operating profit %). These were seen as key economic indicators, given that the program aims to change strategy and operating models, leading to international business growth. The impacts are examined in the long term, five and eight years after the company starts the Green Growth program. The starting point is calculated from the date of the first funding decision. There are 120 companies that participated in the Green Growth program and have available financial statements.

The analysis is based on a comparative framework, where the situation of Green Growth program participants is compared to a counterfactual situation in which the participants did not participate in the program. The potential comparison group consists of non-participants from the same industries who applied for funding from Business Finland (either approved or rejected) during the program period (2011–2015). There are 3 900 such companies.

In addition to financial statements, the analysis also considered basic information about the companies (e.g., main industry, year of establishment) and information on other Business Finland financing for both Green Growth companies and potential controls.

Additionally, responses to a survey conducted as part of this evaluation are available for those Green Growth companies that participated in the survey. For these companies, the analysis examines whether objectively measured economic developments support the companies' views on the positive impacts of the Green Growth program.

METHODOLOGY

To ensure a reliable comparison between companies participating in the Green Growth program and those not participating, they should match each other based on known characteristics. Fundamentally, all companies in the comparison are growth-oriented, seeking Business Finland's funding services, and thus resemble each other more closely than random companies outside Business Finland's clientele. In addition to this, they are matched based on the following criteria:

Revenue in the initial year of Green Growth program participation, classified into four groups: revenue under 100 000 euros, between 100 000 and 1 million euros, over 1 million euros up to 10 million euros, and over 10 million euros.

Industry classification according to Statistics Finland's TOL2008 down to two digits.

Company age in the initial year of the Green Growth program participation divided into two groups: less than 4 years old and at least 4 years old.

Other Business Finland funding divided into four groups: 1. No other funding at all, 2. Other funding in the initial year of Green Growth program participation or in the previous three years, but not after that, 3. Other funding after the initial year of Green Growth program participation up to the year under review, 4. Other funding in the initial year of Green Growth program participation or in the previous three years and other funding after the initial year up to the year under review.

Coarsened exact matching (CEM) was used based on the above-mentioned matching criteria. This method stratifies companies into matching groups (strata in CEM). Companies are matched if the stratum contains both Green Growth and control group companies. In coarsened exact matching, all possible control group companies in the same stratum serve as controls for a given company. The figures of the control companies are weighted in the comparison so that the distribution of control group companies across strata exactly matches the distribution of the matched Green Growth companies. This is different from some other matching methods that form comparison pairs. The advantage of this approach is that the control group consists of a much larger number of companies than a pairwise comparison, which significantly reduces the impact of random variation on the comparison results.

In this way, the majority of Green Growth companies, for which sufficient data is available, are matched. A small

proportion of Green Growth companies remain unmatched because no control can be found based on the above criteria. The most common reason for Green Growth companies' unmatched status is incomplete financial statements, for example, if the company has been sold or closed.

Potential control group companies naturally do not have a start year in the Green Growth program. A possible start year can be any of the years from 2011–2015, for which sufficient financial statements are available five or eight years later. Since the year is a matching criterion, the Green Growth company and their controls have the same 'start year'. This eliminates, for example, the impact of industry cycles on the comparison results.

Changes in revenue and profitability typically exhibit variability and extreme cases. Therefore, it is more reliable to compare the median rather than the average differences in growth or change. The Mann-Whitney U test is used as the statistical test for the significance of the difference. The hypothesis is that, since the Green Growth program is an initiative aimed at business growth, revenue growth and profitability change can be expected to be greater in companies participating in the Green Growth program. Therefore, a one-sided test is used, and the statistical significance metric p-value is based on it.

CHANGE IN REVENUE

The revenue of companies participating in the Green Growth program grew more than that of the control group. Over a five-year period, the median revenue growth for matched companies participating in the Green Growth program ($n=79$) was 27.5%, whereas the median revenue growth for the corresponding matched control companies ($n=920$) was 19.9% over the same period. However, the positive difference is not statistically significant ($p=0.14$).

When examining companies that participated in the Green Growth program and also received Business Finland funding in other forms, the difference after five years is even more pronounced. For such companies ($n=68$), the median revenue growth was 42.7%. For those that received other Business Finland funding but did not participate in Green Growth ($n=792$), the median revenue growth was 23.3%. The difference between Green Growth program participants and control group is statistically indicative ($p=0.052$).

Over an eight-year period, the median revenue growth for companies participating in the Green Growth program ($n=65$) was 77.5%, while it was 17.1% for those not participating ($n=863$). The difference is statistically significant ($p=0.006$). For companies that received other funding and participated in the Green Growth program ($n=58$), revenue grew by 81.5%, compared to 20.0% for non-participants ($n=785$). The difference in revenue growth between Green

Growth program companies and control group is statistically significant ($p=0.004$).

This result is consistent with the earlier observation made in connection with the Business Finland Programs Advancing Digitalization evaluation (2021). The earlier observation being that greatest impacts are seen in companies that make diverse use of Business Finland funding services.

The results also suggest that the growth of companies participating in the Green Growth program has accelerated over time compared to similar companies that did not participate in the program. We compared Green Growth companies that had received other funding and had revenue data both five years and eight years following Green Growth funding to their controls. These are exactly the same companies over the different periods. The median growth for Green Growth companies was 42.7% after five years and 81.4% after eight years. The growth for the control companies was 14.2% after five years and 20.2% after eight years. This indicates that Green Growth companies have grown faster and their growth has accelerated compared to similar companies receiving Business Finland funding that did not participate in the Green Growth program.

	NUMBER OF COMPANIES	MEDIAN OPERATING PROFIT % IN THE YEAR OF FUNDING DECISION	MEDIAN OPERATING PROFIT % FIVE YEARS LATER	MEDIAN CHANGE OVER FIVE YEARS	MEDIAN OPERATING PROFIT % EIGHT YEARS LATER	MEDIAN CHANGE OVER EIGHT YEARS
Green Growth participants	58	1.4 %	1.1 %	+0.1 %	1.1 %	-0.2 %
Control group	757	2.2 %	3.4 %	+1.1 %	2.5 %	+0.8 %

TABLE 1. OPERATING PROFIT PERCENTAGE AND ITS CHANGE AMONG THOSE GREEN GROWTH COMPANIES THAT RECEIVED OTHER FUNDING AND THEIR CONTROL GROUP COMPANIES

CHANGE IN PROFITABILITY

The change in profitability was measured using the change in the operating profit percentage (operating profit/revenue). Table 1 illustrates the operating profit percentage and its change among those Green Growth companies that received other funding and their controls. The analysis includes companies with available financial statements five and eight years after the start of the Green Growth company's program participation.

The result indicates that the revenue growth of Green Growth companies has not translated into profitability.

THE CONNECTION BETWEEN COMPANIES' PERCEIVED SIGNIFICANCE OF PARTICIPATION IN THE GREEN GROWTH PROGRAM AND OBJECTIVE ECONOMIC DEVELOPMENT

Of the survey respondents, 35 companies had available financial statements eight years after the start of their participation. Respondents were divided into two groups for each response. The first group included those who had experienced a significant impact or added value (options: very much or much impact or added value). The second group included those who had experienced modest impact or added value (options: moderately, somewhat, or no impact or added value).

Clear differences are observed in four statements: 1) changes in strategy and business models towards more sustainable energy consumption and natural resource use,



2) strengthening the conditions for international growth, 3) increased and strengthened interaction between various green growth actors in Finland and internationally, and 4) strengthening of business opportunities created by the green transition. Those who perceived the impact or added value as significant in these statements showed greater revenue growth than those who did not. Due to the small number of respondents, only the impacts related to the conditions for international growth are statistically significant ($p=0.028$, Mann-Whitney U test). This impact is the only one where a difference is also seen in the change in the operating profit %, which is also statistically significant ($p=0.030$).

Companies that reported gaining significant benefits from the Green Growth program in key business areas such as strategy and business model changes, international growth, increased interaction and strengthening of business opportunities have also benefited financially, as measured objectively. Conversely, companies that have successfully grown, attribute their success to the support provided by the Green Growth program. On the other hand, there was no observed connection between the companies' financial development and other statements from the survey that were less directly related to the company.

SIGNIFICANCE OF IMPACT OR ADDED VALUE	CHANGE IN STRATEGY AND BUSINESS MODELS TOWARDS MORE SUSTAINABLE ENERGY CONSUMPTION AND USE OF NATURAL RESOURCES	STRENGTHENING CONDITIONS FOR INTERNATIONAL GROWTH	INCREASED AND STRENGTHENED INTERACTION BETWEEN VARIOUS GREEN GROWTH ACTORS IN FINLAND AND INTERNATIONALLY.	STRENGTHENING OF BUSINESS OPPORTUNITIES CREATED BY THE GREEN TRANSITION
Number of respondents				
Significant impact	14	20	21	20
Modest impact	21	14	14	14
Revenue growth (%) in eight years				
Significant impact	206.5 %	206.5 %*	108.4 %	112.8 %
Modest impact	51.5 %	33.4 %	67.9 %	67.9 %
Operating profit change in eight years				
Significant impact	-0.8 %	2.8 %*	0.0 %	0.0 %
Modest impact	-1.4 %	-2.0 %	-3.4 %	-2.0 %

* Difference statistically significant

TABLE 2. RESULTS OF THE COMBINED ANALYSIS OF THE SURVEY RESULTS AND FINANCIAL STATEMENT DATA.

CONCLUSIONS:

Companies participating in the Green Growth program have increased their revenue more significantly than comparable companies that did not participate in the program. The difference is, moreover, most pronounced in companies that

have also received other Business Finland funding. This difference has grown over time.

A comparison with the survey responses shows that those companies who perceived the Green Growth pro-

gram to have positively impacted their development grew faster, as measured objectively, than those who perceived the program's benefits to be less significant. The positive impact is particularly evident in promoting the effects of international growth.

Although positive impacts are observed in revenue growth, this growth has not however resulted in a positive change in profitability for the companies participating in the program over the eight-year review period.

3.4. OVERALL EVALUATION OF THE GREEN GROWTH PROGRAM

The Green Growth program aimed to activate a transition towards greener business models across various industries and value networks in Finland, while fostering the development of sustainable solutions that would find lasting success, particularly in international target markets (e.g. the BRICS countries).

Prior to this program, similar public-sector initiatives in relation to the sustainable business theme had been initiated during the first decade of the century. For example, the Cleantech theme was strongly featured in the late 2000s. However, the Green Growth program sought to drive change more comprehensively by emphasizing cross-industry networks and ecosystems (beyond just the so-called cleantech sectors), legislation, broader understanding, and

the inclusion of a wide range of societal actors. It was also important to be able to show that green growth really had potential and that Finns would have the opportunity to get business growth related to the theme through their skills and abilities. The goal of the program was to promote the creation of concrete solutions and to create new business related to the theme. Another key element of the program was to develop and prepare the ground for Finnish operators to successfully target international markets (e.g. the Brics countries, with India in particular seen as a potential target country).

In hindsight, the program was in many aspects well timed when thinking about the program focus, and in some respects, it can be considered to have been ahead of its time in view of subsequent developments after the program ended. While the program helped lay the foundations for the growing focus on green transitions, its immediate impact during its operational period may not have been as substantial as it might have been in the following years in what would have been a more favorable context. On the one hand, the program certainly proved to be a useful continuation of previous activities in concretizing sustainability thinking for different types of businesses as it helped open various industry sectors to open their thinking to green growth initiatives.

The Green Growth program had two phases. During the initial years, it focused on advocacy and on laying

the groundwork for broader green growth initiatives. This approach was somewhat new for Tekes, as the program sought to drive systemic change. The impact-creating tools of the program were also broader than in traditional Tekes RDI funding programs.

The program's original intent was to initiate broad actions across various themes and sectors and then narrow the focus down to the most impactful areas towards the end of the program. In the early years, the program sought to engage a wide range of stakeholders (companies, government agencies and the third sector), address legislative bottlenecks and establish international relationships with target markets. However, compared to traditional Tekes programs, the focus of the early years of the program proved to be somewhat vague, with concrete benefits slow to materialize.

As planned, in its later years, the program however evolved into a more traditional Tekes program that focused on funding RDI projects. In the second phase, the emphasis shifted more towards traditional RDI activities and the development of tangible solutions. It was thus seen as particularly important to create more concrete innovations, solutions and services as well as business models in the final years of the program. It was also important to achieve concrete business impacts and show that it was possible to achieve green growth.

An earlier evaluation indicated that the Green Growth program generated interesting business models and growth opportunities that were expected to lead to further growth. It increased trust in the ability of Finnish cleantech companies to develop and commercialize internationally appealing solutions. According to the evaluation, however, it was unclear whether the program succeeded in creating concrete synergies among participating companies and projects.

From today's perspective and reflecting the findings of this evaluation, it seems that the program did indeed strengthen cooperation between larger and smaller companies, as well as between companies and research organizations, in the green growth theme. According to the evaluation survey, the program increased interaction between organizations and enabled the creation of synergy benefits. The Green Growth program has also strengthened the opportunities for green business in Finland and strengthened the conditions for the development of business operations.

According to the company level statistical impact analysis, companies that participated in the Green Growth program have grown in terms of turnover more than similar Business Finland funding applicant companies. This is particularly so among companies that received other Business Finland funding, in addition to their Green Growth

program funding. Growth has also occurred more often in those companies where the benefits of the Green Growth program are perceived to be greater. This suggests that the program has supported and enabled these companies' growth. The turnover growth has not however resulted in a positive change in profitability for the companies participating in the Green Growth program.

Overall, the program's ambition level was very high, aiming for changes that were challenging to attain, particularly given that the context was less ready for such transitions than it is today. The program's early implementation also represented a new type of broader, systemic change effort, which provided Tekes with valuable lessons, including insights into mission-oriented approaches.

The Green Growth program sparked discussion, challenged existing views, and influenced thinking by broadening the concept of green growth from cleantech to other industries. The program contributed to shaping the content of two government programs and, more broadly, to the development of this theme. It also fostered closer collaboration and interaction between different stakeholders, something which has been reflected, to some extent, in the enabling of international cooperation. Furthermore, the program is seen as having improved business opportunities in green growth. Within Tekes and Business Finland, the program strengthened the status of the green growth theme, which has gained even more prominence since the program's conclusion.

The added value of the Green Growth program has been reflected over the past decade in the strengthening of the green growth theme and its integration into thinking across a range of industries.

4. FINAL EVALUATION OF THE FOOD FROM FINLAND (2014–2023) PROGRAM



The Food from Finland program (2014–2023) was involved in the effort to build an internationally competitive and sustainable food industry in Finland. The program supported companies in increasing their exports and international expertise. Finpro's Food from Finland program, launched in 2014, received funding from the Ministry of Economic Affairs and Employment and the Ministry of Agriculture and Forestry. The vision of the Food from Finland program was to build an updated, renewed Finnish food economy that produces innovative, highly branded, responsible, healthy and safe food and beverages for the international market.

STARTING POINTS FOR THE LAUNCH OF THE FOOD FROM FINLAND PROGRAM

The planning of the Food from Finland program 2014–18 (FFF1) began with a preliminary study carried out in January–March 2014, in which 61 companies participated. The companies interviewed showed very strong support for the creation of the program, with the preliminary study showing a high level of interest in the export program,

especially among SMEs. SMEs wanted the state to play a more active role, especially in the early stages of exports, as the high initial costs associated with exporting reduced the incentive to make the necessary investments. For large companies, views were more divided (Härmälä et al. 2020),

One of the basic reasons for launching the Food from Finland program was the foreign trade deficit of 2.7 billion euros. When the program was planned, the value of Finland's food exports was 1.6 billion euros, while the value of imports was approximately 4.3 billion euros. It was therefore necessary to close the gap between imports and exports. The need for increased exports was also due to the fact that the domestic food industry faced tougher competition from food imports, as imports placed domestic products in a tough situation in respect of price competition. Secondly, Finnish food exports depended on a few central export markets, with Russia, Sweden, Estonia and Germany accounting for more than 50% of Finland's total food exports. Dependence on the Russian market in particular was very high (Härmälä et al. 2020).

After the annexation of Crimea in 2014, the international sanctions imposed on Russia placed the entire value chain, especially the dairy, meat and fish sectors, in a difficult situation. New markets were therefore urgently required. Thirdly, exports are needed for the overall growth of the sector, as the domestic market is small, highly concentrated and growth stagnant. Fourthly, however, when

the program was designed, only about 12–13% of Finnish food SMEs operated on the international market. In general, SMEs in the food sector were not well equipped to export. SMEs in particular needed to internationalize and increase exports. In many countries, similar programs have been in place for years, while in Finland, investments in food exports had been very limited and operations were fragmented until 2014. The Food from Finland 2 program (FFF2) was based on continuing the work done in the first program. Finland's domestic market was still small, so the need for exports remained high. In addition, there was a need to increase the added value of Finnish food production. Global trends, such as the focus on healthiness and the growing importance of food safety, also favor Finnish food exports (Härmälä et al. 2020).

The Food from Finland program consisted of two separate programs, Food from Finland 1 (2014–2018) and Food from Finland 2 (2019–2023), which formed an uninterrupted continuation of the program of the same name. Food from Finland 1 was an export promotion program launched before Business Finland was established, while Food from Finland 2 was formed into the Business Finland program, combining the export promotion activities of the previous Finpro program (horizon 1) with RDI funding and international competence development (horizon 2) and the development of new international food ecosystems (horizon 3). The Food from Finland 2 program

thus continued to implement the Horizon 1 activities of the Food from Finland 1 program, which operated purely as an export program, (growing the current business by increasing exports).

The Food from Finland program focused on the development and growth of the Finnish food industry and the promotion of exports through high value-added branded products and services. The objectives were as follows:

- Doubling the value of Finland's food exports to 3 billion euros by 2025
- Increasing the added value of Finnish export foods
- Increasing the share of small businesses operating in international markets from 16% to 25%
- Increasing the export and internationalization expertise of food companies
- Improving Finland's quality image and awareness of Finnish food products in target markets
- Enhancing cooperation and networking between businesses and other food business operators
- Increase cooperation with universities and research organizations in Finland and abroad, especially in Asia
- Creating 5 000 new jobs in the Finnish food sector
- Providing funding services to food businesses
- Overall, the aim of the program was to reduce the high dependence of Finnish food exports on individual markets (Russia) and to develop exports from Finland into a more balanced target market portfolio.

The original general objective was also to increase the share of export-oriented SMEs (small and medium-sized enterprises), increase their ability to operate in international markets and raise Finland's image as a country of origin in international food markets.

The program's measures included supporting food ecosystems and food innovations, expanding branding and international business expertise, and promoting cooperation and concrete export promotion activities in selected target markets. Export and internationalization services were linked to Business Finland's innovation funding. The target group of the program was Finnish food and beverage manufacturers who favor healthy, safe and innovative products.

4.1. PROGRAM FUNDING AND NON-FUNDING SERVICES AND CUSTOMERS

FOOD FROM FINLAND PROGRAM CUSTOMERS

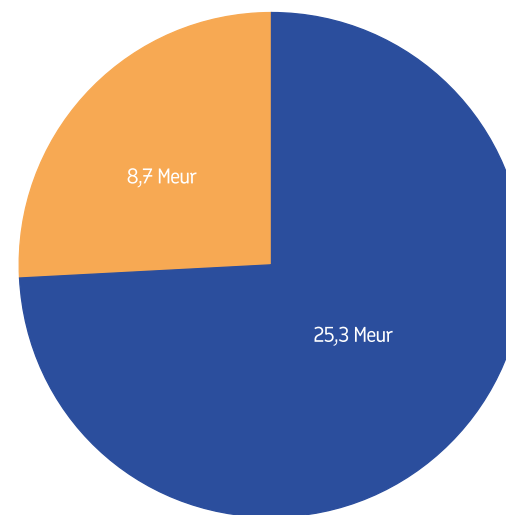
A total of 189 companies were customers of the Food from Finland 1 program, of which 117 were actual program members and 108 active non-funding service participants. There were 30 members who were however not active in the last few years of the program. In addition, 51 companies participated in the program activities (participated a few times).

According to Business Finland's CRM, Food from Finland 2 non-funding services were used by 1 100 different organizations. Thus, a large number of companies other than program customers also participated in the program's services. Based on CRM data, only a small percentage of all Food from Finland 2 companies did not participate in the non-funding services at all. These were mainly companies that had either a development project funded by Business Finland or financial support from the Ministry of Agriculture and Forestry. There were 27 actual designated key customers in the program and 83 organizations implemented development projects.

Of the companies participating in the Food from Finland 1 program, 156 used the non-funding services provided by the Food from Finland 2 program, so roughly 83 per cent of the companies participating in the Food from Finland 1 program also used the services provided by the Food from Finland 2 program. Of these, 19 companies had a Business Finland funded project in Food from Finland 2. Additionally, 29 of the companies involved in Food from Finland 1 program, received other financial support from the Ministry of Agriculture and Forestry.

PROJECT FUNDING FOR FOOD FROM FINLAND PROGRAM PROJECTS

While the Food from Finland 1 program was purely focused on non-funding export services, in the Food from Finland 2 program innovation projects funded by Business Finland were also implemented. Several companies that received in Food from Finland 2 program Business Finland's funding, received also subsidies granted by the Ministry of Agriculture and Forestry. These additional funds were used to companies in food production. A total of 116 projects were implemented under the Food from Finland 2 program with funding from Business Finland, implemented by a total of 73 companies and 10 research institutes. Business Finland's total funding for projects amounted to more than 34 million euros, of which 25.3 million euros (74.2%) was allocated to business projects and 8.8 million euros (25.7%) to research institute projects. Of the funding directed at the companies, 8,9 million euros were loans and 16.5 million euros grants.



■ Companies (73) ■ Research institutes (10)

FIGURE 7. BUSINESS FINLAND'S FUNDING FOR FOOD FROM FINLAND 2 PROGRAM PROJECTS

Business Finland's project funding services became part of the Food from Finland program in its second period 2019–2023, as Business Finland had been formed through a merger of Tekes and Finpro. Business Finland's project funding connected to the program was granted over a period of six years (including 2018) totaling 34 million euros. The total costs of these projects were 67 million euros (including BF funding and recipients' own matching funding). The funding volume was at its highest in 2020, when Business Finland granted project funding of more than 15 million euros and the total project funding was almost 30 million euros. Also in 2019, 2022 and 2023, the funding volume has been higher than other years.

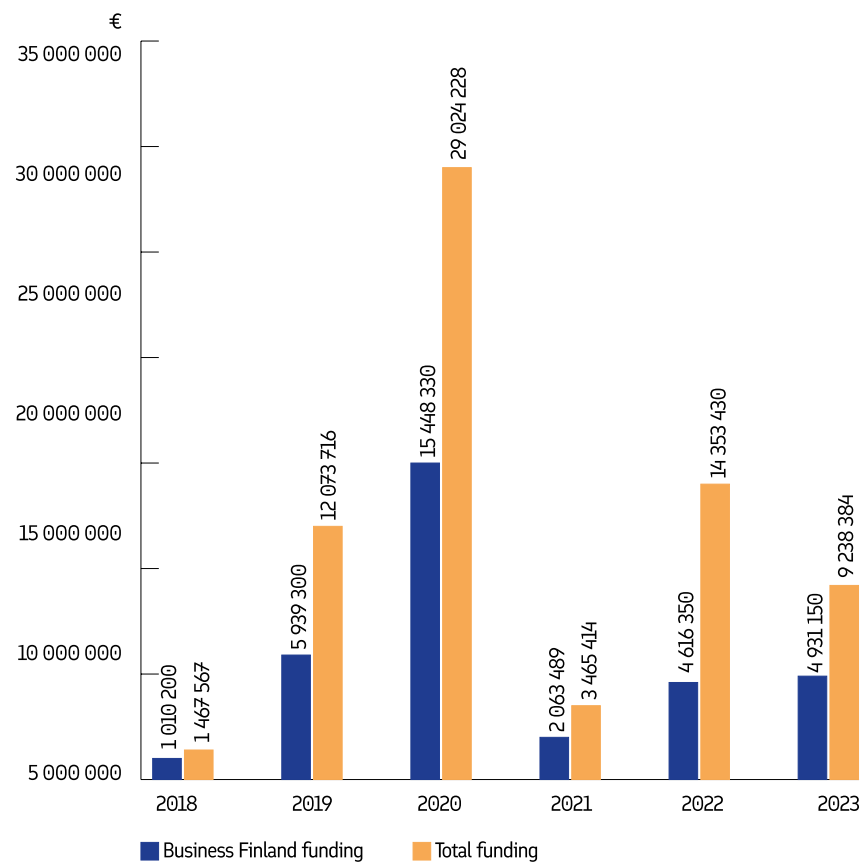


FIGURE 8. BUSINESS FINLAND FUNDING AND TOTAL PROJECT VOLUME FOR PROJECTS.



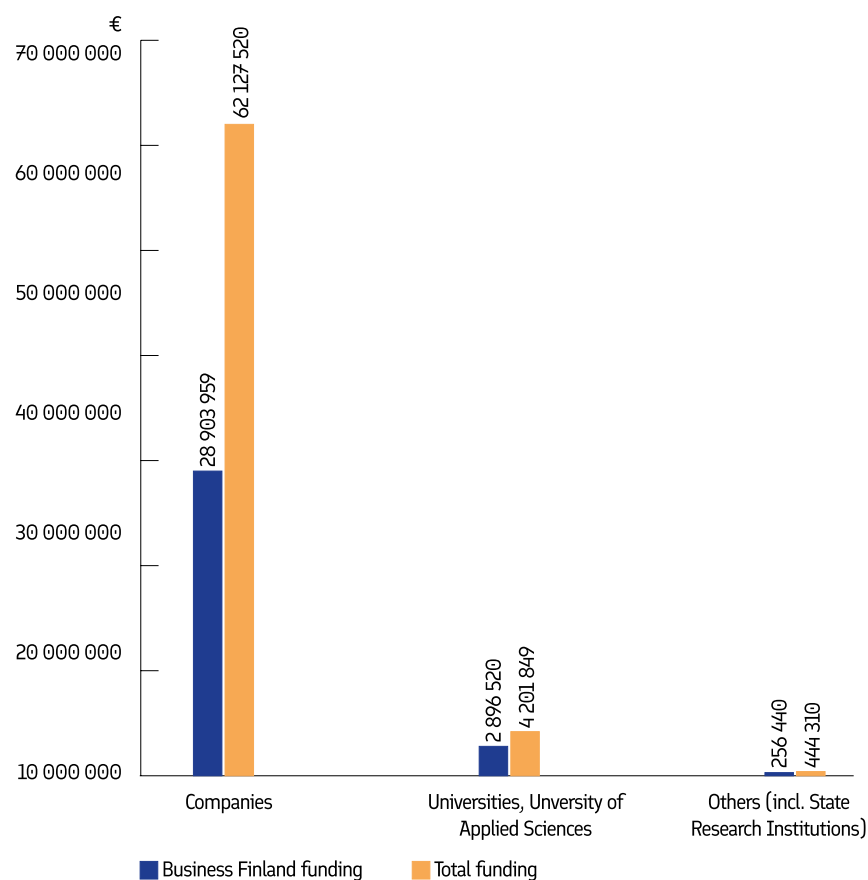


FIGURE 9. BUSINESS FINLAND FUNDING AND TOTAL FUNDING FOR DIFFERENT TYPES OF ORGANISATION.

Clearly, most of Business Finland’s funding has been granted to companies. The companies have received 90 % of the funding. The share of other project implementers, such as universities and universities of applied sciences, has been less than 10 %.

The Food from Finland program was co-financed by Business Finland and the Ministry of Agriculture and Forestry, with the ministry’s financial contribution being for programs operational expenses. Additionally, separately from the program, the Ministry of Agriculture and Forestry has funded companies that were part of the Food from Finland program with the investment support of the Rural Development Program for Mainland Finland 2014–2020 and the following 2021–2027 program. The Ministry of Agriculture and Forestry funding for the companies was not part of the Food from Finland program project funding. However, due to its relatively large volume, also this funding is given consideration to in this report.

Of the companies participating in the Food from Finland 2 program, a total of 38 enterprises used business support granted to enterprises by the Ministry of Agriculture and Forestry. During the duration of the program, the total amount of funding for companies totaled 26.8 million euros, i.e. slightly higher than Business Finland’s funding for the program’s business projects.

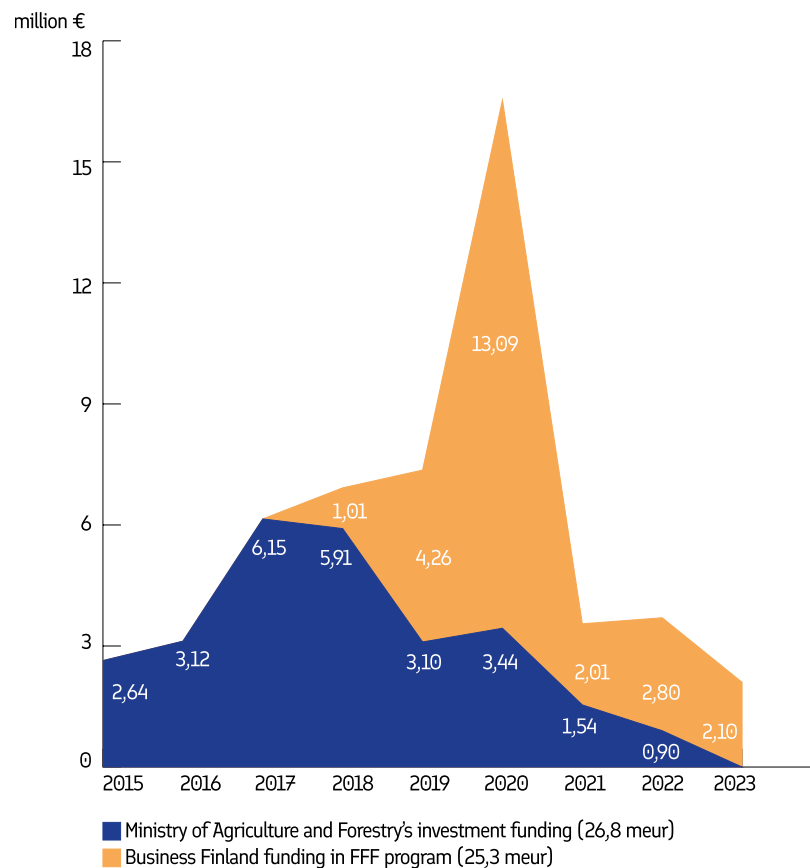


FIGURE 10. PUBLIC SUPPORT FROM THE MINISTRY OF AGRICULTURE TO FOOD FROM FINLAND 2 COMPANIES AND BUSINESS FINLAND FUNDING TO FOOD FROM FINLAND 2 PROJECTS.

EXPORT PROMOTING AND OTHER NON-FUNDING SERVICES IN FOOD FROM FINLAND PROGRAM

Key elements of the Food from Finland 1 program were events such as trade fairs, buyer visits and training sessions. Other program activities in Food from Finland 1 included: networking events, delegations, the creation of a market information database and the China e-commerce project, as well as marketing, communications and PR. Some of the program's events, such as training, were organized in Finland, but most of the activities were organized in the target markets to meet customers. The events and their training were open to all companies in the fields, but the member companies had the privilege to participate. In the Food from Finland 1 program, the training sessions were free of charge, while companies were expected to cover about 50 per cent of the costs of participating in the fair.

In addition to the above activities, Food from Finland 1.0 supported the establishment of three clusters (oats and oat products, berries and berry products and alcoholic beverages) and organized cluster-specific activities, particularly in target markets

Based on Business Finland's CRM data, approximately 1 100 different organizations used the non-funding services provided by the Food from Finland 2 program. Based on this, a large number of service users were not customers closely involved in the Food from Finland program. In total, the Food from Finland 2 program has provided both its own services and other services to 3 149 customers. Of these, 1 673 people participated in program activities and 1 476 participants in other Business Finland activities.

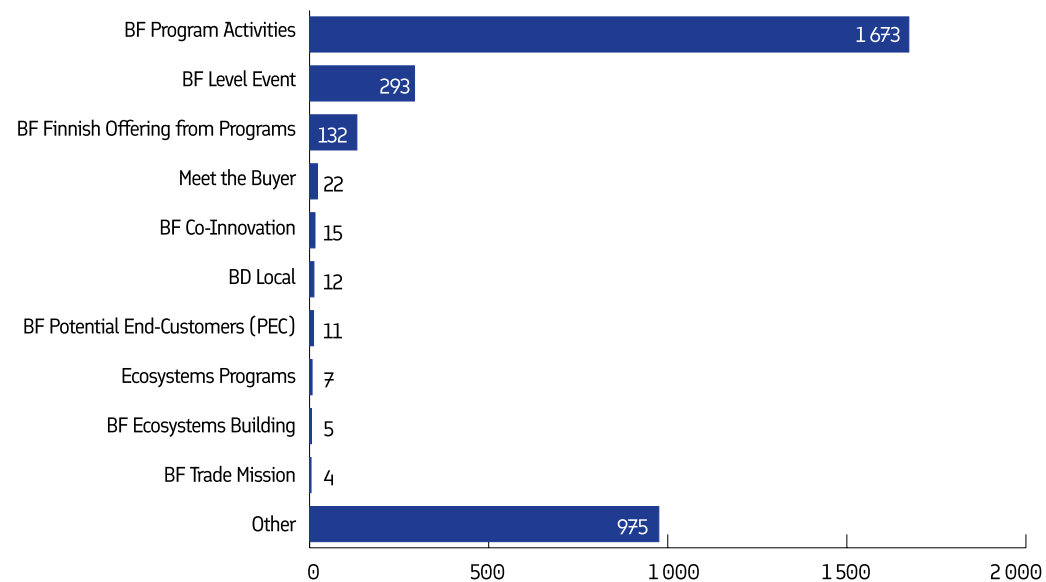


FIGURE 11. USE OF FOOD FROM FINLAND 2 PROGRAM ACTIVITIES BY NON-FUNDING SERVICE CATEGORY

According to CRM data, there were a total of 128 different types of activities in the Food from Finland 2 program. The most popular activities in terms of the number of participants were webinars, networking events, business match-making and fairs.



4.2. SUCCESS OF PROGRAM IMPLEMENTATION AND APPROPRIATENESS AND RELEVANCE OF THE PROGRAM

4.2.1. SUCCESS OF IMPLEMENTATION BASED ON PREVIOUS EVALUATION

Food for Finland 1 was evaluated in 2019 with the evaluation report³ published in 2020 under the title, Evaluation of Food Export Programs. The evaluation was carried out immediately after the end of Food from Finland 1 and the start of the Food from Finland 2 program in 2020. Thus, it can be considered as a mid-term evaluation of the entire Food from Finland program 2014–2023.

The main findings of the evaluation were that there was a clear need for the program, which has continued and strengthened since the Food from Finland 1 program was concluded. Program non-funding services had also proved relevant and useful for the participating companies. Based on the feedback from the companies, they particularly appreciated the concrete approach and market-oriented activities of the program, as well as the fairs and buyer meetings in particular, though the stakeholders' views on the added value of trade fairs were rather critical.

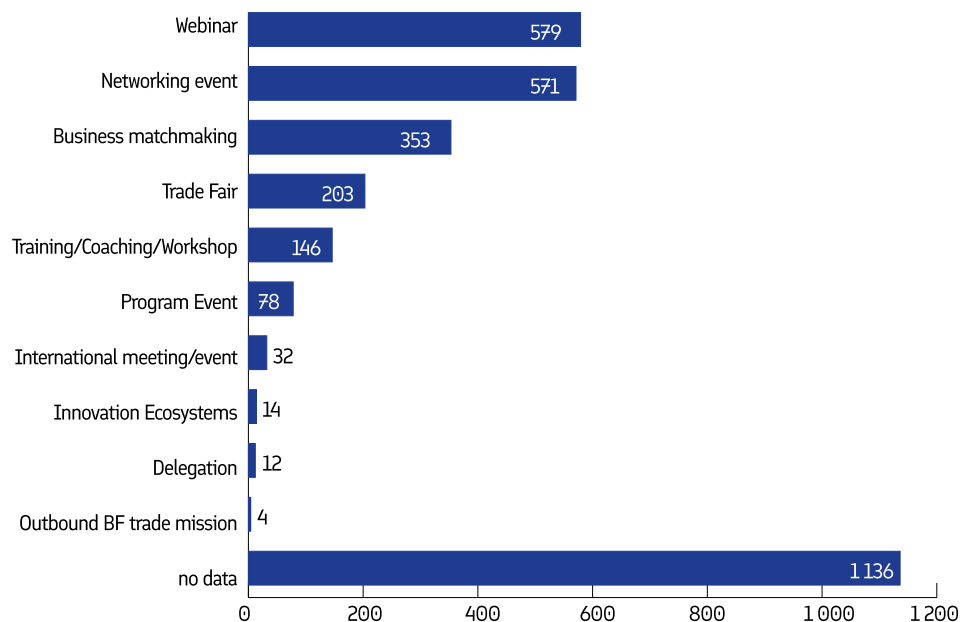


FIGURE 12. USE OF FOOD FROM FINLAND 2 PROGRAM ACTIVITIES BY NON-FUNDING SERVICE TYPE.

³ Härmälä, Valtteri, Ulla Roiha, Vesa Salminen and Kyösti Aroviuori (2020). Evaluation of food export programs. Business Finland, Evaluation report 1/2020



Based on the evaluation findings, the Food from Finland program had succeeded in improving the export capacity and partnerships of the participating companies. Companies report significant added value especially in terms of increased market knowledge and understanding, better understanding of international customer requirements and the development of export expertise. Added value was also felt to have come from encounters with new international customers, while the program was also viewed as having accelerated the opening up of new export markets.

Companies also reported the positive impact of their participation in Food from Finland on export and revenue development. As a direct result of the program, two-thirds of the companies that responded to the survey carried out in the evaluation said that their export turnover had increased since joining the Food from Finland program. Two-thirds of the companies surveyed had also gained new international customers after joining the program. According to the companies, Food from Finland 1 has made a significant contribution to export growth. The evaluation results showed that companies operating internationally through the Food from Finland program have grown faster than the rest of the industry. Since growth in the domestic market had stagnated, exports represented a highly relevant way to grow the business of companies in the sector. The statistical analysis carried out in the evaluation also showed that the exports and turnover of the participating

companies had generally developed in a positive manner, although it was not possible to draw conclusions on the direct allocation or size of the program towards positive developments.

Based on the evaluation, the program has brought significant added value to the companies, especially in terms of increasing market knowledge and understanding, better understanding of international customer requirements and increasing export expertise. However, companies were hoping for new non-funding export services that would better meet their needs to further develop markets and customer relationships, including partner search, customer identification, and marketing and branding. In particular, program stakeholders called for more robust market analyzes to validate or update the program's target markets.

The evaluation however concluded that the program's main target of 3 billion euros of Finnish food exports will not be attained, and that achieving the target by 2025 would require exceptionally fast and broad-based growth in the sector, as food exports totaled 1.5 billion euros in 2018. They also noted that ambiguous goal-setting and impact models make it difficult to assess overall success, and without more specific objectives, a clear impact model and relevant monitoring indicators, assessing the effectiveness of the program remains challenging.

In addition, the evaluators highlighted two aspects that are important for this evaluation work: (a) there was still room for improving the relevance and efficiency of the Food

from Finland 2 program and (b) synergies between export and innovation activities have not been fully exploited under Food from Finland 2. The latter was based on the fact that Food from Finland 2 includes both export promotion activities and innovation funding, but companies participating in Food from Finland activities still saw it as an export program. In addition, exports and R&D are still very separate activities in companies, as most of the companies interviewed during the assessment were not well informed about Business Finland (Food from Finland) funded projects in their companies. Even in the early days of the launch of the Food from Finland 2 program, R&D professionals had not been actively involved in the program activities.

4.2.2. SUCCESS OF IMPLEMENTATION AND BEST PRACTICES BASED ON SURVEYS AND INTERVIEWS

In the Food from Finland program, four main means of influence can be identified:

1. Training, sparring and skill development,
2. Participation in international events, fairs and customized customer meetings
3. Development projects in the 2nd program period (e.g. development of e-commerce and marketing, promotion of access to e-commerce platforms, RDI projects)
4. General influence work to improve export conditions and cooperation with other countries.

According to the interviews conducted, the most important direct means to create impacts for participating companies, were non-funding services promoting exports, as well as training and sparring. From the involved companies' point of view, the program simultaneously aimed to improve their know-how and their ability to internationalize, as well as supporting the creation of concrete international cooperation, customer relationships and partnerships. According to the interviewees, these issues represented the areas of greatest need during the early years of the program and remained important as program implementation progressed.

According to the evaluation survey, the companies that participated in the program found most of the non-funding services to be useful in terms of their own needs, with networking events viewed as being particularly useful in finding partnerships. These events promoted closer cooperation between food industry operators.

The trips related to the export promotion of the program were also found to be very useful. These trips were organized in order to participate in large international food trade fairs, where an effort was made to reach a wide range of potential customers and partners. What was particularly important here was that the companies' offerings were brought together under the Food from Finland 'brand' and thus aroused a stronger interest in Finnish products through their joint offering. As an example of the program's

export activities, the Food from Finland program annually organized 10–12 Finnish country departments at leading trade fairs in the food industry in different target markets. The program created a completely new Food from Finland country department concept and Food from Finland brand, which always included at least 10 Finnish companies. The concept in question was deemed so good that the implementation of the country departments was continued even after the program was concluded.

In addition, more tailored meetings with potential customers were organized for business groups. In these, Finnish companies were able to meet potential partners, customers and investors in the target market that had been tailored in advance. According to the interviews, one of the most significant benefits in organizing these events was the network of international experts working in the program that was developed, experts who the program had trained specifically relating to the needs of the program. The network of experts was able to find suitable entities in the target countries, through which internationalization and export activities could be launched in cooperation.

Both methods of promoting exports were widely perceived as being useful. It should however be noted that differences do exist between companies in terms of how useful the non-funding services were perceived to be, indeed for some of them, the expected benefits did not follow.

According to the interviewees, the program was very successful in bringing together key companies in the field covered by the program. The program succeeded in increasing cooperation between companies and the understanding that together it is possible to achieve more in the target market than by working alone. Thanks to the program, a closer cooperation structure emerged and a common spirit in terms of export promotion was born across this industry sector in Finland.

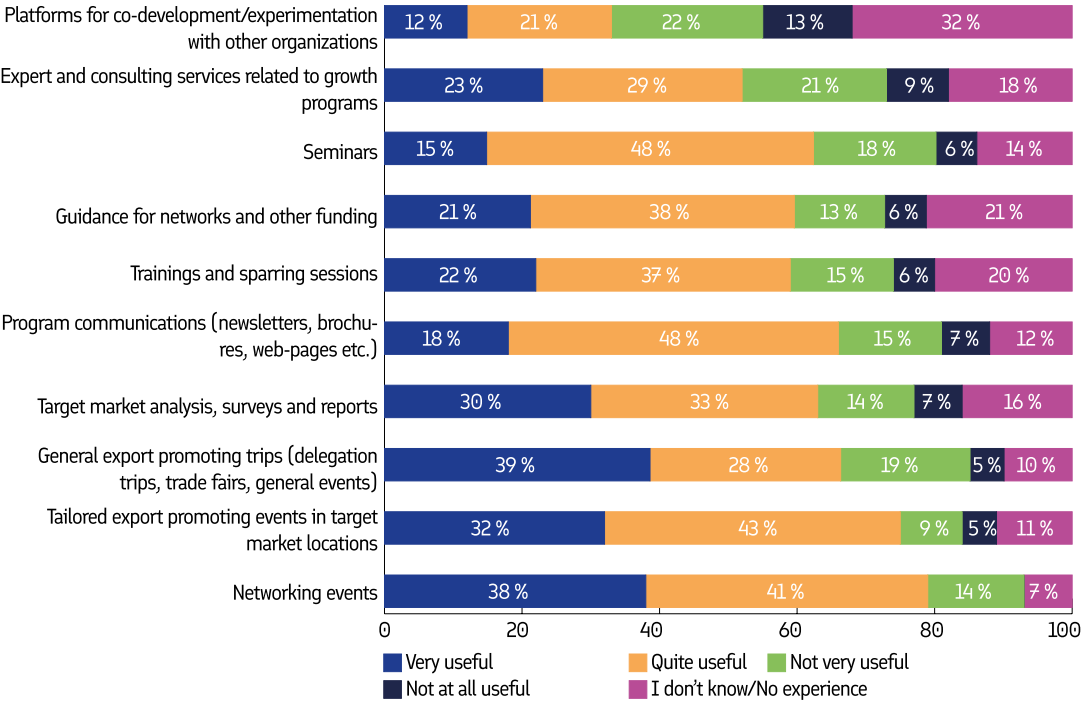


FIGURE 13. EVALUATION SURVEY RESULTS FOR COMPANIES THAT PARTICIPATED IN THE NON-FUNDING SERVICES OF THE FOOD FROM FINLAND PROGRAM. DISTRIBUTIONS OF ANSWERS TO THE DIFFERENT ASPECTS OF USEFULNESS OF PROGRAM SERVICES. (N=93)

Participating companies also found the market information produced in the program to be useful. The information, in respect of potential target markets, was obtained in a way that would not have been possible for smaller companies to source, especially on their own. Moreover, the information was often vital in terms of making decisions regarding internationalization.

In addition, according to the interviewees, an important element of success emerging from this was the involvement of key authorities in terms of exports in the operation of the program. For example, the Finnish Food Agency is an important body supporting the promotion of exports in target markets with information and instructions. Exporting requires information about, for example, licensing issues and other local factors to be taken into account when reaching the target market (particularly in relation to non-EU markets). In general, the success and efficiency of the program’s implementation was helped by the very effective integration and cooperation of the food industry management, the Food from Finland program team and the Business Finland international team (local operations in different countries). Finnish stakeholder and beneficiary groups and their management, as well as other key authorities, were successfully involved in the program.

In addition to domestic operators, the program also clearly strengthened cooperation with other countries’ export promotion activities. These countries included, for example, Sweden, Denmark, Estonia and Latvia. Particularly strong here was the cooperation with Sweden and its *Try Swedish* program, which was realized in joint planning, the

pooling of resources and promotions regarding various events and trade fairs both in Europe and Asia, as well as Nordic Oats cooperation to promote Nordic oats. Without the Food from Finland program, cooperation on the same scale probably would not have been possible.

Similarly, companies were also satisfied, in many respects, with other non-funding services, although, again, differences emerged in terms of how useful the services were perceived to be. Program communications, training and sparring, guidance in terms of funding and seminars were however all deemed useful by many companies. The other services asked about in the survey played a smaller role in the Food from Finland program and were utilized less often.

Some of the companies that received these non-funding services do not however feel that they received particularly significant benefits from them. According to the interviewees, the range of companies participating in the program was quite diverse economically and organizationally, thus greatly impacting their ability to internationalize. As a result, some of the companies were not yet ready to take the big step in terms of internationalization. On the other hand, other companies (especially the larger ones) were already operating on the international market. Organizing services and training in such a way that they would benefit everyone was therefore a significant challenge. As the program progressed, stricter choices were made as to what kinds of companies the services were specifically aimed at.

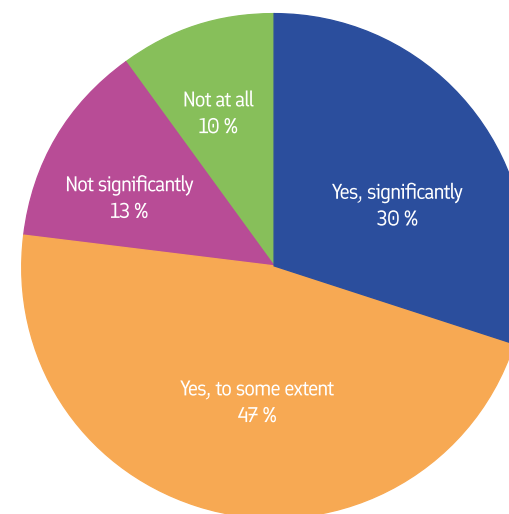


FIGURE 14. EVALUATION SURVEY RESULTS FOR COMPANIES THAT PARTICIPATED IN THE NON-FUNDING SERVICES OF THE FOOD FROM FINLAND PROGRAM. DISTRIBUTIONS OF ANSWERS TO THE QUESTION "DID THE PARTICIPATION IN FOOD FROM FINLAND SERVICES INCREASE YOUR OWN INVESTMENTS IN EXPORTS AND INTERNATIONALISATION?" (N=93)

The survey also asked whether participation in the program's non-funding services had had an effect on companies' own investments in relation to export operations. Of the companies that responded to the survey, 30% confirmed that they had increased their own investments significantly as a result of participating in the service. In addition, 47% of the companies answered that they had 'somewhat increased' their own investments in export activities. Overall, the program's non-funding services had an impact on more than 3/4 of the companies involved, in terms of increasing their own investments. The program's services have therefore activated companies in terms of increasing the use of their own resources and thus increased the overall investment in the operation. Some companies did not however increase their contributions at all.

Another aspect on which the survey inquired was whether the outcomes of RDI projects funded by the program were supported/advanced by the program's export promoting activities. About half of the companies answered that the program's non-funding service was used to commercialize a product or service that had been developed and received funding from the program. This means that in its second period (when RDI projects were included in the program) the program also saw 'spillover' from R&D development activities into commercialization and export. According to

the interviewees however, more of these types of 'spillovers' could have been promoted and they could have worked more effectively and successfully.

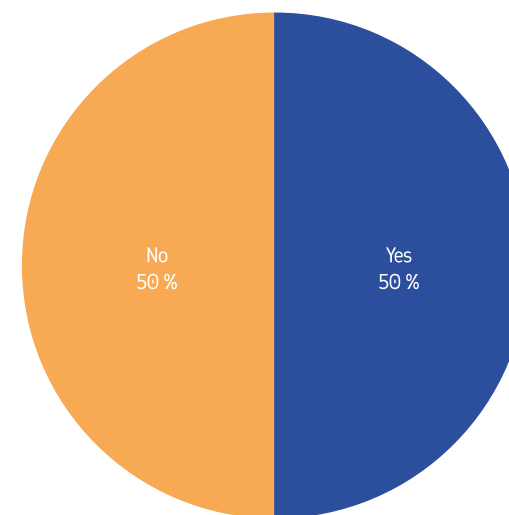


FIGURE 15. EVALUATION SURVEY RESULTS FOR COMPANIES THAT PARTICIPATED IN THE NON-FUNDING SERVICES OF THE FOOD FROM FINLAND PROGRAM. DISTRIBUTIONS OF ANSWERS TO THE QUESTION "DID YOU PROMOTE THE COMMERCIALIZATION OF THE RESULTS OF THE PROJECT FINANCED IN THE PROGRAM WITH THE PROGRAM'S EXPORT PROMOTION MEASURES?" (N=93)

As noted previously, in addition to Business Finland and the Food from Finland program, other funding sources have also been utilized in the food sector. In the survey we asked, how many companies have used other funding sources and export services during the implementation of the Food from Finland program. Almost half of the companies confirmed that they had used other funding sources and services. 'Other funding' here includes funding from the Ministry of Agriculture and Forestry's administration, funding from ELY centers, other Business Finland funding instruments (Tempo, NIY, Market Explorer etc.). Other utilized services include e.g. other operators' export advisory services and trade fair trips organized by other parties. This shows that the goals of the program are also affected by the utilization of other funding sources in a rather significant portion of the project implementers.

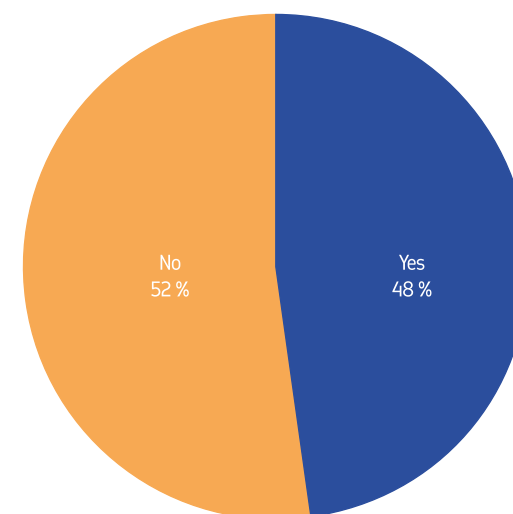


FIGURE 16. EVALUATION SURVEY RESULTS FOR COMPANIES THAT PARTICIPATED IN THE NON-FUNDING SERVICES OF THE FOOD FROM FINLAND PROGRAM OF IMPLEMENTED A PROJECT IN THE PROGRAM. DISTRIBUTIONS OF ANSWERS TO THE QUESTION "DURING THE IMPLEMENTATION PERIOD OF THE FOOD FROM FINLAND PROGRAM 2014-2023, DID YOU USE OTHER PUBLIC EXPORT AND INTERNATIONALIZATION PROMOTION SERVICES OR FUNDING?" (N=143)

In addition, information was gathered in the survey from the perspective of the ‘added value’ received from the non-funding services. A significant portion of the companies replying suggested that the benefits obtained from the non-funding services would not have been achieved without participating in the service. In particular, the services accelerated the speed at which the benefits were obtained, while in addition, they also contributed to the fact that the benefits were achieved more broadly. These two aspects were emphasized by more than 50% of respondents. Almost 20% of the respondents felt that the benefits made possible by the service would not have been achieved at all without it. 10% of the respondents however felt that the benefits would have been achieved even without the services. As such, the non-funding services were deemed to have generated significant ‘added value’ generating benefits for companies that would not otherwise have been attained in the same way, or as quickly.

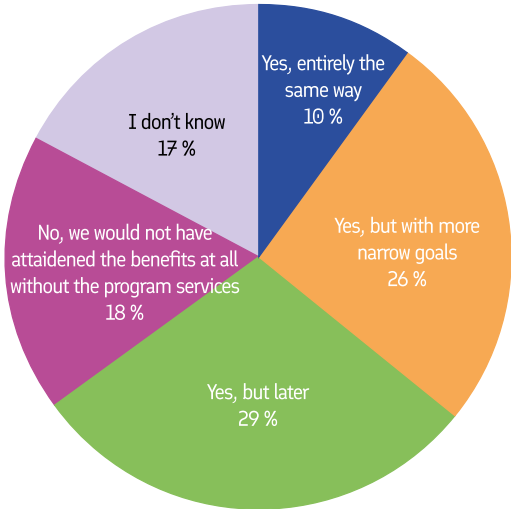


FIGURE 17. EVALUATION SURVEY RESULTS FOR COMPANIES THAT PARTICIPATED IN THE NON-FUNDING SERVICES OF THE FOOD FROM FINLAND PROGRAM. DISTRIBUTIONS OF ANSWERS TO THE QUESTION “WOULD YOU HAVE ACHIEVED THE SAME BENEFITS AND EFFECTS WITHOUT THE SERVICES OF THE FOOD FROM FINLAND PROGRAM?” (N=93)

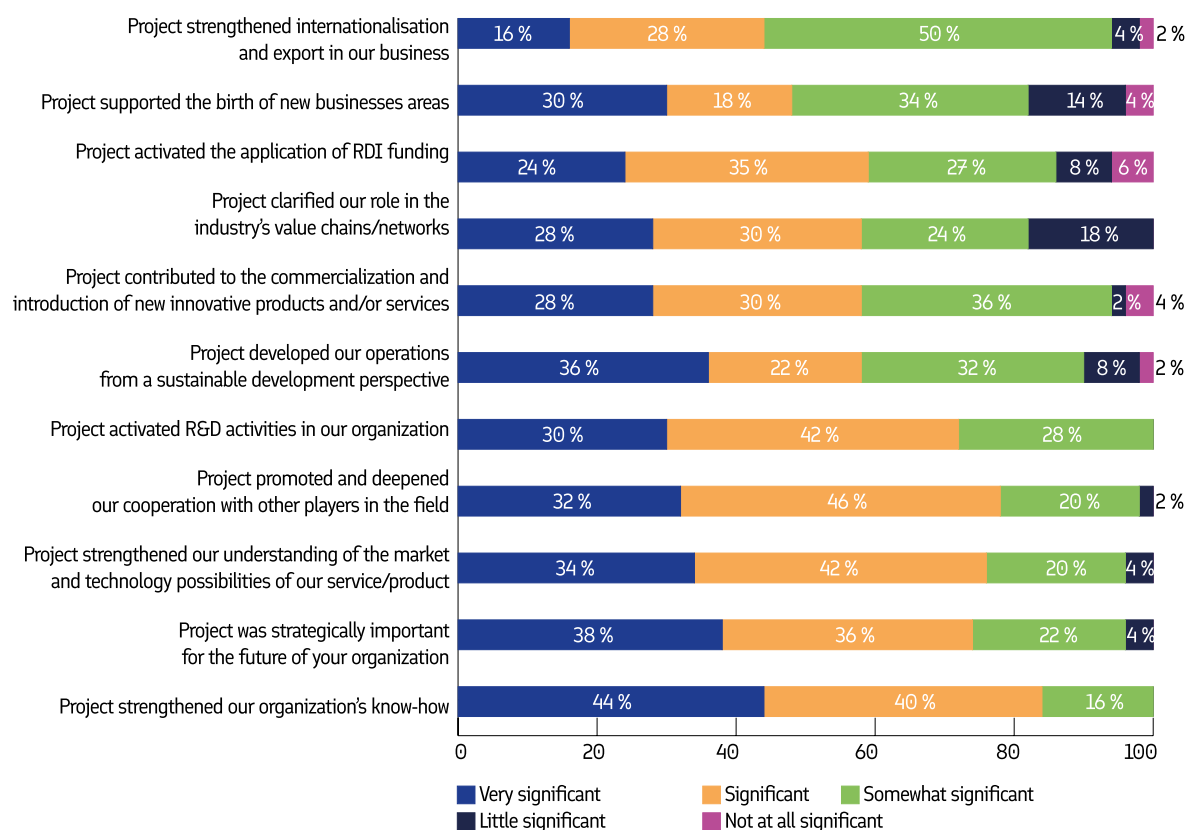


FIGURE 18. EVALUATION SURVEY RESULTS FOR COMPANIES THAT IMPLEMENTED A PROJECT IN FOOD FROM FINLAND PROGRAM. DISTRIBUTIONS OF ANSWERS TO THE QUESTION REGARDING THE SIGNIFICANCE OF THE PROJECT FROM IN DIFFERENT ASPECTS. (N=50)

In the evaluation, a survey was also conducted of the organizations (companies and research organizations) that implemented projects in the Food from Finland program. The key focus of this survey was to identify the most significant benefits and effects of the project for those involved.

In general, the projects achieved a wide range of benefits and impacts related to different types of perspectives. The most widely perceived benefit related to the improvement of the organizations' competence and 'know-how' based on the development work. All of the organizations that responded to the survey felt that they had received at least some degree of benefit. The projects were also well connected to the organizations' own strategies, and thus were connected to the organizations' own vision of their own organizational development.

Other more widely experienced benefits and impacts here related to a strengthening in terms of market understanding and the technological possibilities associated with products and services and the strengthening of cooperation between actors in the field and activation of RDI-activities in the project-implementing organizations.

Some companies have also commercialized and introduced new innovative products and/or services, received clarification of the organizations role in value chains and applied for RDI-funding. Many organizations also felt that the project helped to orient their activities towards a more sustainable way of doing things.

Related to the goals of the Food from Finland program, fewer organizations gained strong benefits regarding internationalization and exports. Almost all organizations did however receive at least some degree of benefit related to these perspectives.

4.3. SUCCESS OF PROGRAM CONTINUUM FROM AN EXPORT PROMOTING FOOD FROM FINLAND 1 TO BUSINESS FINLAND -SCOPE PROGRAM FOOD FROM FINLAND 2

The implementation of the Food from Finland program was divided into two phases. In the first part, associated with Finpro, from 2014 to 2018, the emphasis was predominantly on export promotion measures and the development of 'know-how' and the ability to export. In the second part, when the program was transformed into a Business Finland program for the period 2019–2023, RDI project activities were also added to the program.

Food from Finland began in 2014 purely as an export promotion program. Indeed, it was one of the first Finpro

Growth programs. The program itself consisted of internationalization and export services defined for the needs of the industry. In its initial phase the general program concept and operating methods were developed. The implementation of the program was further developed during its implementation and actions were re-directed towards new target markets, taking into account the needs of the operator field and market development. In many respects, the program worked better at the end of the first phase than at the beginning.

In 2018, Business Finland started its operations with the fusion of Finpro and Tekes finalized. The Food from Finland program was moved to Business Finland at this point. This offered new possibilities to the program. A wider variety of services were made available to the program with project innovation funding now also included as a tool. Efforts were made to include Business Finland's entire menu of methods in the program more broadly. At the same time, the participation of the Ministry of Agriculture and Forestry was strengthened in the program, while at the same time, the role of the Ministry of Labor and the Economy was less central to the implementation of the program.

Although efforts were made to add many new services to the program, Food from Finland remained very strongly as an export and internationalization program. Non-funding export services were also at the center of operations during the period 2019–2023, and they also received the most

demand from customers. Synergy was not however created in the best way between innovation funding and export promotion activities, and the funded projects remained distinct from the rest of the program's operations. In this regard, it can be noted that the entire repertoire of Business Finland's operations was not particularly strongly reflected in the implementation of the program. The program was nevertheless recognized among companies, particularly for its export and internationalization activities, as there was greater demand for these in the business field. The program thus nimbly responded to this need.

Of those companies participating in the Food from Finland part 1 during the period 2014–2018, 156 used the non-funding services offered by Food from Finland part 2 during the period 2019–2023. This means that roughly 83 percent of the companies participating in Food from Finland 1 also used the non-funding services of Food from Finland 2. Of these 156 companies, only 19 had a Business Finland funded project in Food from Finland part 2. Altogether 29 companies involved in Food from Finland 1 received support from Ministry of Agriculture and Forestry funding instruments.

4.4. EVALUATION OF THE RESULTS, IMPACTS AND ADDED VALUE

4.4.1. RESULTS AND IMPACTS BASED ON SURVEY AND INTERVIEWS

According to the evaluation survey, the Food from Finland program succeeded in influencing the various target areas of the program. According to the survey, in some of the goal areas, it was possible to have a stronger influence on the goals, though in others this only occurred to a lesser extent.

The program has had a stronger impact on increasing cooperation between food industry operators and the promotion of closer networking across the industry. The program has successfully coordinated the internationalization efforts of industry players and acted as a platform for cooperation. According to the interviewees, before the program, internationalization activities were carried out in the industry individually and by each company itself. International activities were engaged in mainly by the bigger companies in the industry. The program however brought together small and large players from across the industry into a more unified group and promoted the industry's internationalization as a whole. In the same context, various actors also found interfaces where they could cooperate and, for example, together promote international exports.

In addition, the program managed to strengthen the Finnish food brand and highlight the strengths of the Finnish food industry. The Food from Finland brand created in the program has functioned well as an export promotion brand and has improved the industry's opportunities to gain visibility and attention in target groups. The interviewees emphasized that the program began to develop the Finnish food brand systematically to take into account Finnish competitiveness factors which considered the entire industry's potential. It is difficult for an individual operator to attract attention in the international market, but with the help of a country brand, attracting attention becomes much easier.

The program was therefore considered effective and, according to the interviewees, particularly so in the case of the smaller companies, in developing their skills and abilities to engage in export operations and internationalization. Increasing the capabilities of small businesses was, moreover, viewed from the outset as one of the primary goals of the program.

According to the survey, the program also succeeded quite well in promoting the industry's exports and in increasing the industry's activities on the international market. During the program, Finnish company's international exports have increased, and the program was active in opening up new markets for Finnish operators. According to the interviewees, it was important that the program encour-

aged companies to try exporting and that the program's support lowered the threshold for entry into international markets. In particular, smaller companies are historically unwilling to take the risks associated with internationalization activities. The program thus acted as a partner that supported and helped companies in their internationalization activities. According to the interviewees, companies' own resources are not sufficient to enter the international market. Internationalization requires an actor with sufficient resources and the ability to open doors internationally. In promoting exports, it was also important that the program strategically directed exports to new markets when the old markets were exhausted (Russian and East-European markets.). Through the program activities, it was possible to guide a wide range of operators towards the new 'target markets'.

Various effects have been generated and successes experienced in other target areas of the program, but according to the survey, only to a slightly lesser extent. The program has thus had some impacts in terms of affecting the processing value of the 'productization' of Finnish food and beverages, increasing the cooperation between universities and research institutes, the creation of new jobs in the industry and reducing greenhouse emissions while promoting sustainable food production. These target areas were included in the program, but the main focus was specifically on promoting exports and increasing the

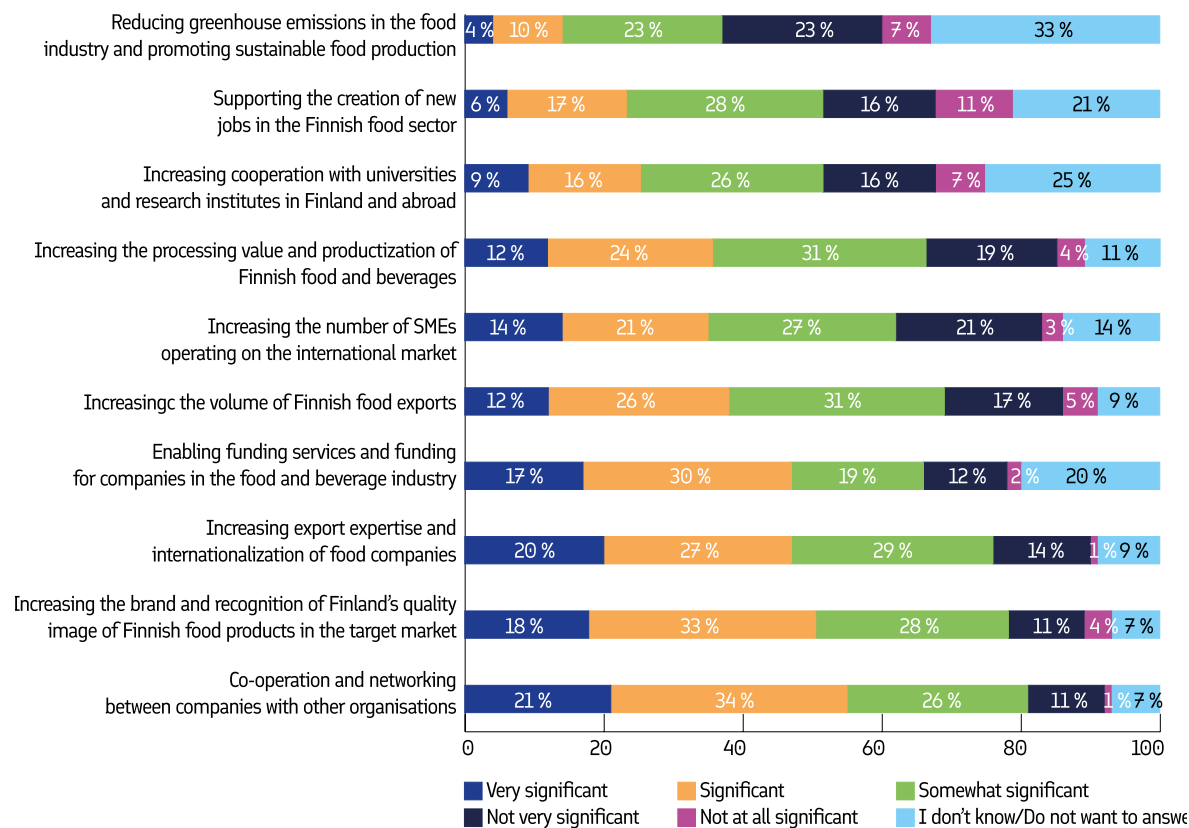


FIGURE 19. EVALUATION SURVEY RESULTS FOR ALL THE COMPANIES PARTICIPATING IN FOOD FROM FINLAND PRO-GRAMME ON THE IMPACTS ACHIEVED IN THE PROGRAM. (N=143)

ability to internationalize, as well as developing unity and cooperation in the industry. According to the survey and interviewees, the program has been successful, particularly in its main target areas. When taking into account that the operating environment has been particularly challenging especially in the 2020s, the program has succeeded very well in advancing its goals.

4.4.2. STATISTICAL ANALYSIS OF THE PROGRAMS
IMPACTS ON COMPANIES’ EXPORTS

The Food from Finland program aimed to double food exports by 3 billion euros by 2025 in order to close the gap in the foreign trade balance and generate significant ‘added value’ in Finland. The goal set was tough, if only from the point of view of the fact that the actions of one program can only have a limited impact on the development of food exports, specifically in terms of the commercial results of the program’s customers.

In the evaluation of the Food from Finland 1 program in 2020, it was estimated that the 3 billion euros target would not be realized, and that attaining it by 2025 would require exceptionally fast and broad-based growth across the sector, as food exports totaled only 1.5 billion euros in 2018. (Härmälä et al. 2020). Current export data indicates that although food exports from Finland have increased, doubling exports to 3 billion euros by 2025 remains unlikely. According to the Finnish Food and Drink



Industry Federation, the value of food exports in 2023 was approximately 2.2 billion euros.

The Ministry of Agriculture and Forestry has also financed companies that were part of the Food from Finland program with investment support from the Rural Development Program for Mainland Finland 2014–2020 and the following 2021–2027 program. The Ministry of Agriculture and Forestry's funding for these companies was not part of the Food from Finland program project funding, but the program companies received such a significant amount of financing that its connection to exports has been examined separately here. The Ministry of Agriculture and Forestry funding was not however a criterion which excluded the use of other services.

DEVELOPMENT OF EXPORTS IN ENTERPRISES OF THE FOOD FROM FINLAND PROGRAM

The export development of the companies participating in the Food from Finland program (FFF 1 and FFF2) is examined below. Companies participating in the program for which export data were found (254 companies in total) were included in the review. Companies that participated randomly in Food from Finland 2 program activities were not however included in the review. Based on Finnish Customs' export statistics, the total exports of the companies under review increased by 360 million euros from approximately 1 069 million euros in 2014 to 1 428 mil-

lion euros in 2023, which means an increase of approximately 34% in total exports. Over the same period, EU exports increased by 395 million euros from 555 million euros in 2014 to 951 million euros in 2023. This represents an increase of 71% over that period.

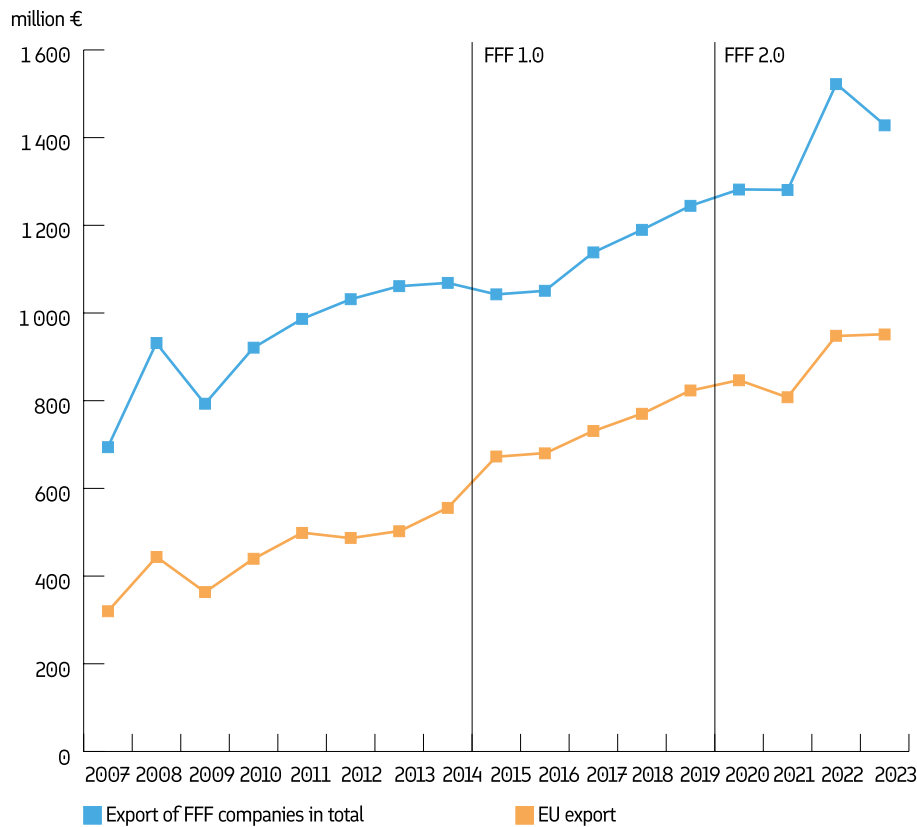


FIGURE 20. DEVELOPMENT OF EXPORT IN FOOD FROM FINLAND PROGRAM COMPANIES 2007-2023

The onset of war in Ukraine in 2014 is reflected in the decline in companies' total exports in 2015 and 2016, though the simultaneous increase in exports to the EU appears to have replaced the Food from Finland program companies' previous exports to Russia. The escalation of the conflict into a full-scale war in 2022 appears however to have seen exports decline for Food from Finland program companies in 2023 while changes in exports to the EU however remained relatively minor.

The export development of companies participating in the Food from Finland program has clearly been better in the period 2014–2023 than the ⁴ overall export development of food manufacturing (C 10) and beverage production (C 11) according to Finnish Customs' export statistics. This is clearly visible as differences in export development in the period 2017 to 2022. Compared to the general development of exports in food and beverage manufacturing, Food from Finland companies have clearly fared better. It seems then that the Food from Finland program has had an impact on the export development of the companies involved in the program and, in particular, on increasing exports to other EU countries.

⁴ Finnish Customs' Brave Statistical Database. International trade statistics 11.12.2024. <https://uljas.tulli.fi/v3rti/>

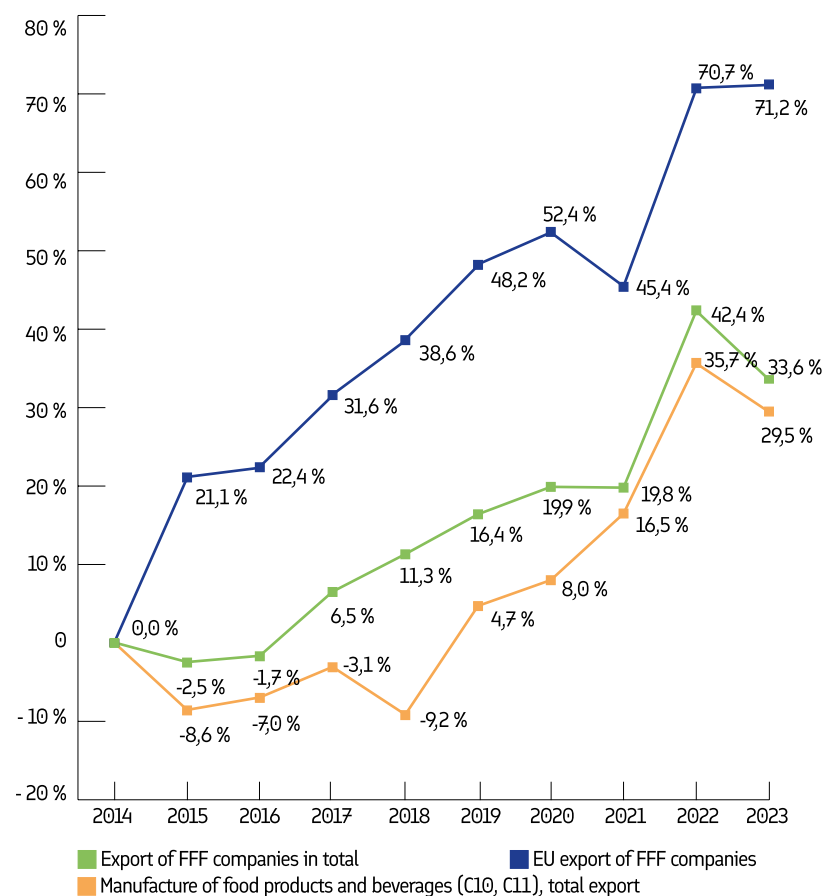


FIGURE 21. PERCENTAGE DEVELOPMENT OF EXPORT IN FOOD FROM FINLAND PROGRAM COMPANIES 2014–2023

DEVELOPMENT OF EXPORTS BETWEEN COMPANIES ACTIVELY AND LESS ACTIVELY PARTICIPATING IN FOOD FROM FINLAND 1

The companies in the Food from Finland 1 program were classified by Business Finland into companies that had actively participated in the non-funding services, companies that had participated in the services a few times and companies that were members of the program but were less active. In the following, we examine what kinds of connections active participation in export services have had with the development of exports.

Company-specific export statistics show that there is not much difference in the overall development of exports between companies that have actively participated in the Food from Finland 1 program and those that were less active. Compared to the situation in 2014, the overall development of exports seems, paradoxically perhaps, to have developed slightly more positively in enterprises that participated less actively than in those that were more active. It is difficult to find a clear reason for this, but one explanation may be that those who participated most actively in non-funding services were those that faced greater export challenges than those who used the services less actively.

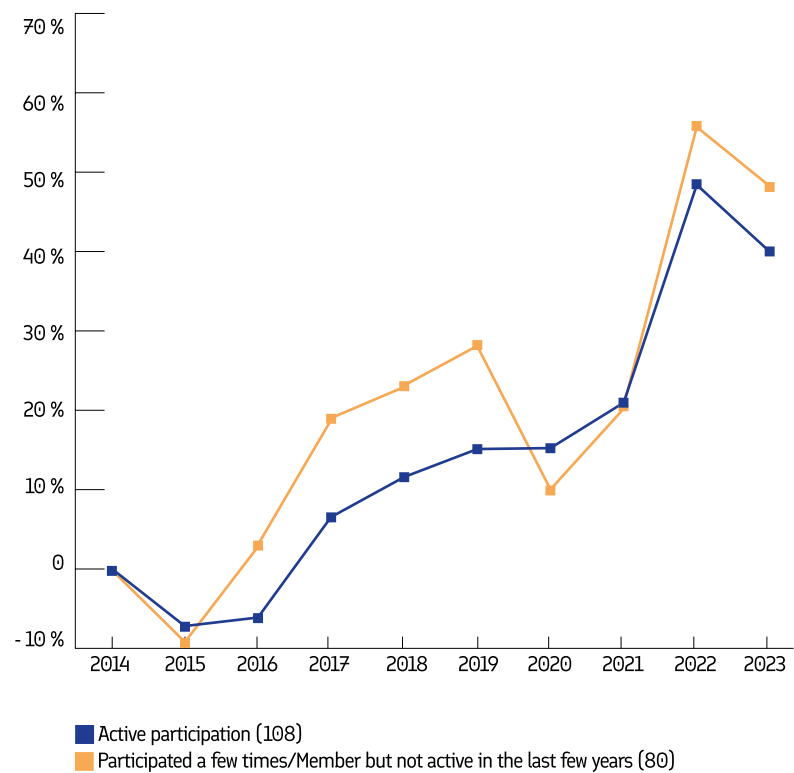


FIGURE 22. FOOD FROM FINLAND 1 ENTERPRISE EXPORTS AS A WHOLE 2014–2023

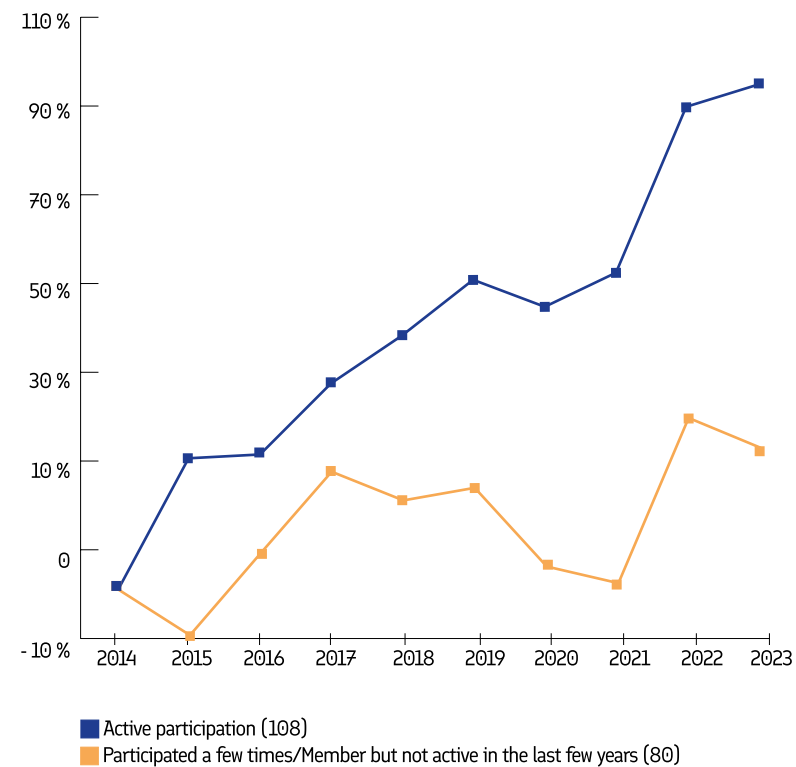


FIGURE 23. FOOD FROM FINLAND 1 ENTERPRISE EU EXPORTS 2014–2023

On the other hand, there is a big difference in the development of exports to EU countries between those who actively participated in Food from Finland program non-funding services and those who participated less actively. Compared to the situation in 2014, the exports of active companies to EU countries have almost doubled in 2023, while the exports of less actively participating companies to EU countries increased by more than a quarter over the same period. This suggests that those who actively participated in Food from Finland 1 (most of whom continued under FFF2) have benefited from the program, in particular in terms of redirecting and increasing exports to EU countries. This has also had a major impact on companies' total exports, which would have been negative for many companies without export growth to new markets in other EU countries.

As noted previously, more than 80% of Food from Finland 1 companies also used Food from Finland 2 non-funding services. Food from Finland 2 services were used by a total of approximately 1 100 companies, but the following examines the development of exports with regard to only the program's key customers and other companies participating in the program that have used Business Finland's funding services and other program services. Companies that received investment support from the Ministry of Agriculture and Agriculture during the Food from Finland 2 program were examined separately. The aim

of this setting has been to identify how the use of financial and other services is connected to the development of these enterprises' exports.

As figures 24 and 25 show, the overall development of exports to EU countries in particular was more positive among key accounts in the period 2019–2023 than among other companies participating in the program since the launch of the Food from Finland 2 program. EU exports, in particular, have increased considerably more in Food from Finland 2 key customer companies than in other companies. Noteworthy here, in terms of the total exports of key customers, is the significant decline in exports in 2019 and 2020. This is explained by the decline in exports of one major exporter among key customers in the years 2019 and 2020.

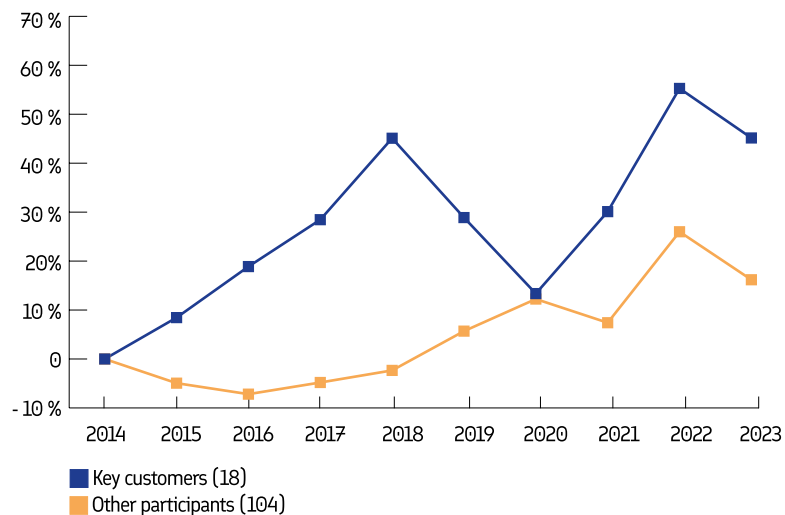


FIGURE 24. FOOD FROM FINLAND 2 COMPANIES - EXPORT AS A WHOLE

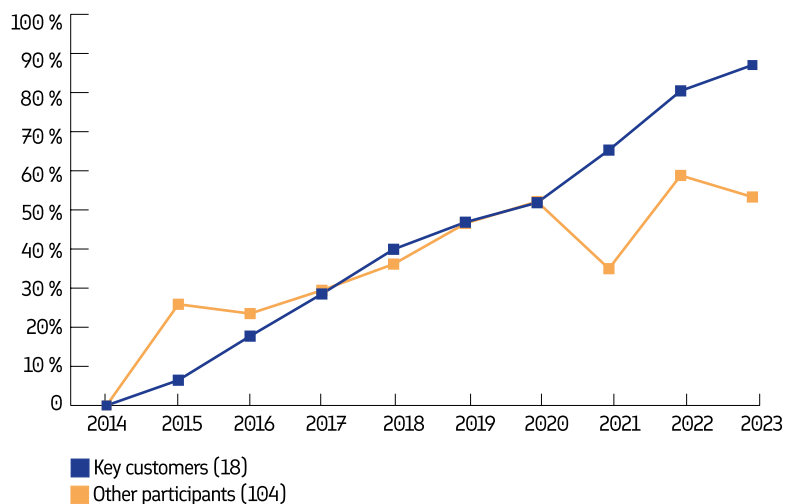


FIGURE 25. EU EXPORT OF FOOD FROM FINLAND 2 COMPANIES

In the Food from Finland 2 program, export promotion service activities have been carried out and innovation projects implemented with Business Finland funding. The companies in the program have also received significant external investment support from the Ministry of Agriculture and Forestry’s rural development program. The following is a separate examination of the development of exports in companies that have a) received funding from Business Finland (of which 93% used Food from Finland services), b) have not received funding from Business Finland or the Ministry of Agriculture and Forestry, but have used the non-funding services of the Food from Finland program, and c) separately, those companies that have received investment aid from the Ministry of Agriculture and Forestry during the program (of which 85% used the services of the program)⁵. In practice, for groups a) and c), the combined effects of service use and funding have been analyzed with the aim of identifying how the use of financial and other services was linked to the development of exports. The link between funding and the use of services and the development of exports is analyzed in greater detail in section 4.4.3 below.

Since 2019, total exports had grown moderately by 2023 in both companies that have received funding and those that had only used non-fundable services. During

⁵ N.B. Due to the difficulty of identifying program customers, only those companies that participated in the Food from Finland 1 program are included

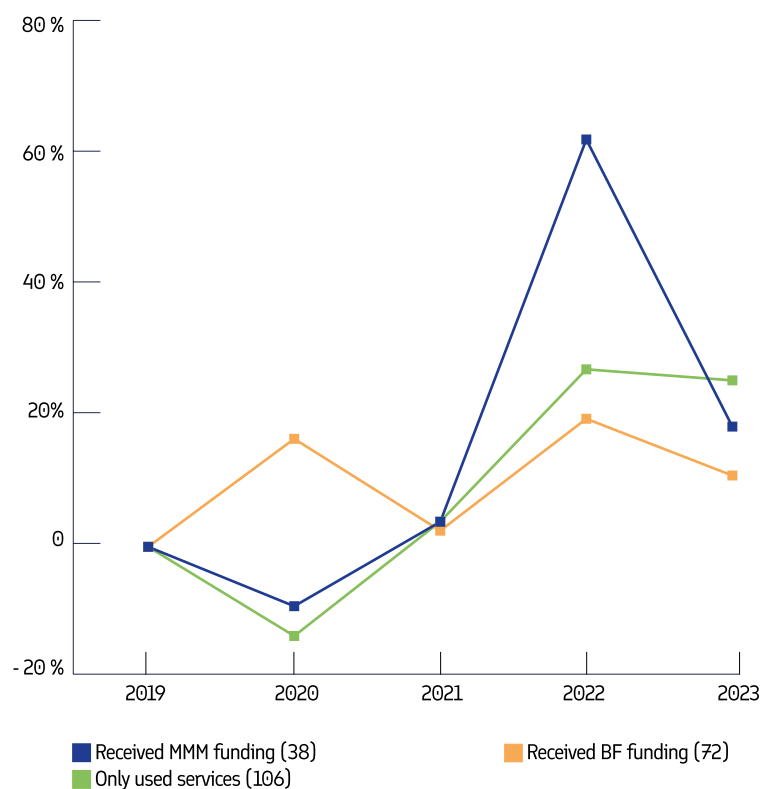


FIGURE 26. EXPORT OF FOOD FROM FINLAND COMPANIES 2019–2023

the period under review, exports grew by around one-fifth in all company categories. It is clear that innovation funding as such does not increase companies’ exports in the short term, so the potential effects of Business Finland’s financing on companies’ exports will only be visible in the longer term. The portion of the Ministry of Agriculture and Forestry’s investment funding granted to companies participating in the FFF program has primarily been directed toward relatively small businesses with limited export activity. For these companies, even minor increases in export volumes can lead to significant percentage changes. The exports of enterprises that used funding from the Ministry of Agriculture and Forestry grew in euros by 5.5 million euros from 2019 to 2023, those that used Business Finland’s innovation funding by 93.5 million euros and those who used only non-funded export services by 82.5 million euros.

Correspondingly, exports to EU countries increased from 2019 to 2023, particularly among companies that had only used Food from Finland 2 non-funding services, where exports increased by 54% during the period under review. Based on this analysis, the financing of Ministry of Agriculture and Forestry or Business Finland does not seem to have had a significant impact, particularly on exports to EU countries, specifically considering that, in addition to financing, these companies had also used Food from Finland 2 export services.

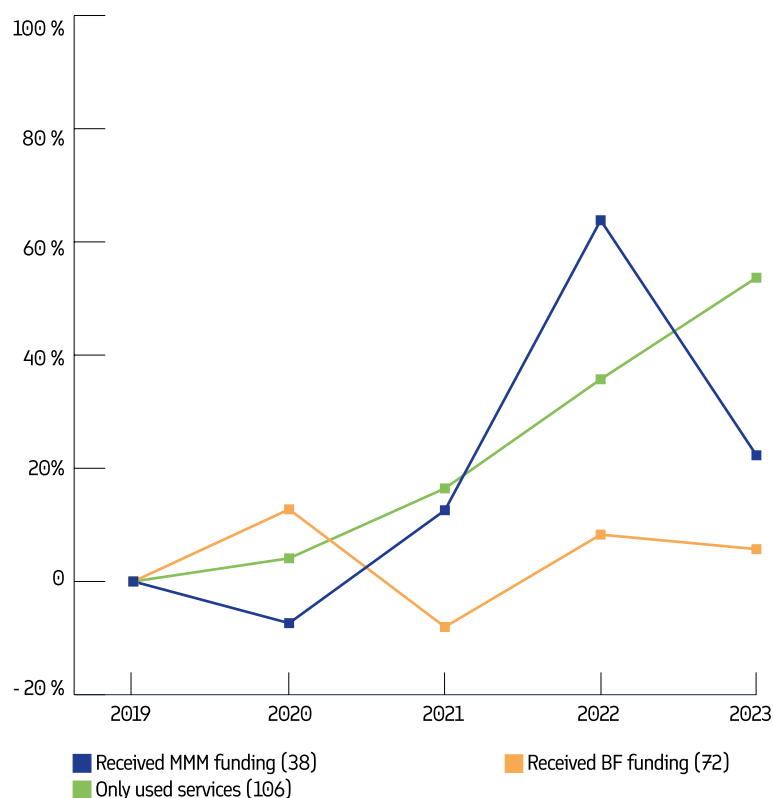


FIGURE 27. EU EXPORT OF FOOD FROM FINLAND COMPANIES 2019–2023

MAIN FINDINGS FROM THE FOOD FROM FINLAND EXPORT ANALYSIS:

- The Food from Finland program has had an impact on the export development of the companies participating in the program and, in particular, on increasing exports to EU countries.
- The impact on exports has largely been due to the provided export services.
- The program has been particularly successful in promoting exports to EU countries.
- The program has also succeeded in finding new export markets for companies affected by the war in Ukraine.
- Active participation is associated with an increased share of exports in a firm's revenue, with the strongest effect observed in exports to EU countries.
- While active participation is beneficial to revenue, excessive use of non-funding export services does not appear to significantly contribute to the share of exports.
- The data do not support an association between the parallel use of Business Finland or Ministry of Agriculture and Forestry funding and an increased share of exports in revenue within the short time frame. However other linkages to other business performance indicators or long-term impacts were not studied.

4.4.3. STATISTICAL ANALYSIS OF THE CONNECTION BETWEEN THE USE OF EXPORT PROMOTION NON-FUNDING SERVICES AND THE DEVELOPMENT OF EXPORTS

The connection between Food from Finland and exports was also examined by studying the changes in the share of exports in the participating companies' revenue during two different phases of the Food from Finland program. The analysis covers two time periods: 2013–2018, which represents the changes during Food from Finland 1, and 2018–2023, which represents the changes during Food from Finland 2. The base year 2013 represents the situation before Food from Finland 1, while year 2018 represents the situation before Food from Finland 2 and also the situation at the end of Food from Finland 1.

The companies participating in the Food from Finland programs were divided into four groups:

1. Actively participated only in the FFF1 program
2. Actively participated only in the FFF2 program
3. Actively participated in both FFF1 and FFF2 programs, including key customers
4. Passively participated in the FFF programs

The available data also included information on participation in Business Finland projects during the Food from Finland 2 period (53 companies) and funding received through the Ministry of Agriculture and Forestry (29 companies). These factors are considered separately using binary scale yes/no.

Additionally, the amount of service usage and the diversity of service usage (how many different types of services a company participated in) were examined.

Significant changes have occurred in the export environment during the period. Russia's annexation of Crimea and the all-out attack on Ukraine, launched in 2022, led companies that traded with the Russia to lose significant portions of their markets. Therefore, EU exports and non-EU exports are examined separately alongside total exports. Regarding EU exports, Brexit has also affected the situation, at least in terms of the distribution between EU exports and non-EU exports.

RESULTS

Table 3 presents the change in the share of exports in companies for which export data was available for all the examined years 2013, 2018, and 2023 and which had exports in all these years. Thus, the same companies are examined for each time period. There were 20 companies that actively participated only in the Food from Finland 1 program, 19 companies that actively participated only in the Food from Finland 2 program, 22 key customers, actively participating in both Food from Finland 1 and Food from Finland 2 programs (including key customers who participated in both phases), and 12 companies that passively participated in the Food from Finland programs.

INDICATOR AND GROUP	SHARE OF EXPORTS IN THE COMPANIES' REVENUE, AVERAGE CHANGE		
	YEAR 2013–2018	YEAR 2018–2023	YEAR 2013–2023
Exports, total			
Actively participated only in the FFF1 program	+4.7	+2.9*	+7.5*
Actively participated only in the FFF2 program	-2.8	+0.7 ⁺	-2.1
Actively participated in both FFF1 and FFF2 programs, including key customers	+0.3	-0.8	-0.6
Passively participated in the FFF programs	+3.1	-7.4	-4.3
Groups total	+1.1	-0.5	+0.6
Exports, EU countries			
Actively participated only in the FFF1 program	+1.2	+2.7*	+3.9*
Actively participated only in the FFF2 program	-1.6	+0.6*	-1.1
Actively participated in both FFF1 and FFF2 programs, including key customers	+2.5	-0.4*	+2.0*
Passively participated in the FFF programs	+2.6	-11.9	-9.3
Groups total	+1.1	-1.2	-0.1
Exports, non-EU countries			
Actively participated only in the FFF1 program	+3.5	+0.1	+3.6
Actively participated only in the FFF2 program	-1.2	0.1	-1.0
Actively participated in both FFF1 and FFF2 programs, including key customers	-2.2	-0.4	-2.6
Passively participated in the FFF programs	+0.5	+4.5	+5.0
Groups total	+0.1	+0.7	+0.8

* Difference is statistically significant compared to passive participants $p < 0.05$, ⁺ difference is indicative $p < 0.10$. Method: 'one-way' ANOVA⁶.

TABLE 3. CHANGE IN THE SHARE OF EXPORTS IN THE COMPANIES' REVENUE

⁶ Since the number of companies is small, changes were also examined using the Kruskal-Wallis test, which can be used to examine differences in the distribution of export changes between groups. Based on this test, there is no difference between the groups for the years 2013–2018 compared to passive participants, but for the period 2018–2023, the difference between all three active groups and the passive participants is statistically significant. Regarding EU exports, the difference for those who participated only in Food from Finland 1 is statistically significant, and for the other two groups, the difference is indicative. There are no statistically significant differences in exports outside the EU.

Among those who participated in only the Food from Finland 1 program, the strengthening of exports has clearly been the strongest result of their participation. Although exports strengthened in relation to Food from Finland 1, the actual strengthening actually occurred after that period. For those who actively participated only in the Food from Finland 2 program, a similar development is not however certain to occur. During the Food from Finland 2 period, the share of exports for those actively participating only in the Food from Finland 2 program did however develop positively. It is possible then that this positive development may continue in the years following the program, as it has for those who participated only in the Food from Finland 1 phase, but again, we cannot be certain. The average change in the share of exports for those actively participating in both Food from Finland 1 and Food from Finland 2 is weaker than for those participating only in Food from Finland 1, which is surprising. The reason for this may however lie in the target markets. Among those who participated only in the Food from Finland 1 phase, EU exports in particular grew. In general, companies participating actively in the Food from Finland program were able to increase or maintain their EU exports over the period 2018–2023 while passive firms have clearly suffered in terms of EU markets while maintaining their non-EU export performance.

The number of services has specifically impacted the growth of EU exports. In this regard, companies with exports in both 2018 and 2023 were examined. Among those companies that participated at most once ($n=18$), the share of EU exports decreased on average (-7.2%), whereas for those companies that participated more actively, the share of EU exports increased, albeit slightly ($+0.2\%$). The difference is however statistically significant. Excess participation (more than 10 individual events) is not however associated with success in export terms. There was no statistically significant difference in the share of exports outside the EU. This result reinforces the earlier observation that active participation is beneficial particularly for EU exports. No connection was found between participation diversity or any individual service.

Regarding the funded Business Finland projects in Food from Finland 2 and funding from the Ministry of Agriculture and Forestry, there is no statistically significant connection to changes in the share of exports in revenue during the period 2018–2023.

4.4.4. CASE-STUDIES

CASE: APETIT IN FOOD FROM FINLAND PROGRAM

Apetit is a Finnish-listed food business corporation. The corporation has employed around 300 people in recent years with a turnover in the region of 200 million euros. The Apetit Group is divided into two main business areas: Food Solutions and Oilseed Products. Apetit Kasvisöljy and Apetit Ruoka subsidiaries have been the key users, in terms of the Apetit corporation, of Business Finland's non-funding services for export promotion as well as being funding recipients and project implementers of Tekes, Finpro and Business Finland programs.

Apetit and its subsidiaries participated in the Food from Finland program. They implemented 2 projects in the Food from Finland 2 program and participated in program services 22 times during the program's second phase (2018-2023). The most notable non-funding services used were Business matchmaking and networking events, webinars and Training/Coaching -sessions and workshops.

In terms of Food from Finland's export services, fairs and buyer meetings offered new cooperation and customer contacts. Based on these new opportunities, new customers were found for products. In addition, market analyzes offered valuable market information and improved time use for the company.

In the context of the program projects a new ingredient and a commercially viable process were developed by Apetit Kasvisöljy. The end result of the project was a product with high commercial potential and which will be further developed after the end of the project. The ultimate goal is to generate new business for the company from the development of this product. Business Finland's funding was important here, as the company would not have carried out risky development work to the same extent with independent funding. In addition, the projects explored the possibilities of domestic plant protein production.

During the program period, Apetit Ruoka Ltd. exports in particular developed positively. In 2013 their exports were worth 258 000 euros. In 2023 their exports reached almost 9 400 000 euros. Export growth has mostly been directed to EU countries. Food from Finland's services were one of the important factors contributing to the promotion of food exports here. The largest export product in terms of volume is currently the domestic pea. Among food products, value-added products such as vegetable patties and vegetable "meatballs", as well as frozen foods and cereals, are also of particular interest internationally.

CASE: KYRÖ DISTILLERY COMPANY IN THE FOOD FROM FINLAND PROGRAM

Kyrö Distillery (Rye Rye Ltd.) is a Finnish company founded in 2012. Kyrö uses rye to produce rye gin and rye whisky. In addition to gin and whisky, it also produces Finnish 'long drink', cream liqueur and hand sanitizer. In 2015, Kyrö's gin product won the Best Gin for Gin & Tonic category in the International Wine and Spirit competition. The company originates from Isokyrö in South Ostrobothnia. Kyrö has employed 25-30 people in Finland over the past few years.

Kyrö participated in the Food from Finland program's export promotion services more than 20 times during the period 2018-2023. The most frequently used services were networking events, business matchmaking events, trade fairs and webinars. The company views the more customized services for the business group as being particularly useful, where Business Finland's personal relationships in certain markets have made it easier to find the right distributors for the company's products. Generic events, where there were no experts/customers from the company's sector were however seen as less useful. The company also implemented one project as part of the program, where the company's liquor product was developed.

In addition to these, the company has also utilized several other Business Finland funding mechanisms and other services. For example, Young Innovative Company funding

was used in the growth stage of the company. The funding clearly helped the company grow and, for example, in Germany, it was possible to show that with the limited focus of the company, it was possible to gain the attention of consumers and achieve growth. In addition, with the help of Market Explorer, the company identified its own strengths in certain target markets and has also developed 'know-how' and a strategic vision.

Before the start of the Food from Finland program, the company had no exports at all. Exporting began during the 2014-2015 period. In 2015, the export volume in euros was around 312 000 euros. In the following years, exports increased significantly. Towards the end of the program, exports had grown to more than 2 500 000 million euros. In 2022, exports peaked at more than 2 900 000 euros.

Business Finland's benefits for the company have arisen as a combined effect of several different export promotion services and funding. The export promotion services of the Food from Finland program have played a clear part in this. The programs export services were particularly important in finding the right contacts to reach the company's target markets.

CASE: KÄÄPÄ BIOTECH IN THE FOOD FROM FINLAND PROGRAM

KÄÄPÄ Biotech is a biotechnology company that researches and develops innovative mushroom applications for use in various industries. Kääpä has three sub-departments: Kääpä Forest, which manages the world's largest pakuri cultivation network and promotes the multiple use of forests, Kääpä Mushrooms, which produces organic mushroom extracts for the consumer market and Kääpä's Nordic Mushrooms, which is a wholesale line of mushroom extracts produced organically in Finland for international food supplement, food and cosmetic product manufacturers. Kääpä Biotech has employed more than 20 people in recent years. Kääpä Biotech's operations began in 2018.

In the Food from Finland program, Kääpä participated in export promotion services on several occasions. These services included networking events, buyer visits, receiving market information and webinars. The company feels that the program and its services have been particularly important in terms of encouraging small companies to internationalize, bringing companies together under a common brand, making them a stronger entity, and in enabling companies to direct their operations to international markets. Particularly

important for the company has been the programs support in finding local contacts in their target markets and enabling buyer visits. The program has also provided legislative assistance, which is required to reach the various target markets. This was seen as being particularly valuable for the company.

The company also implemented two RDI projects as part of the program. In the first project, the company's products were tested and piloted with international markets in mind, and in the second project, internationalization and international growth were promoted.

Kääpä Biotech's exports have grown significantly, especially during the last three years of the Food from Finland program. In 2020, the company's exports were still around 100 000 euros. Subsequently, exports grew every year, and when the program ended in 2023, they were already over 650 000 euros and in 2024, the value of export was almost 1 500 000 euros. This development has also been enabled by the Food from Finland program with the aforementioned benefits related to export and internationalization obtained from the program.

CASE: HELSINKI MILLS LTD IN THE FOOD FROM FINLAND PROGRAM

Helsinki Mills is a Finnish family business that manufactures grain products for consumers, professionals and industry, both domestically and for export. The company's products are manufactured in factories located in Järvenpää, Närpiö and Vaasa, with the company employing approximately 100 people.

Helsinki Mills participated in the Food from Finland program at international fairs and in various events organized in connection with them. For example, the "Food from Finland" country pavilions at the fair were useful, according to the company. The company gained a lot of new customers thanks to the fair participation and the support of the program. During the Food from Finland program, the company also took advantage of Business Finland's Tempo funding with commercialization and internationalization in mind.

Helsinki Mills also implemented an RDI development project as part of the Food from Finland program. In the project the company investigated the beta-glucan content of varietal pure oat batches and produced information on its correlation with the water binding of oat products and optimized the baking recipe based on the correlation.

Helsinki Mills' exports increased during the Food from Finland program. In 2014, exports were little more than 11 million euros, while by the end of the program in 2022, exports were, at their peak, more than 18 million euros. Export volumes fluctuated between these years, but the trend has been upward. Participating in the program undoubtedly helped to increase exports. More broadly, the company sees that, thanks to the program, Finland has become even better known as a producer of versatile, innovative and environmentally friendly food products.



4.5. OVERALL EVALUATION OF THE FOOD FROM FINLAND PROGRAM

The central premise and goal of the Food from Finland program was to grow the export volume of the Finnish food industry (and to address the negative export trade balance) by redirecting exports more clearly towards new international markets during the period 2014–2023. This redirection became particularly important in 2014 due to sanctions imposed on Russia in response to the Crimean situation, which necessitated a shift away from the strong Russia-oriented focus of Finnish exporters. On the other hand, significant growth could not be expected in the domestic market, so growth opportunities had to be sought in international markets. The program also aimed to consolidate and coordinate the internationalization efforts of the sector, promote the brand and awareness of the Finnish food industry and enhance the capabilities of smaller companies in the sector to engage in international business.

From today's perspective, the goals set for the Food from Finland program were highly relevant. Program planning was based on surveying the views and needs of industry stakeholders as well as analyzing the development of the operating environment and the export growth potential of the sector in target markets. The focus on exports, internationalization, capacity building and collaboration proved to be well-chosen themes. The program was also

updated and the activities were successfully focused after the first five years. In the second half of the program, in accordance with the recommendations of the program's mid-term evaluation, the focus was limited to the most important target markets, the most effective methods of operation and the target groups were narrowed down more precisely. Research, development, and innovation (RDI) activities received less emphasis than expected during the second phase of the Food from Finland program. It should however be noted that Business Finland's R&D funding for the food industry increased during the program (from less than 15 million euros before the program to more than 20 million euros at the end of the program) and the Food from Finland program can be seen to have had an effect on this, in combination with various other factors.

Program implementation can be clearly divided into two phases. During the first phase (under Finpro from 2014 to 2018), the focus was on export promotion activities and building expertise and capabilities to internationalize for the participating companies. In the second phase (under Business Finland from 2019 to 2023), Business Finland RDI funding with the related activities were added to the program. However, synergies between RDI funding and export promotion were not fully realized, as the funding related project activities remained somewhat separate from the export promotion activities of the program. The funded projects did not receive, for example, sparring or guidance

widely from the program. There were only some connections between the projects' RDI activities and the program's internationalization and export promotion activities.

On the whole, program implementation was however successful, with a competent program implementation team and relatively good resourcing being important factors here. The chosen methods of influence were considered appropriate. For example, catalyzing collaboration, networking events, export promotion trips, tailored customer meetings in international markets and advancing digital sales achieved notable successes. In contrast, some export promotion efforts resulted in only short-term or limited benefits. One challenge was the heterogeneity of the program's target audience—serving customers in vastly different situations and offering diverse products proved difficult. Not all companies in the program's target group had sufficient ability to internationalize. On the other hand, some of the companies were already operating independently in international markets. The benefits of the program thus varied across the target group, but roughly speaking, the benefits were greater for smaller companies than for larger ones that had already shown an ability to internationalize.

One good practice was to train (for the specific needs of the food sector) and use the Business Finland's local contacts in target markets and to engage in collaboration with international universities. The program was also able



to generally improve the skills of Business Finland and other Finnish operators in promoting internationalization and exports, as well as in the better utilization of research information in the field.

The Food from Finland program also included long-term cooperation with other EU countries such as Sweden, Denmark, Estonia and Latvia. In particular, cooperation with the *Try Swedish* program proved fruitful in terms of promoting Finnish exports. It was thus viewed as important to combine forces and resources with suitable international partners.

Another strength of the program's implementation was the effective inclusion of relevant stakeholders. Promoting food industry exports required support from food-sector expert organizations and authorities, which the program successfully engaged. Furthermore, the additional funding for operational expenses provided by the Ministry of Agriculture and Forestry lent the program consistency and ministerial support that increased the program's mandate and influence. The Ministry of Agriculture and Forestry's role was important in connecting its own administrative branch authorities and experts to the program's export support measures. The program successfully brought together many industry players, key stakeholders and financial resources to implement a common mission.

During program implementation an effective structure was created for the management and coordination of

exports and of the internationalization of the food industry, which included the management of the food industry, the Food from Finland program team and the international team of Business Finland. Through this, the industry could be committed to the activity and, on the other hand, international networks could be systematically utilized.

Food from Finland was also one of the first growth programs developed under Finpro. During its early stages, the general program concept and operational methods were developed. The programs implementation improved over time and functioned more effectively towards the end of its first phase. The lessons learned were thus invaluable for the broader development of Finpro's growth programs concept.

The transition of the program to Business Finland brought about both opportunities and some challenges. The volume of Business Finland project funding for the sector increased from approximately 13 million euros under the Sapuska program to over 20 million euros during the Food from Finland program. The program itself undoubtedly contributed to this. At the same time, changing the program into a Business Finland program stabilized its funding and increased the program's ability to operate on a long-term basis. Previously, the implementation of the program was intermittent due to its funding being granted for one year at a time. The participation of the Ministry of Agriculture and Forestry (MMM) also strengthened the program. Under Business Finland, efforts were made to

integrate the full range of Business Finland's tools into the program. RDI projects were launched, but overall, the program's focus remained heavily on export promotion. Expected synergies between project activities and export operations, as well as innovation-to-commercialization 'spillovers', were not fully realized. The main challenge in the Business Finland period was that the food sector did not have a strong position within Business Finland and the status of the program and the industry started to decline.

The recommendations from the evaluation of the Food from Finland program were implemented successfully in many cases. This was particularly evident in the program's strategic decisions, where the focus was narrowed to more effective measures and directed more strongly towards the most promising companies. The evaluation provided valuable guidance and justification for these decisions.

Before the Food from Finland program, initiatives like Tekes' the Sapuska program (2009–2012) had been run as more traditional Tekes-type programs. Before Food from Finland, no comprehensive, unifying export promotion program for the sector existed and efforts as such were more fragmented. The same challenge also applies to promoting the industry's export activities after the Food from Finland program. Since the conclusion of the Food from Finland program, the food sector in Finland has lacked a coordinating body and widely recognized national brand for export promotion. While there are ongoing efforts in vari-

ous areas to address this gap, it is unlikely that a unifying actor like Food from Finland will emerge in the future. It is therefore essential to clarify the roles of different actors and establish a shared understanding of how to operate as a cohesive whole moving forward.

The Food from Finland (FFF) program has actively supported companies in their export and internationalization efforts, enabling export growth. The significance of program export services for individual companies that increased exports varies. Large companies often advance exports independently, but the program was particularly important for SMEs. The program provided SMEs with access to contacts, digital sales and marketing channels, visibility and improved capabilities in terms of exports and internationalization. One of the primary challenges in generating impact within the industry was however that internationalization was not generally seen as a central focus in company strategies. Some companies participated in program export services but were not ready to invest sufficiently in internationalization.

The general goal of doubling food exports was not fully achieved during the program period. However, considering the challenges of food export requirements and the operating environment (COVID19-pandemic, War in Ukraine etc.), the growth of food exports can be regarded as a success. After the collapse of trade with Russia, one-third of a former key export market was lost. Furthermore, the COVID-19

pandemic significantly hampered export promotion measures and finding new international customers. The companies themselves had practically no other opportunities than at best to maintain existing international customer relationships. Despite the challenges, the program, in combination with other factors, facilitated openings in new markets. It is noteworthy here that in certain target markets of the program Finland's exports have grown significantly. Food exports have clearly increased during the program, although exports numbers have not doubled.

When looking at the export figures of those companies that participated in the program, it can be noted that the Food from Finland program has had an impact on the export development of the companies participating in the program. In particular export figures have increased to other EU countries. This is a significant finding, because increasing exports specifically to EU countries was a key strategic choice of the program. Export figures show also that the program was successful in finding new export markets for companies affected by the war in Ukraine. The effectiveness of the program's actions is illustrated by the fact that active participation in the program's services has also increased the share of exports in turnover, with the strongest effect observed in exports to other EU countries.

A key impact of the program has been the improvement in strategic understanding of exports and of internationalization among the participating companies. Additionally,

the program fostered collaboration and networking within the sector, as well as the pooling of resources and streamlining of export promotion efforts.

The Food from Finland program served as a national platform bringing together stakeholders and promoting the coordination of export promotion activities. It was crucial to have an entity that united companies and key export-promotion actors, as no comparable unifying entity existed previously or subsequently. The program provided the food industry with a shared national Food from Finland brand, which enhanced the visibility of Finnish players and allowed broader attention to be focused on the industry's overall offering. The core added value of the Food from Finland program was the enabling of export promotion for smaller companies and improving their internationalization capabilities.

5. IN-DEPTH ANALYSIS OF THE FOOD FROM FINLAND AND GREEN GROWTH PROGRAMS REPORTINGS: A TEXT ANALYSIS AND ADVANCED NATURAL LANGUAGE PROCESSING APPROACH



In the project report analysis, we utilized a wealth of information from company documents, including both interim and final reports. These documents, structured according to a standardized template, provide valuable insights into the companies' progress relative to their project objectives. They contain essential information, including key achievements, activities, challenges and lessons learned. To systematically process and analyze this data, we developed a robust pipeline employing Natural Language Processing (NLP) techniques. The holistic process of information retrieval and harmonization is illustrated in Figure 28. This begins with text segmentation applied to the unstructured content of the reports, followed by entity recognition to identify relevant terms and entities. Finally, indicator structuring and storage are conducted, transforming the unstructured text into meaningful, structured variables that facilitate further analysis.

FIGURE 28. DATA RETRIEVAL AND HARMONIZATION PROCESS SAMPLE

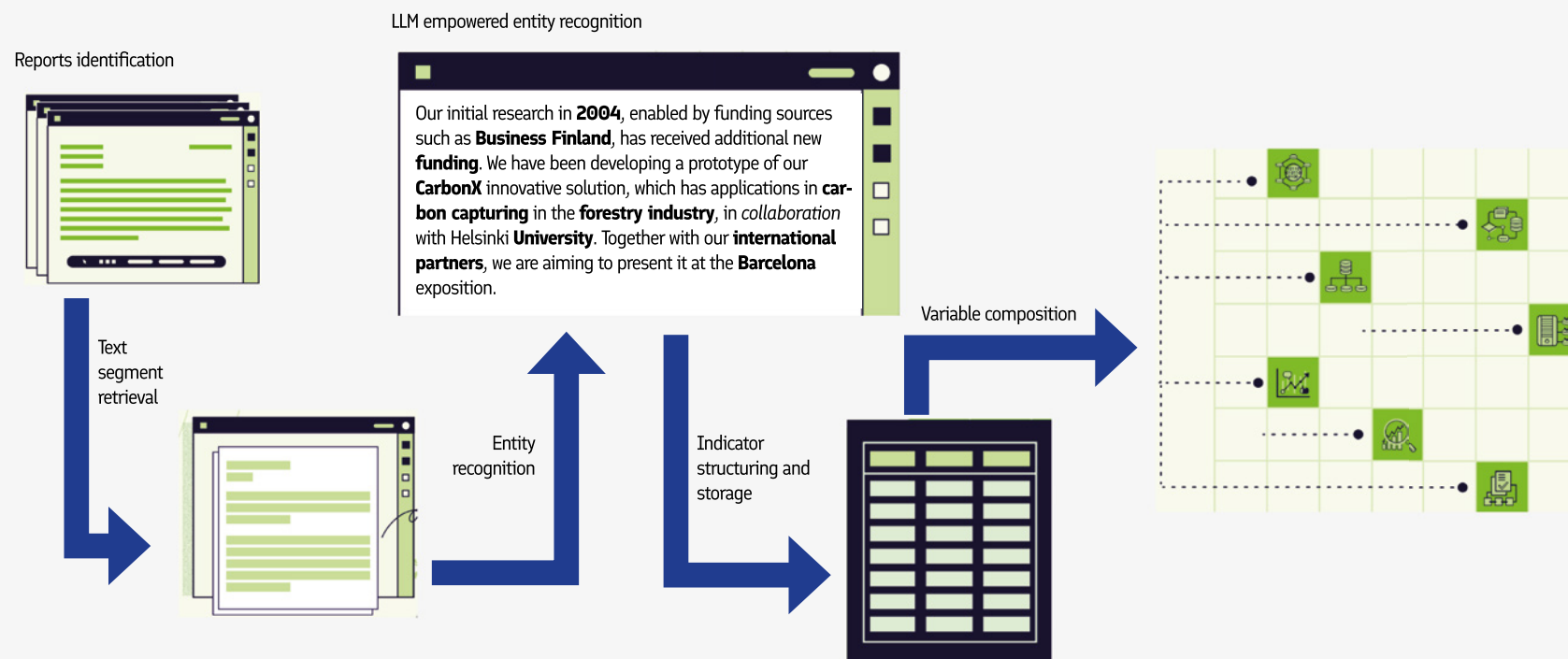
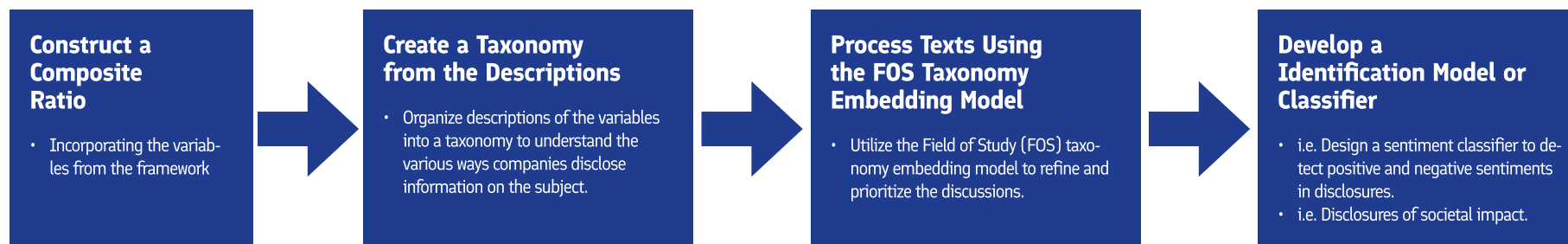


FIGURE 29 NATURAL LANGUAGE PROCESSING PIPELINE VISUALIZATION



As previously published, our pipelines have been fine-tuned to process textual data and extract specific entities of interest. In this instance, we applied our modified pipeline to capture key information, including project alignment programs-defined scope, collaboration intensity and the perceived financial and market performance of the company sample. A visual representation of this pipeline is provided in Figure 29.

The interim report data for the projects (2011–2023) includes a comprehensive analysis of 4,843 rows of text collected from multiple projects under the initiatives “Food from Finland” and “Green Growth”. The dataset is categorized into 1,100 rows of final reports (Loppuraportti) and 3,743 rows of interim reports (Väliraportti). The analysis incorporates 3,300 pages of text covering 213 unique companies between 2011–2023, representing a substantial textual resource with the following metrics (see Table 2):

- Total Words: 809,873
- Average Text Length (per row): 167.33 words
- Median Text Length: 120 words
- Maximum Text Length: 668 words
- Minimum Text Length: 6 words

The reports focus on key thematic areas defined by specific IDs, offering structured insights into project progress, results and broader impacts (template structure outlined in Table 2):

The reports contain information such as

- Customer assessment of project implementation
- Customer Summary of project results
- Customer assessment of the utilization of project results
- Business Finland’s assessment of the advancement of research
- Business Finland’s assessment of the project’s advancement, implementation, and success

The template structure and the detailed statistical analysis of the texts collected are outlined in Table 4, which organizes the textual data by word counts, row lengths, and thematic ID categories.

COUNT OF DIAARI	COLUMN LABELS		
Row Labels	Food from Finland	Green Growth	Grand Total
Final report	364	736	1100
Customer assessment of project implementation	91	177	268
Customer assessment of the utilization of project results	91	176	267
Customer Summary of project results	91	176	267
Business Finland's assessment of the project's advancement, implementation, and success	91	207	298
Interim report	912	2831	3743
Customer assessment of project implementation.	236	661	897
Customer assessment of the utilization of project results	221	659	880
Customer Summary of project results	221	659	880
Business Finland's assessment of the project's advancement, implementation, and success		1	1
Business Finland's assessment of the advancement of research program	234	851	1085
Grand Total	1276	3567	4843

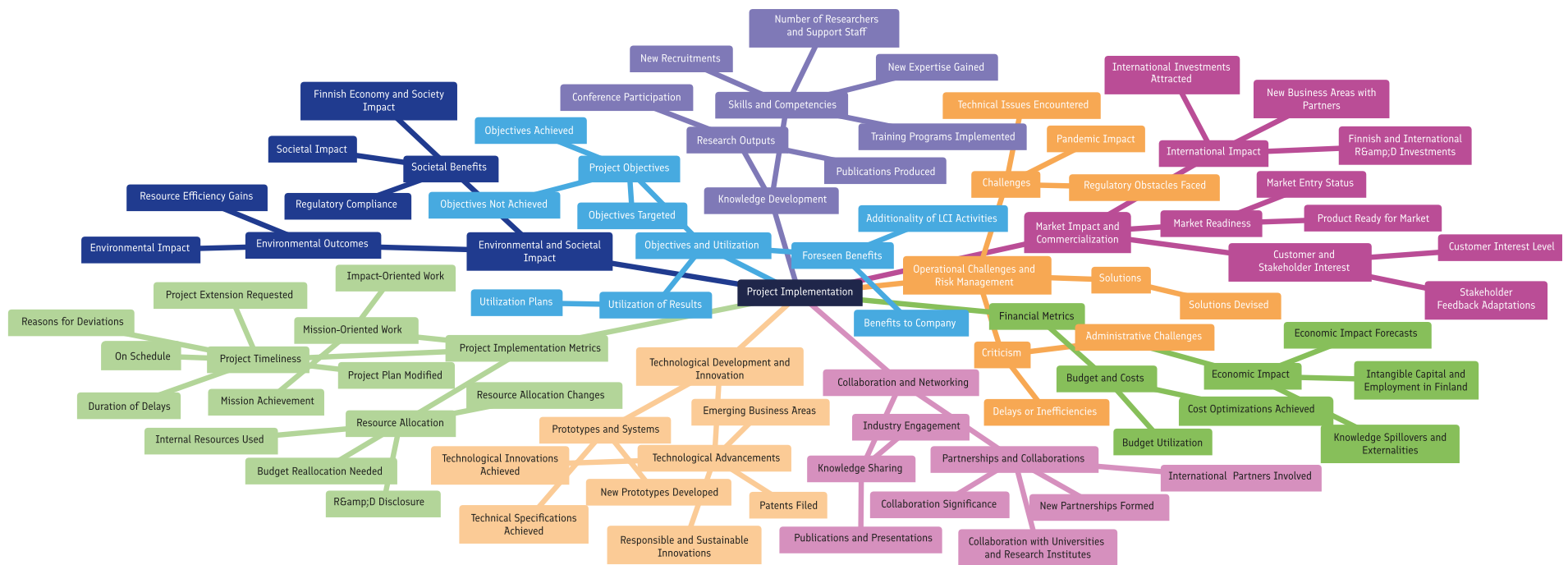
TABLE 4. REPORTING DATA



The iterative process of topic modelling was applied to the reports' textual data to identify the most representative topics and their distributions. Topic modelling, a cornerstone method in Natural Language Processing (NLP), is built on probabilistic principles such as Latent Dirichlet Allocation (LDA). It enables the extraction of latent topics from large text collections by analyzing word co-occurrences and patterns. By systematically clustering and validating the topics, this analysis ensures that the extracted themes are both statistically robust and highly interpretable. This process provides meaningful insights into the underlying structure and content of the reports, enhancing the understanding of key thematic patterns and relationships.

The outcome of the iterative topic modelling process resulted in a robust and well-structured identification of variables within the interim report data. The final output is an organized framework comprising 10 main categories, 22 sub-categories, and a total of 71 variables, effectively capturing the diverse themes and dimensions embedded in the textual data. Through the iterative modelling process, the data was systematically clustered into meaningful and representative topics, balancing granularity with interpretability. Each iteration refined the topic structure—starting from broad, loosely defined clusters, progressively homing in on detailed, cohesive categories. This ensured the extraction of the most relevant variables while preserving their relationships and distinctions.

FIGURE 30. INTERIM REPORT-BASED VARIABLES



The final structure, as illustrated in Figure 30, presents a clear and logical breakdown of key concepts such as utilization of funding, impact and social benefits of funding and objectives met or unmet in the project.

We refined our methodology into a structured process for analyzing interim report data. This included creating a composite ratio for standardizing variable evaluation, developing a taxonomy to categorize variables clearly, and applying

a text model with lexical queries to organize and quantify variable disclosures. The analysis focused on the following variables:

- 1.2.1. Mission Achievement (Yes/No): Indicates whether the project achieved the goals or mission it was originally set to accomplish
- 6.1.1. Environmental Impact (Qualitative): Details sustainability improvements
- 6.2.3. Finnish Economy and Society Impact (Qualitative): Evaluates specific contributions and benefits of the project to the Finnish economy and society
- 10.1.2. Objectives Achieved (Qualitative): Identifies which objectives were achieved and the reasons if disclosed
- 10.1.3. Objectives Not Achieved (Qualitative): Identifies which objectives were not achieved and the reasons if disclosed
- 10.2.1. Utilization Plans (Qualitative): Describes how the results will be utilized or plans for utilization
- 10.3.1. Benefits to Company (Qualitative): Details the benefits the company foresees on business areas, company level, or other dimensions

The synthesis is based on comparing two program types – ‘Food from Finland’ and ‘Green Growth’ - analyzing final reports (Loppuraportti) text across all application types and years.

SYNTHESIS OF THE UTILIZATION PLANS

- ANALYSIS SUMMARY

The analysis of company reports from both the Food from Finland and Green Growth funding schemes reveals distinct patterns in how organizations plan to utilize their project results. In the Food from Finland program, companies predominantly focused on three key areas of utilization: 1) *commercial development*, with companies developing market entry strategies particularly for international markets like Sweden, Poland and the USA, alongside B2C sales concepts for rapid market entry; 2) *research on market transition*, with several projects moving from the research phase to commercialization, especially in areas like fermentation technology and oat processing, while also planning to utilize research findings for PhD projects and further academic research; and 3) *international expansion*, with a specific focus on the Nordic countries and the development of market-specific packaging and product variants, often integrating with international distribution channels including Amazon.

The Green Growth program shows different utilization priorities: 1) *technology commercialization*, focusing on scaling up pilot projects and developing new processing methods for industrial waste and side streams; 2) *environmental solutions*, with companies implementing stormwater management guidelines for municipalities and developing circular economy solutions; and 3) *research application*, where companies are translating

research findings into practical applications and creating industry guidelines.

Across both programs, several common patterns do however emerge in terms of utilization plans: 1) *staged implementation approaches*, starting with pilot testing before broader market entry; 2) *funding continuation*, with many projects planning to seek additional resources for commercialization; and 3) *collaborative approaches*, with companies developing partnerships and integrating research institutions with commercial partners. Notable differences between the programs include Food from Finland's stronger focus on consumer markets and international expansion, while Green Growth emphasizes technological solutions and environmental impact. Food from Finland reports tend to present more concrete market entry plans, whereas Green Growth reports focus more on technical process development plans. Overall, both programs are generating actionable results that companies plan to utilize, but with different emphases aligned with their respective program goals.

SYNTHESIS OF THE PROJECT

DISCLOSED BENEFITS - ANALYSIS SUMMARY

The analysis of reported benefits from both the Food from Finland and Green Growth funding schemes reveals distinctive patterns in terms of how companies perceive value in their projects. In the Food from Finland program, com-

panies highlight three primary benefit areas: 1) *market expansion benefits*, with companies reporting increased international market reach, particularly in markets like China and Sweden, alongside strengthened distribution networks and enhanced brand visibility in Europe; 2) *product development benefits*, where companies report improved understanding of consumer behavior, better technical knowledge of product development (especially in areas like oat processing and plant-based products), and enhanced ability to meet market changes; and 3) *value chain benefits*, including improved partner networks, better understanding of side stream utilization, and enhanced overall competitiveness through the integration of new technologies.

The Green Growth program companies report different types of benefits: 1) *technological advancement benefits*, with companies gaining new analytical methods, improved process understanding and enhanced technical capabilities; 2) *business model innovation benefits*, particularly in circular economy applications, sustainable business practices and new service concepts; and 3) *economic impact benefits*, including job creation, enhanced profitability through strategic partnerships and potential for significant business value multiplication.

Common benefits across both programs include: 1) *competitiveness enhancement*, with companies reporting strengthened market positions and improved operational

capabilities; 2) *knowledge acquisition*, particularly in understanding international markets and technical processes; and 3) *sustainability advantages*, with companies gaining expertise in environmental solutions and sustainable practices. Notable differences emerge in the nature of benefits, with Food from Finland companies emphasizing consumer-facing advantages and market acceptance, while Green Growth companies focus more on technological capabilities and system-level impacts. Additionally, Food from Finland reports tend to highlight immediate market benefits, whereas Green Growth reports often emphasize longer-term structural benefits and broader societal impacts. Overall, both programs demonstrate significant positive impacts on participating companies, though the nature of these benefits aligns closely with their respective program objectives.

SYNTHESIS OF PROJECT OBJECTIVES ACHIEVEMENT ANALYSIS - ANALYSIS SUMMARY

The analysis of reported achievements from both the Food from Finland and Green Growth funding schemes reveals distinct patterns in how companies met their objectives. For the Food from Finland program, achievements were clustered in three main areas: 1) *market development achievements*, where companies reported successful market entry strategies, particularly in international markets like Sweden, China and the USA, including establishing

distribution networks and completing market research in multiple countries; 2) *product development achievements*, with companies successfully developing new products, optimizing processes from lab to pilot scale and achieving technical milestones in areas like fermentation and oat processing; and 3) *business strategy achievements*, including the creation of new brand strategies, successful participation in accelerator programs and the establishment of new international partnerships.

The Green Growth program companies reported different types of achievements: 1) *technical objectives achievement*, with successful development of new technologies, optimization of processes and validation of technical concepts; 2) *research and development outcomes*, including successful pilot projects, development of new methodologies and the creation of valuable scientific knowledge; and 3) *collaboration achievements*, with companies successfully establishing new partnerships, creating industry networks and developing joint solutions.

Common achievement patterns across both programs include: 1) *partial achievement acknowledgment*, where companies openly report both fully and partially achieved objectives, often explaining the reasons for partial achievement; 2) *adaptation to challenges*, particularly noting how companies adjusted their objectives due to external factors like Covid-19; and 3) *foundation building*, where achievements are described as creating the bases for future devel-

opment. Notable differences however also emerge in the nature of achievements, with Food from Finland companies emphasizing concrete market and product outcomes, while Green Growth companies focus more on technical validation and research outcomes. Additionally, Food from Finland reports tend to highlight specific business metrics (sales, partnerships, market entry), whereas Green Growth reports often emphasize technical milestones and research validation. Interestingly, both programs show high levels of achievement in relation to their stated objectives, though the complexity and nature of these objectives differ significantly between the programs.

SYNTHESIS OF PROJECT OBJECTIVES NON-ACHIEVEMENT

ANALYSIS - ANALYSIS SUMMARY

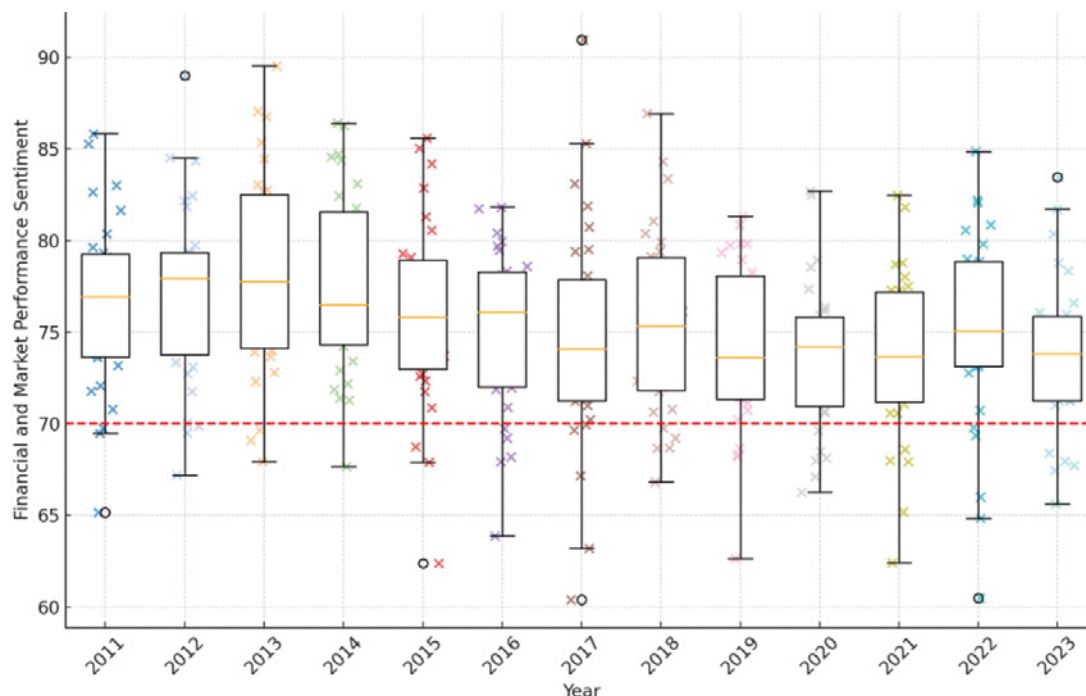
The analysis of unachieved objectives from both the Food from Finland and Green Growth funding schemes reveals important patterns in terms of project challenges and limitations. For the Food from Finland program, unachieved objectives clustered into three main areas: 1) *COVID-19 related failures*, where companies explicitly cite the pandemic as the reason for not achieving objectives, particularly affecting consumer testing, planned actions and international market entry; 2) *technical development challenges*, including unresolved issues with product stability, scaling to production volume and the development of specific products; and 3) *business target shortfalls*, such as

not meeting domestic sales targets, failing to secure external funding and missing international sales objectives.

The Green Growth program shows different patterns of unachieved objectives: 1) *technical feasibility challenges*, with companies reporting an inability to achieve desired technical specifications, such as failing to reach targeted protein content levels or an inability to solve critical challenges in green liquor sludge utilization; 2) *economic viability barriers*, where companies developed solutions that proved too expensive for commercial implementation or failed to find profitable investment options; and 3) *market readiness issues*, including cases where projects could not proceed due to market immaturity or lack of customer interest.

Common patterns across both programs in unachieved objectives include: 1) *timing and resource constraints*, where companies reported an inability to complete planned work within project timeframes; 2) *external dependency failures*, such as the inability to secure necessary partnerships or pilot locations; and 3) *scope adjustment necessities*, where original objectives proved too ambitious or unrealistic during implementation. Notable differences emerged in the nature of unachieved objectives, with Food from Finland companies more frequently citing external circumstances (especially COVID-19) as the reason for failure, while Green Growth companies more often pointed to fundamental technical or economic barriers. Additionally,

FIGURE 31. SENTIMENT ANALYSIS ON PROJECT MISSION AND OBJECTIVES



Food from Finland reports tend to specify quantitative targets that were missed (e.g., specific revenue goals), whereas Green Growth reports more often describe qualitative technical challenges that could not be overcome. This analysis of unachieved objectives provides valuable insights for future program design and risk assessment in similar funding schemes.

SENTIMENT ANALYSIS ON PROJECT MISSIONS AND OBJECTIVES DISCLOSED TEXTS IN REPORTING

Figure 31 presents a sentiment analysis of project mission and objective statements in company reports from 2011 to 2023. The analysis examines how positively or negatively companies express their project missions and objectives in their reporting language, measured on a scale from approximately 60 to 90, where higher values indicate more positive sentiment.

The boxplot visualization shows the distribution of sentiment scores across different years, with the boxes representing the interquartile range (IQR) and the whiskers extending to show the full range of scores. Individual data points marked as circles and crosses indicate potential outliers in the sentiment scores.

Two key observations are highlighted in the accompanying text:

1. The reports contain both positively and negatively expressed statements regarding project missions and objectives, indicating varied communication styles and perspectives.
2. Over the analyzed period, there appears to be a trend toward reduced variation in sentiment scores. This decreased variability is suggested to potentially stem from increased coherence in how projects frame their objectives and expectations.
3. The data shows an interesting pattern where ear-

lier years (2012-2014) demonstrate generally higher median sentiment scores with greater variation, while more recent years show more consistent but slightly lower sentiment levels. This could suggest a shift toward more measured and standardized reporting language over time. The presence of outliers throughout the period indicates that while there may be a general trend towards more uniform sentiment expression, individual projects still occasionally deviate significantly from the norm in their communication style.

The trend towards more consistent sentiment scores might reflect increasing professionalization in project reporting or potentially greater alignment in how organizations communicate about their objectives and missions. However, it is worth noting here that while variation has decreased, the fundamental presence of both positive and negative sentiments persists throughout the period.

SYNTHESIS ON THE REPORTING TEXTS ON THE BROADER ENVIRONMENTAL AND SOCIAL IMPACTS REPORTED IN PROJECT FUNDING

The analysis of societal and environmental impacts from both the Food from Finland and Green Growth programs reveals a mix of concrete achievements and areas where impact measurement could be strengthened. For the Food from Finland program, three main impact areas emerge: 1)

environmental sustainability impacts, where some companies saw specific achievements like quantified reductions in packaging waste or concrete shifts to plant-based alternatives, while others make broader claims about sustainability without detailed metrics; 2) *health and nutrition impacts*, including some well-documented developments in areas like reduced sugar content and increased protein availability, though some health benefit claims would benefit from more rigorous documentation; 3) *socioeconomic impacts*, with some companies providing specific job creation numbers and clear examples of strengthened supply chains, while others reference more general economic benefits.

The Green Growth program demonstrates different patterns: 1) *circular economy achievements*, with several companies showing concrete progress in waste utilization and recycling technologies, though some projects remain at pilot scale; 2) *environmental technology advances*, including well-documented cases of emission reductions and improved water treatment processes, along with some more exploratory developments; 3) *resource efficiency improvements*, where companies often provide specific metrics for reduced resource consumption, though economic feasibility is not always clearly addressed.

Common patterns across both programs include: 1) *mixed specificity in reporting*, with some companies providing detailed impact metrics while others rely on more

general descriptions; 2) *varying stages of implementation*, from pilot projects to full commercial deployment; 3) *regional development effects*, with some clear examples of job creation and economic growth, though indirect effects are sometimes less well documented.

Notable differences however emerge in terms of the way in which impacts are characterized, with Food from Finland companies typically focusing on consumer-facing benefits and market impacts, while Green Growth companies emphasize technical achievements and industrial process improvements. This difference in focus makes sense given their respective domains but can make impact comparison challenging.

The programs appear to contribute meaningfully to Finnish society, particularly in areas like sustainable technology development and international competitiveness. However, future funding programs might benefit from more standardized impact measurement frameworks to help companies better document and validate their broader societal contributions. This would help distinguish between immediate achievements and longer-term potential impacts while maintaining the programs' positive momentum in supporting sustainable innovation.

6. CONCLUSIONS AND RECOMMENDATIONS



The aim of this evaluation was to produce an analysis of the relevance, implementation, results and impacts of Food from Finland program (2014-2023) and the relevance and longer-term impacts and added value of the Green Growth program (2011-2015). The results of the evaluation are presented for each program individually. The conclusions focused on the program group level, when possible, but are partly done at the program level.

The evaluation also produced recommendations for Business Finland in relation to future actions. Recommendations were made from two perspectives: thinking about the development of the program's themes and industries, and more generally about Business Finland's program activities and Business Finland's role in innovation and RDI policy.

RELEVANCE OF THE PROGRAMS

The Green Growth program was implemented during the period 2011-2015 with the broad aim of activating the transition to greener business models across various industries and value networks in Finland and in addition, to

promote the creation of sustainable solutions especially for international target markets. The program aimed to promote systemic change by influencing societal actors and by activating and funding RDI projects that would create new innovations and green business growth for future green markets. Food from Finland, implemented in the period 2014-2023, on the other hand, was a very different kind of program which aimed to internationalize the food industry and increase exports. The program was initially implemented by Finpro (2013-2018), and in the second phase of the program, by Business Finland (2019-2023). In the second stage the whole Business Finland repertoire of activities was included in the program, including RDI projects.

On the whole, both programs answered to a clear need for intervention in their program themes. In terms of Green Growth, it was important to respond to the growth potential of future green business markets by promoting the readiness and ability of Finnish operators enabling them to be better placed to seize the opportunities associated with green business growth. Previous actions in the theme were mainly focused on the Cleantech sector, so in the context of the Green Growth program it was important to get a wide variety of industries involved in the change and at the same time enable new growth e.g. with legislation. Similarly, in the Food from Finland program, one of the main ideas was to expand the export of Finnish operators to new countries,

when it was seen that Russian export markets were increasingly being closed off after 2014. In general, the program aimed to overcome the negative trade balance of the food industry in terms of exports and imports. It was important to open up new markets, because about 30-40% of Finland's food exports were directed to Russia. It was also important to develop the ability of smaller operators in the field to internationalize and export, where, it was deemed, there was significant room for learning and growth. Finnish food exports were generally seen as having growth potential in global markets, though some of the companies involved needed significant support. The high relevance of both programs was due to the background work done in their planning, where customers were consulted, market research was carried out and messages from Business Finland's forecasting activities were taken into account.

The evaluated programs were different in their intervention logic. The Food from Finland program was a more reactive measure to a pressing need, aiming for quicker (Horizon 1) impacts, while Green Growth was more proactive, considering future market developments with expected impacts that were likely to be more distant (Horizon 2 and 3). The Food from Finland program was very clearly focused on one industry sector and to its specific needs, while Green Growth, on the other hand, cut across a wide variety of industries, promoting the development of a broader theme that cuts across different sec-

tors. Food from Finland was a very precisely focused program, while the Green Growth program had wide-ranging goals targeted at societal level change.

Even though the Green Growth program was well timed, in some respects it was ahead of its time. The theme of the green transition has however subsequently become even stronger in the years after the program. As such, it has been easier to promote related activities after the program. On the other hand, the program itself was one of the main factors which helped create a basis for strengthening thinking around the notion of 'green transition' thus contributing significantly to the developments that have taken place since. The Food from Finland program was a long-lasting programmatic measure, being in existence for almost 10 years. The program became an established part of food export operations and industry sector cooperation. During its implementation period the need for the program remained high, at least for some of the operators in the field, while its relevance remained despite changing market-related and geopolitical situations.

Both programs reacted well to the need for change during their implementation periods with emphasis of their activities changing reactively. The Food from Finland program was able to map new target markets during the long implementation period of the program and, where necessary, initiate direct investments to promote exports to the countries in question. The focus of the program was refined

halfway through the period and, in accordance with the recommendations of the previous evaluation, more focus was sought to improve the effectiveness of actions. In a similar fashion, the Green Growth program's focus was evaluated after its initial years of operation. In the initial phase of the program, focus was placed on strengthening capabilities in respect of green growth and systemic change by undertaking extensive influence work on various actors in society. In the second half of the program, as envisaged in the preliminary program plan, the program aimed to significantly ramp up RDI project activity and the development of concrete solutions and services.

SUCCESS OF IMPLEMENTATION AND PROGRAM CONTINUUMS

The two evaluated programs were fundamentally different in terms of their nature and function. In the implementation of the Green Growth program, Tekes promoted a new type of wide-ranging influence program, which included, in addition to its traditional RDI activities, influence actions aimed at systemic change and international influence work. Similar features can be observed in Business Finland's current mission-related programs, which include a wide range of different types of measures. The Green Growth program can, moreover, be seen as one of the programs that influenced the shape of the current program concept. The Food from Finland program, on the other hand, was one of the first Finpro growth programs, paving the way for the sub-

sequent development of that program concept, focusing on export activities and improving the internationalization ability of its target group.

The two programs are however united by the fact that each has seen different stages in their implementation. The implementation of both programs developed during the implementation period of the program and in practice, one can identify two clear phases in both the Green Growth and Food from Finland programs. The first part of Food from Finland was Finpro's export promotion program, while the second was Business Finland's program, which aimed to introduce a wider variety of activities and services to the program. In the operation of the Green Growth program, different issues were also emphasized at the beginning and at the end of the program.

In the initial years of the Green Growth program, influence work was carried out and efforts made to lay the groundwork for wider actions enabling green growth for Tekes, partly as a new type of programmatic activity. In the second phase, in the final years, the program was shaped into a more traditional Tekes-type program activity, namely, as a program that funded RDI projects. In the initial years, the program challenged e.g. various actors (companies, state administration and the 3rd sector) to become more active and commit themselves to investments in green growth; tried to dismantle bottlenecks in legislation while efforts were made to create international relationships in

the target markets. The main challenge in the early years of the program, was that compared to normal Tekes program activities, the benefits did not emerge as quickly as desired. The focus was thus subsequently shifted more strongly towards RDI activities in order to generate concrete outcomes more quickly. The implementation of the program was, in part, an experimental activity at the start, from which lessons were learned. On the other hand, by the end, it had become a more traditional program designed to support the development of innovations related to the theme. On the whole, the program's level of ambition was very high, though it initially focused on 'difficult-to-achieve' changes in immature markets not as ready for exploitation as they are today. This brought challenges to the implementation and effectiveness of the program.

In the Food from Finland program, the means to create the desired impacts were considered appropriate, though some were more effective than others. For example, catalyzing cooperation and networking events, export promotion trips and customized customer meetings on the target markets and the promotion of electronic sales have all brought some level of success. In some of the export promotion activities however there have been no tangible longer-term benefits, with benefits remaining small and non-continuous. Another challenge for the program was the heterogeneity of its target group, the program faced challenges serving customers in very different situations and

in selling different products. As the program progressed, its implementation was focused, in accordance with the recommendations of the previous evaluation, on the target groups that would benefit the most, the most potential target markets and the most effective methods of operation.

The success of the Food from Finland program was however that it constantly innovated and its implementation methods were successfully developed over time. Another success was that important stakeholders were connected to the program's implementation process. Promoting food industry exports requires the support of food industry expert organizations and authorities, something which was specifically included in the program. In addition, through the Ministry of Employment and the Economy and the Ministry of Agriculture and Forestry, more funding was added to the program funding pot and at the same time the participation of the ministries in the programs increased their significance and thus the ability to get a wide range of actors involved (including key actors in the administrative sectors). The Food from Finland program was also created by a very efficient integration process between the management of the food industry, the Food from Finland program team, and the international team of Business Finland, which in one direction brought together the resources of various actors and increased the effective implementation of the program. As such, an impor-

tant part of the success of the program's implementation here was the competence and resourcing level of the personnel involved.

In the implementation of both programs, a special effort was made to open up international markets, from which lessons were also learned for the future. In the Green Growth program, a bold effort was made to open up potential international target markets for Finnish operators with the green growth market in mind. Cooperation and influence work was done with local partners. In particular, the BRICS countries and especially India were important target markets. The Food from Finland program, on the other hand, promoted export and internationalization together with similar operators in other countries. It was impressive to combine resources with, for example, operators from Sweden, Denmark, Estonia and Latvia. In particular, cooperation with the Try Swedish program was extensive and close and proved a good course of action. The program also trained the contacts of Business Finland's international networks in the target countries with the needs of the program's internationalization and export promotion goals in mind, and in this way it was possible to implement, with competent personnel, actions tailored for the food industry in the target markets. The program also collaborated with foreign universities and developed expertise in the field. In both programs, it was generally seen as important to

boldly increase the cooperation of international players and work to influence the international market.

In sum, significant lessons were learned from the implementation of both programs, particularly for those that followed them. The Green Growth program laid the groundwork for the implementation of bold new programmatic actions. It is important to activate the field purposefully and to create connections to global markets with a view to opening up new market opportunities there. Moreover, activities like this require the necessary application of time and knowledge as well as the right target-relevant products for the markets concerned. From the Food from Finland program, lessons were learned specifically about more effective ways to promote food industry exports. In addition, the growth program concept developed as part of the program and was subsequently transferred to Business Finland, eventually becoming part of the Business Finland program model which has a wider selection of activities.

Both programs have connections to previous, simultaneous and later development programmatic activities. Green Growth was preceded by programs that tried to develop sustainable business, especially in relation to the Cleantech theme. Green Growth however expanded the theme to more broadly encompass different industries and laid the foundation for future activities. Green Growth was followed by several different Business Finland programs (like Smart Energy, BioCircular, Sustainable

Growth, Sustainable Manufacturing in Business Finland and the Circular Economy program in Sitra etc.,) which were connected to the sustainability theme and promoted the growth of green business. Green Growth is one significant part in this chain of programs, which led, for example, to an increase in the significance of the theme in Business Finland. With the Green Growth program, it is possible to identify connections and continuities with the programs that followed it in terms of the continuity of the program's personnel and development work, as well as in how the theme of green growth can be seen in the new programs. In general, the theme of sustainability has become a more central theme in Business Finland's strategy.

Preceding the Food from Finland program was e.g. the Sapuska program, which was a more traditional Tekes-type RDI program. Before the Food from Finland program, there was no comprehensive export promoting program connecting different actors and key players. Export work was more fragmented before Food from Finland and, as such, it was the first activity and platform to gather actors together on a broader scale for export and internationalization activities. After Food from Finland concluded in 2023 however, a clear cooperation and export promotion platform in food and beverages industry no longer exists. There are however plans to, at least partly, replace Food from Finland's activities, and smaller-scale activities have subsequently been implemented. Food from Finland, as Finpro's growth

program, has however generated lessons related to other growth programs and the export promotion activities that followed it, and through this the program has created its own kinds of continuities.

The recommendations of the previous Food from Finland evaluation were quite successfully taken into account in the further implementation of the program. This was particularly visible in the program's strategic choices, where the focus was narrowed to measures that worked better, with efforts directed more strongly at companies with the most potential to succeed in export terms.

RESULTS, IMPACTS AND ADDED VALUE OF THE PROGRAMS

The evaluated programs each had different types of goals. The Green Growth program aimed to enable the growth of green business by promoting a wider systemic change, by opening doors to global markets and by supporting RDI-activities to create new green innovations. The Food from Finland program was, on the other hand, a straightforward export program and its most important impact can be seen in the growth of food and beverage exports and in the improvement of the ability of the industry's operators to engage in international growth. Both programs were successful in furthering their respective goals, but in both programs some goals were promoted more than others.

The Green Growth program sparked discussion as well as challenging and influencing general thinking, particularly where it was envisaged that the promotion of green growth

would be extended from the cleantech sector to various industries and organizations in society. The program represented one part of a broader attempt to strengthen green business thinking encouraging different operators to better realize its business possibilities. The Green Growth program served as one link in the chain, which has led to the fact that today the green transition appears prominently on the agenda of Business Finland and more widely in society.

In addition, the program can also be seen to have contributed to the improvement of business opportunities for green growth. In the program, interesting business models were generated and growth opportunities were opened up. The program also increased confidence in the ability of Finnish companies to develop and commercialize interesting green solutions internationally. It also influenced the cooperation and interaction of different actors in the theme. To some extent, this was also reflected in the possibilities around international cooperation.

Evaluation data shows that the Green Growth program supported and enabled business growth among the companies that received funding and implemented RDI-projects in the program. In terms of turnover, these companies have clearly grown more than similar reference companies. Over an eight-year period, the median revenue growth for companies participating in the Green Growth program was 77.5%, while at the same time it was only 17.1% for a control group of similar companies. The positive impact is particularly evident in promoting the effects of international

growth. The program's benefits and impacts on business were also felt to be greater in several of the companies where the turnover growth has been greater. From this it can be concluded that at least part of the growth of companies is based on green business. However, these companies business profitability has not developed in a significantly better way. The background, at least in part, may be that improving the profitability of a new green business takes time.

Considering the activities of Tekes and Business Finland, the program, for its part, strengthened the status of the theme of green growth in Business Finland, something which has been further strengthened since the program ended. The Program was followed by several other programs with same theme and Green Growth can now be seen as part of longer chain of measures to strengthen the significance of the theme in Business Finland. The Green Growth program also introduced novel ideas into the development of Business Finland's program concept.

In its own lifetime, the program did not manage to bring about change to the extent and to the depth foreseen in terms of its original expectations. More significant changes have however followed in terms of the program themes subsequent to its conclusion. The program thus undoubtedly played a role in terms of these longer-term changes to the development of green business.

In the Food from Finland program, exporting and the internationalization of companies was activated and supported, making export growth possible. The general goal of doubling food exports from 1.6 billion to 3 billion euros was not however achieved during the program, but in relation to the challenges in respect of food export activities to other countries and the challenging developments occurring in the operating environment, the growth of the industry's exports can be considered a success. According to the Finnish Food and Drink Industries' Federation, the value of food exports in 2023 was approximately 2.2 billion euros. After the collapse of Russian trade, which represented some 1/3 of the Finnish food exports in 2013, the program however proved important in supporting export growth to new markets. The program enabled openings to new markets supporting export-led growth to new markets.

Several of the companies that participated in the program increased their exports during the program period. According to the results of the evaluation, the Food from Finland program has had a part to play in this process for many companies. For example, the export development of companies participating in the Food from Finland program has clearly been better in the period 2014–2023 than the overall export development of the food manufacturing and beverage industry. The effects on exports have arisen mainly due to export services. It should however be

noted here that the program was particularly successful in promoting exports to EU countries. The Program has also succeeded in finding new export markets for companies affected by the war in Ukraine. A significant observation here is that those companies that have more actively participated in the program's export promotion services have also increased their exports more. This suggests that the programs services have had an impact on the growth of international business for several companies.

According to the results of the evaluation, Food from Finland has had a part to play in this for many companies. The effects on exports have occurred mainly due to export services. It should be noted though that for those individual companies that increased their exports, the importance of the program undoubtedly varied. While large players could already promote their export offers more independently, for SME's, the program services have been more important. The program has made it possible for SMEs in particular to make contacts, gain access to electronic sales and marketing channels, increase visibility and thus improve their ability to export and internationalize.

A key effect of the program has also been the improvement in terms of strategic understanding skills in the business field in relation to export and internationalization among the group of companies that participated in the services. The program was also important in increasing cooperation and networking in the sector, gathering together resources and coordinating export promotion activities.

A significant challenge to the creation of impacts in terms of internationalization and exports in the food sector for some of the companies was, however, that breaking into international markets is not something that is at the center of these companies' business strategies. Some of the companies participated in the program's services but did not have a clear desire - and were simply not ready to - sufficiently invest their own resources in internationalization. On the other hand, some of the services were small and they did not have long-lasting benefits or effects on the companies concerned. If exports are to be further increased, companies in the sector must be trained more extensively and their ability to internationalize needs to be better facilitated.

Both the Green Growth and the Food from Finland programs have influenced their program themes and have had a role to play in the long-term development of their program themes. From today's point of view, the added value of both programs can be examined in their own themes after a longer period of time with the 'added value' factors during the implementation of the programs highlighted. The added value of the Green Growth program can be examined almost ten years after the end of the program. The added value of the Food from Finland program, on the other hand, can be seen from the perspective of activities that have lasted for a long period of time, which, however, has only recently been concluded.

The 'added value' of the Green Growth program can be seen in the strengthening of the 'green transition' theme across a wide range of industries. The program played an important role here alongside other factors, bringing credibility to green business and opening up paths for its further development. The programmatic investment was important in this case, as it increased the importance of the issue and promoted the theme more strongly onto Business Finland's agenda. In addition, the level of understanding was deepened regarding the business possibilities associated with the green growth theme in the program's activities and projects.

The Food from Finland program functioned nationally as a platform that brought together actors in the food industry and it worked as a coordinator for export promotion activities. Food from Finland was important then in that the program was a permanent and long-term platform, which delivered long stability in relation to the promotion of exports in the sector. It was clearly an important factor here that there was a program in existence uniting companies and key players in the field enabling them to combine resources and provide the necessary support required for export promotion activities. This had not existed either previously or since to the same extent. Another important 'added value' in the context of the Food from Finland program was, that it offered a common national brand to food industry operators. This undoubtedly improved the visi-

bility of Finnish operators and enabled a broader level of attention to be given to the overall offer of Finnish actors in the food industry. The key added value of the Food from Finland program was thus that, particularly for smaller companies, it enabled export promotion activities and the facilitation of their capabilities as export-oriented operators.

RECOMMENDATIONS

The role of the following recommendations is to provide Business Finland with suggestions on how the food and beverages industry and the green growth theme should be promoted in future as part of the organization's operations. In addition, recommendations have been drawn up to develop the program activities in respect of Business Finland. These recommendations are based on the development needs and learnings derived from the evaluation material with the recommendations drawn up comprehensively, taking into account the different materials.

RECOMMENDATIONS REGARDING THE PROGRAM THEMES OF GREEN GROWTH AND FOOD AND BEVERAGES EXPORT ACTIVITIES

The Food from Finland program represented a central platform for food industry exports and internationalization activities over the past 10 years. At the end of its operation, there is still a need for coordination and cooperation of export and internationalization work, but at present, it

is unclear how this should be organized. The control countries have established state-led structures related to the matter. At the same time, when Food from Finland ended, many of the structures, methods of operation and know-how created in the program were no longer utilized, unless this specific issue is comprehensively addressed this represents a wasted opportunity. Business Finland should also play a central role in industry development in the coming years, especially in RDI activities. The industry offers a lot of business possibilities which could further be exploited with strong RDI investments.

Development recommendation 1. After the end of Food from Finland program concluded and the possible transfer of export services to the Ministry of Foreign Affairs, the status of the food and beverages industry should be clarified and strengthened in Business Finland's agenda. The food and future food systems theme could be made stronger, potentially as a sub-theme, under a broader mission.

Development recommendation 2. The emphasis of R&D activities in the food industry could be specified and determined in Business Finland more specifically. It would be important to clarify in co-operation with the actors in the sector, which specific expertise areas Finns have the opportunity to stand out and create competitive, commercializable innovations.

Development recommendation 3. After the Food from Finland program ended, the roles of food export actors should be redefined in cooperation between Business Finland, industry actors, Suvi ry, Ruokatieto, the various ministries involved, and other stakeholders. It would be useful to establish a shared vision and clarify stakeholder roles. Furthermore, a new established platform for export promotion could be created for the sector. Based on the Food from Finland program, a continuation of the new export and internationalization support platform is needed.

Development recommendation 4. It should also be considered whether the continued use of the Food from Finland brand could be made possible in future and the matter should be investigated further by Business Finland. If the use of brand is continued, it should also be coordinated with various actors responsible for promoting exports.

The theme of green transition and green growth has been high on Business Finland's agenda in recent years after Green Growth program. They are especially visible in Business Finland's missions Circular Transition for Zero Waste and Zero Carbon Future. Business Finland should continue to take on an even stronger role and guide development of the theme and influence nationally and internationally in the promotion of perspectives that are important to Finland. At the same time, the R&D activities of Finnish

actors should be directed towards global market needs and themes that require global solutions and to international markets. The international commercialization of solutions requires courageous influence work and participation on the international stage.

Development recommendation 5. Business Finland could secure a clearer role for itself to guide the development work in respect of green growth in the future. This would require that the organization retains sufficient understanding and ‘know-how’ and, through funding and influence activities, the opportunity to influence the development of the theme nationally and also internationally. The status of the green growth theme in relation to emerging themes in the evolving operational environment should be evaluated and an ambitious approach should be secured to foster competitive concrete solutions, services and business advancements.

Development recommendation 6. Regarding the Business Finland R&D activities related to the theme of green growth, it should be ensured that the starting point should be the development of global-level solutions to international target markets.

RECOMMENDATIONS REGARDING THE PROGRAM INSTRUMENT AND BUSINESS FINLAND

Business Finland’s internationalization and export services may be transferred to the Ministry of Foreign Affairs in future. In this situation, it is necessary to note that the innovation-commercialization-internationalization process of Business Finland as a whole will continue to function uninterrupted into the future as well. The potential challenge here being that innovation activities are carried out too distantly from international commercialization efforts.

Also in future, there is need for different types of Business Finland programmatic activities. There is clearly a need for programs that aim to bring about extensive systemic change in mission themes. In addition, also for industry-specific programs that drill down to the specific needs of potential users.

Development recommendation 7. Business Finland and other relevant actors should ensure the functionality of the innovation—commercialization—export pathway between Business Finland’s innovation activities and the future export promotion services in the Ministry of Foreign Affairs. A clear process should be planned to ensure that the transfer of innovations to export promotion activities works efficiently. This should also be explicitly noted in the context of the program activities.



Development recommendation 8. Based on the results of this evaluation, in future, it would be important that Business Finland implements programs that aim to bring about broad systemic changes in mission themes, as well as industry-specific programs that drill down to specific needs.

Development recommendation 9. For future programs, it would be useful that clear customer groups are defined for the programs. This helps to direct and tailor the program measures according to the needs of the customers and, on the other hand, to monitor whether the programs produce the desired separate effects.

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