CORFO

MANAGER TRAINING PROGRAMME "FIT FOR PARTNERSHIP WITH GERMANY"

REPORT ON THE PERIOD 2017-2021 IN CHILE

Micro, small and medium-sized enterprises of Chile facing the pandemic

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CONTENT

DISCLAIMER

All the data collected are analysed with the only purpose of retrieving statistical information. We strictly respected the law on statistical confidentiality[1] and we do not explicitly refer to persons or companies.

Some data are available only since the second semester of 2020, when additional queries were introduced in the application form. Moreover, in spite of the effort to clean the database from inconsistencies, there may still be some data that introduce some minimal degree of incoherence in the observations. For instance, when applicants register a data twice with distinct spelling. Anyway, statistical quantities given in this report are assumed to be representative of the universe of applicants. Unless otherwise stated, all statistical quantities are approximated to integer numbers.

This document is intended to be read preferably in digital format, as many figures could not be produced in a user-friendly format without the use of colours, making them difficult to be read in black and white printouts.

1. www.ine.cl/institucional/buenas-practicas/secreto-estadistico

Abbreviations and acronyms

(in alphabetical order)

B2B	Business-to-business
BMWi	German Federal Ministry for Economic Affairs and Energy
Corfo	Corporación de Fomento de la Producción, the Chilean economic development agency
EIRL	Individual limited liability company, for its acronym in Spanish
EU	European Union
F4P	Fit for Partnership programme, or MP
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH, the German Corporation for International Cooperation
MP	Manager Training Programme, or F4P
Province	Al regions of Chile but RM
R&D	Research and development
RM	Metropolitan region, for its acronym in Spanish
SA	Limited company, for its acronym in Spanish
SGR	Mutual guarantee company, for its acronym in Spanish
SME / SMEs	Small and mid-size enterprise / enterprises
SpA	Joint stock company, for its acronym in Spanish
SRL	Limited liability company, for its acronym in Spanish
UAT	Territorial Analysis Unit, part of the Networks and Territories Division of Corfo, in charge of the coordination of the programme in Chile
UF	Unit of account used in Chile as a non-circulating currency that is adjusted for inflation on a daily basis
Unit	Refers to UAT

Nomenclature

(by steps of the programme)

Registrations	Refers to the records (data) that people have saved in the application platform, regardless of whether they submitted their application form
Applicants	People who submitted their application form, i.e. records were submitted
Participants	Applicants selected to participate in MP
Alumni	Participants who have successfully completed the programme
Generation	All the alumni of a given programme year. For instance, generation 2019

HIGHLIGHTS AND RECOMMENDATIONS[2]

The Manager Training Programme of the German Federal Ministry for Economic Affairs and Energy (BMWi), "Fit for Partnership with Germany", started in 1998 as an element of German foreign trade policy. The programme provides managers of small and medium sized companies (SMEs) in 21 partner countries with the possibility to become familiar with the German market, to establish business relationships with German SMEs and to build long-term partnerships. Through this experience, the participants have become familiar with the German business culture, have gained first-hand practical know-how from visiting German companies and have come into direct contact with potential German business partners.

In Chile, the programme started in 2017 with a first pilot phase, which was repeated the following year. After five years of Fit for partnership with Germany, it was time to evaluate the programme in Chile and this report stresses the need to be forward looking. Since the pandemic, the programme changed from an on-site version in Germany to a fully remote implementation. Some of the changes could be permanent. In particular, digital tools have shown to bring more efficiency in the realization of the programme and made it more accessible to people living in rural regions as well as those who are far away from the metropolitan region and the international airport. On the other hand, feedback from our alumni clearly indicates that face-to-face contacts with German entrepreneurs are not only the main feature of this programme but are essential for successful negotiations. This peculiarity of the programme made it different from the large quantity of training programmes available online.

This first part of the report gives the reader a summary of the main indicators, the practices that brought efficiency to the management of the programme (refers to Management in Chile, section 1 to 4), and a review of the most relevant outcomes of the analysis (Parts A to C).

Greater accessibility combined with a less attractive online programme may have compensated and, in the end, the number of applications has not changed so much over the pandemic. Both the social protests that began throughout the country in October 2019 and the onset in Chile of the pandemic in March 2020 had consequences on the applications. However, these two events may have had opposing, and to some extent, balancing effects. Indeed, considering the feedback received from participants, one possible scenario describes the social protests has an explanation for less interest from our target audience, SMEs being forced to prioritise other very short-term goals aimed at mitigating the negative effects of the protests on their business. On the other hand, after the first months of the pandemic, there may have been a reverse effect, as SME entrepreneurs sought tools to get in touch with new potential customers remotely (part of the digitalisation process observed in Chile and worldwide).

2 In this part of the report we use brackets [ ] to indicate the page containing details and related information.

The applicants at a glance

Indicators averaged over all years with available data.

The alumni at a glance

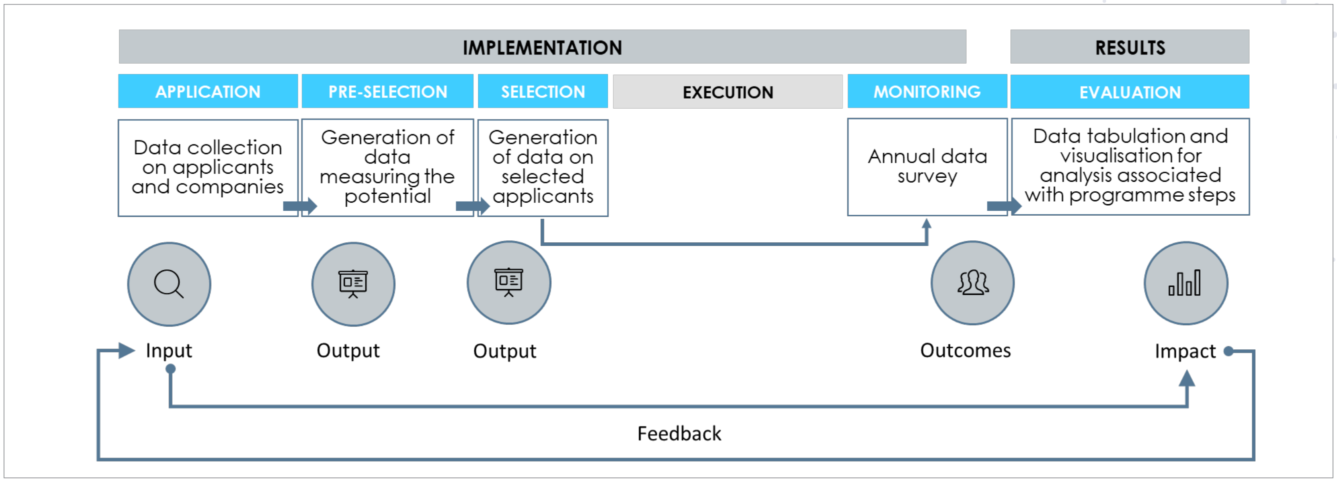
Unless otherwise specified, the indicators are averaged over both surveys 2020 and 2021.

Best practices in the management of the programme

Promotion [12] is intimately associated with communications plans. These are essential to get good applications, especially when the program does not provide subsidies such as those from Corfo. It is then of critical relevance to include the program within Corfo's regular offer and using the resources of communications and marketing department. As a matter of fact, we could reach all regions of Chile thanks to the journalists of Corfo's regional offices and using traditional local media. At the same time, dissemination through digital media allows to massively reach SMEs managers and entrepreneurs of the whole country. Questions from applicants have been reduced thanks to the publication of frequently asked questions and answers.

Application phase [13] is centred on the collection of data, a key ingredient for the continuous improvement process. Hence the need for a unique platform, which makes the application a user-friendly and standard experience. Corfo's project application platform made possible the creation of an important database, which quickly delivers information. The database establishes a baseline for quantitative variables that is then compared with other sources to look for changes in our alumni companies' figures. We also could reduce the opening time of the calls to 30 days with no effect on the number of submissions.

Monitoring and evaluation [15] is based on the premise that by exploiting data generated from the application system, and unifying with follow-up surveys, we can identify those entrepreneurs who have achieved results with the programme, including those who have done business with German companies. Thus, the purpose of the monitoring and evaluation model we have designed is to understand the dynamics of the programme through the collection of data from the application to the exit of the participants. This follow-up process illustrated in the following diagram delivers qualitative and quantitative intermediate results that contribute to ensure good practices, improvements, corrections and learning to the Territorial Analysis Unit of Corfo, which is in charge of the coordination of the programme in Chile.



Participation to surveys and quality of data collected are much better when sensitive matters are avoided, such as sales or investment amounts. These queries may be replaced pointing to perception-like questions or indirect and non-mandatory questions, such as the number of new business agreements or areas of investment. The level of knowledge on the alumni and their achievements within the programme makes possible the selection of the most appropriate success stories when promoting the programme to the general public, Corfo authorities, or political stakeholders. This helps to ensure the commitment and support of the authorities in the development of the programme activities and in the renewal processes of the joint declaration.

Who's applying

Since the programme started with a pilot in 2017, we had 774 applicants and 202 alumni [16]. The following summarises the universe of applicants, and with few exceptions also alumni, and their companies with statistical descriptions of their characteristics.

The typical applicant is a man, 1 in 5 is a woman, of RM aged between 30 and 50, with higher education level in engineering, but little or no international experience [18], while selected applicants tend to have several years of experience in doing business with foreign companies (although this is not a selection factor). After three years from the beginning of the programme, in 2019, we had received applicants from almost all regions. Still half of the applicant companies are located in the metropolitan region, while Valparaíso, Biobío, Los Lagos, and La Araucanía exhibit increasing participation trends [17]. The highest selection rates, although with few applications, are found in regions with much less applicants: Magallanes, Ñuble, Los Ríos. Mobility between regions is important. It is not just applicants living in Santiago and managing SMEs in other regions. Of course, the metropolitan region shows the highest out and in flows, in particular because of some municipalities concentrate offices were applicants come from 12 of the 16 regions of the country. Another mobility hub is Valparaíso [17]. The typical applicant is usually working in a micro or small company since less than 6 years, being the owner or part of the top management, supervising less than ten subordinates.

On the applicants' companies

Companies are mainly of micro or small size. The former have increased their participation and last year they came to match small companies [23]. The dominant business activity is services [21]. However, the selection process tends to favour production and trade by increasing their relative participation within the selected applicants. Historically, production companies have reduced their participation in the programme in favour of more service businesses. In fact, the main economic sectors of applicants and participants are services, professional, scientific and technical activities, then comes agriculture, forestry and fishing, and manufacture of food products. Related to these sectors, the main line of activity is centred on the development of software solutions and the working areas most cited are energy and water. Accordingly, the most widely used or developed technologies are information technologies, manufacturing or advanced manufacturing, and energy technologies.

There is poor diversification in the applicant companies [22]. Their sales are based on one or two products or services. On the other hand, half of the companies are developing new products or services and they are mostly doing it with other companies or universities.

Business relations with Germany are already quite strong when SMEs apply to the programme, Germany being the second country with business relations after Chile [24]. This may surprise, but one has to consider the possible bias as these are applicants for a programme which purpose is directly related to Germany. This raises the question whether the applicants had already any interest in doing business with Germany prior their application.

Are we essentially reaching out to those managers who were already willing to do business with Germany, despite no contact was established as discussed in next section, or are we reaching out to managers who would not have done any business with German companies, if not for the programme?

Most of the known competitors are established in Chile, but only one in three applicants can name a competitor.

When looking at how much the applicants know of the competence, the findings are alarming and confirm the need to work on this specific and relevant topic.

On the projects of cooperation

Interest for German companies continues to be focused on products, while services are attracting growing interest [27]. Quality appears to be a key factor, as well as the possibility to do joint developments of new solutions. Energy used to be the activity sector of main interest. A large majority of SMEs had not contacted any German companies when applying [28], showing a rather low level of preparation to the programme. Preferred forms of cooperation are import/export, joint ventures, and local distribution. Most applicants are looking for companies in the areas of energy, water, and technology. Hydrogen is the new relevant field in 2021.

The interview

The interview is key to evaluate previous experience or familiarity with German culture. One in ten participants is part of a holding, and despite this, can be accepted in the programme as long as it is not a large international holding or German based [20]. Interviews are also fundamental to assess the real intentions of the applicants and the timeliness to participate in case their vision is not compatible with the programme. In few cases the interview reinforces weak applications that, otherwise, would have been discarded. In very few cases, the interview may even detect unique innovative companies. In the end, the interviews reject two in five interviewees because of some inadequacy or mismatch. Applicants often overestimate their proficiency in English to such an extent that it is one of the main reasons for rejection, as well as the difficulty to implement the proposed project, looking for large German companies, or too small productions.

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On the programme

If we consider the participation to the surveys as a proxy of participation to the programme, as alumni, then we could preliminarily conclude that the life of a generation of the programme is of three years before the alumni of the generation start to disconnect. Note that this will have to be confirmed or corrected with more surveys.
The alumni's perception of the training programme is generally positive [30]. After their participation, they approach the business in another way, they learned how to briefly present their business with more confidence.

Assuming the programme had to continue with the same pandemic scenario for some time, we could explore the possibility to hold virtual fairs. Regardless of the pandemic scenario, we suggest coming back to sectorial calls with participants grouped by selected topics. It is beneficial for many participants and for us as economic development and innovation agency.

Overall, both the pre-pandemic edition and the online training version had the same intensity. Beyond the format of the proposed trainings, the participants prefer to visit companies, participate to workshops or coaching with other participants. Basically, people prefer group training activities. In terms of content, the preferred topics are related to new products/services, the relation business-science-R&D, international business models, communication, networking and innovation management.

We suggest addressing market and technology watch in the training programme. We knew Chilean SMEs need to be sensitised and educated to this field. Despite this is one of the last choices within the list of preferred topics, it is intimately related to innovation management and business-science links. Participants would also benefit from working on obsolescence management.

Company changes induced by the programme seem to vary within the generations. One change is always present, the introduction of new or improved products or services. Finally, the main barriers the alumni had to face to close business deals during the first year following the training are the size of the project and the investment, the alignment of the project with German companies, an incipient market for their products or services, the lack of preparation, and in particular for the 2020 generation the lack of interest from German companies.

Alumni business and network growth

Employment outlook for next year is much better than jobs creation during last year. This possible signal of post-pandemic reactivation is concomitant with persistent investments made by the alumni since 2019. Only the nature of investments changed. While two years ago investments were mainly in infrastructure, last year new software solutions were installed, possibly revealing the digitalisation process many SMEs are undergoing. Two years ago, there were twice as many alumni doing new business with other Chilean companies (know through the programme) than with Germans. The trend changed in favour of German companies. The proportion of alumni who closed new business deals within the programme suffered a reduction over the last year, but their number increased because of more participants [34]. Most important, companies known though the programme have more than doubled. In particular, the number of German companies has sharply increased. Generation 2020 has been particularly efficient in achieving new agreements with Germany and developing its national business network. Representing a foreign company in Chile is to date the first nature of business. It is followed by the joint development of products or services. Last option is to buy technology to modernise the own company.

The significant expansion of the alumni business network in Chile is as unexpected as it is beneficial for the Chilean SME ecosystem. Client companies (of our alumni) have significantly increased in the last two years, while providers have declined a little [36]. Interestingly, alumni established in Province tend to have more providers than those of the metropolitan region. In the last two years, we have also observed a reduction of alumni with no clients, i.e. not providing other companies but selling directly to final consumers who may be natural persons. A quarter of alumni is in this situation today. Collaboration with competitors worldwide has increased since the first survey of 2020, from half to almost three quarters of the surveyed. Today, almost one third of the alumni do collaborate with German competitors [37]. While provincial alumni companies have more providers than metropolitan companies, the latter are more likely to collaborate with Germans. This result is to be discussed in view of previous observations on the alumni when they were still applicants and only one in three applicants could name a competitor. Once the programme finished, not only the alumni who can name competitors are many more but also collaborate with them. However, and in a somewhat contradictory way, market and technology watch is within the less preferred topics, although it is directly related to the knowledge of competitors.

General comments

Based on the experience of the pandemic, we recommend a forward-looking approach that introduces the permanent use of digital communication tools in the realization of the programme. This technology can help our SMEs to overcome the remoteness, transportation costs, and accelerate the digitalisation process many companies have undertaken. Our objective is to strengthen the programme in Chile as part of a policy dedicated to the development and diversification of local economies, improving their attractivity.

We have seen that there are twice as many small companies as medium companies that did new business with German companies through their participation in the programme. Furthermore, when looking at this successful companies, the proportion of women is reduced from one third to one quarter with respect to men.

MANAGEMENT IN CHILE

Before investigating the profile of the participants, their companies, and results within the programme, we first describe the main changes introduced in the management of the programme in Chile since it started in 2018 following the pilot phase in 2017. Since 2019, the programme is managed by the Territorial Analysis Unit (UAT) with few staff changes. Given the specialisation of the Unit in data analysis, the Unit has put significant efforts in improving the management and implementation of the programme, taking advantage of the know-how and expertise of the Unit, with particular focus on the promotion, applications, selection and monitoring of the programme.

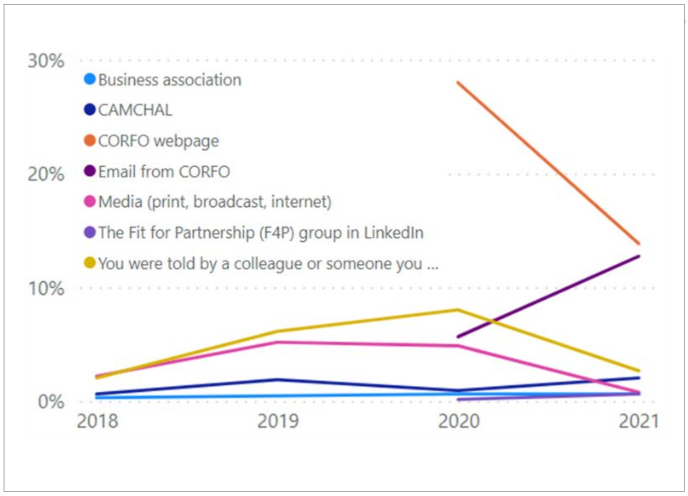
Thanks to the creation of data bases and an extensive use of dashboards, the Unit has been able to analyse the progress of the programme so far, identifying strengths and weaknesses.

This report covers the period starting with the pilot in 2017 and includes data until October 2021. The last participating group included is number 16.

1. Promotion

Promotion is the first step in every call for applications. Over the years we have strengthened the collaboration with Corfo's regional offices to reach out to most of the SMEs in the territory. As a matter of fact, only recently we achieved registrations from all regions of the country, with applications submitted from 15 out of 16 regions (see section 5 Territorial participation).

Corfo's communications and marketing department has been playing an increasingly important role with the design of advertising material. The large mailing list has proven to be the most efficient way to advertise the calls. Direct mailing is showing the major increase within the promotion channels, despite a constant effort to advertise the programme in local digital and traditional media. The LinkedIn group and account are channels to be improved, as well as the very recently created alumni network not shown in Graphic 1. The graphic shows that we also have to strengthen the relation with business associations.



Graphic 1. How do people find out about the programme. Percentage numbers refer to 636 application forms. Source: 538 submitted and 98 not submitted application forms.

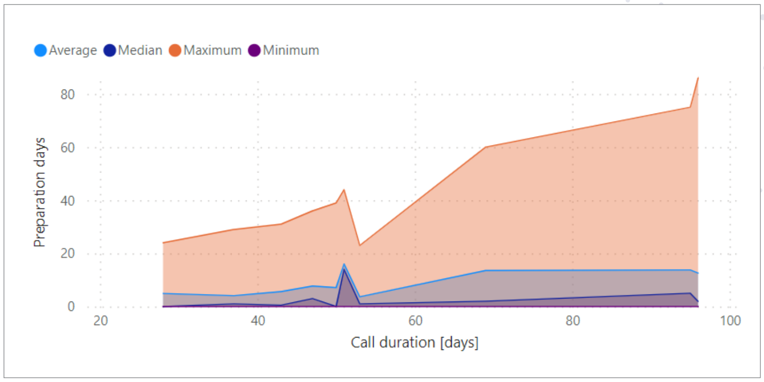
We are trying to limit any communication with applicants or interested people to a unique and exclusive e-mail address f4p.chile@corfo.cl , which is intended to be permanent regardless of any changes in staffing. This prevents people from losing direct contact with the programme in Chile. We have increased the visibility of the LinkedIn group Fit for Partnership (F4P) with Germany – CHILE (www.linkedin.com/groups/12133386) with the creation of an account F4P Chile (www.linkedin.com/in/f4p-chile) linked to the previous email, through which we promote calls, news and events of interest for the alumni and potential applicants.

There has been a fast decrease in the number of questions received during the calls since we started to publish frequently asked questions and answers in the page of the programme www.bit.ly/f4pchile. This recently created page gives much more details, comments, and links than the official call web page on Corfo's website. It has demonstrated to be an efficient tool in the management of the calls.

Once the programme in Chile reached a sufficiently large number with about 150 alumni, and reviewing previous unsuccessful initiatives, we recently succeeded in generating the dynamics for the creation of a network of alumni in Chile. The strong participation of a couple of alumni has been a determining factor. The result is a webpage www.asogich.org created, managed and run by alumni. The webpage was launched in April 2021 during the first webinar MP Chile México, organized by Corfo and both the Chilean and Mexican alumni networks. More than 60 people participated, from both countries to share experiences and contacts. The founders of Asogich are moving forward, willing to formalise the network as an association.

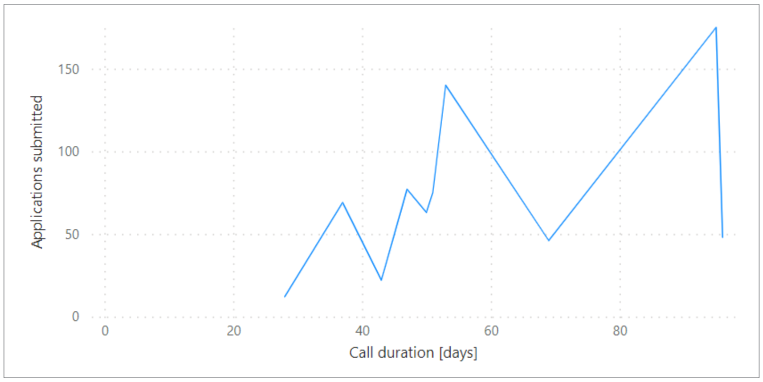
2. Application phase

The applications are managed with Corfo's application platform which requires a login. The platform, used for MP since 2018, allows the data to be registered for later submission and most important the platform enables the creation of a database. The latter is relevant for a better management and exploitation of the information provided by the applicants. We went into more detail and supplemented the application form to acquire a better knowledge of our applicants in terms of their professional profiles, their companies and project within the programme.



Graphic 2. Relation between quantity of applications and call duration.

On many occasions we have been asked about the time needed for a successful call. As it turns out, the calls can be shortened (at least) to 30 days, without much stress.



Graphic 3. Application time and call duration.

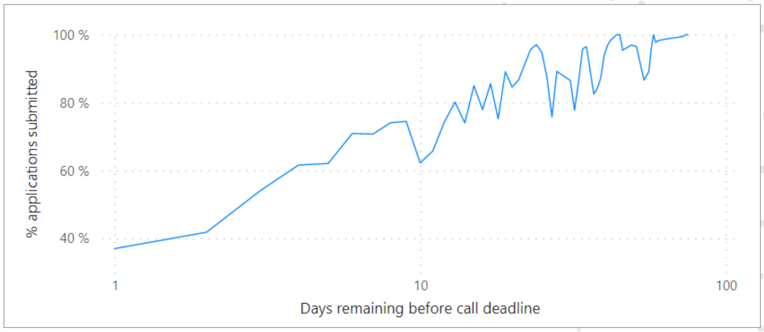
There is no evidence of any relevance of the call duration neither for the time of preparation of the application (Graphic 2) nor the number of applications submitted (Graphic 3), at least for calls of 30 days or more.

The increase of maximum preparation time with longer call durations is due to few applicants who started the applications prematurely without submitting their application before the very last days. This confirm that it is not necessary to allow much time to a call, except for promotional purposes.

The last few days of the calls account for most of the submissions (Graphic 4). On average over all calls, 90% of the applications are submitted in the last 30 days, and 80% in the last 15 days. The very last days, 3 to 4 days before the closing, more than 50% of the applications are still to be submitted.

Based on these observations, we could conclude that it should be possible to shorten the calls, even below 30 days, without much stress on the process.

As previously mentioned, the application forms ask for more information than the original GIZ form. Since additional queries were introduced in 2020, in part because of the pandemic, the following numbers refer to applications of 2021, which are representative of the new form. However, many questions are optional, and the filling is less and less as one progresses through the form[3]. The average filling of the submitted forms in this last period is 71%. Half of the forms have more than 70% filled in (median value). Consider that half of the queries are mandatory. In recent calls we started to reinforce the mailing from Corfo (1 Promotion) in the last days of the calls with reminders to people whose application form had not been sent, as the platform records submitted and unsent forms. This approach did show a slight increase in the applications. The programme is attractive to many more people than just those who applied. Indeed, only one in ten people who entered the application platform finally applied. Although the creation of an account is fast, one has to have some clear interest in the programme to create the account.

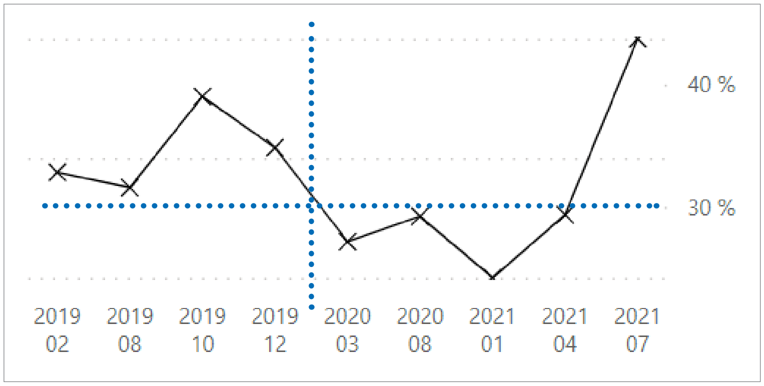


Graphic 4. Percentage of applications averaged over all calls in the remaining days before the closings of the calls.

We will have to answer the question: why do these people end up not applying?

Pandemic effect

Before the pandemic, the application rate among registered persons was fluctuating between 32% and 39% (Graphic 5). During the pandemic, the rate dropped to 24%. It started to grow in April 2021 recovering pre-pandemic values and higher. The last call, in June 2021, registered 44%.



Graphic 5. Application rate. Percentage of applications with respect to registered people (year and month of the calls). In 2017, the application platform was not yet in use. In 2018, only processed applications were registered in the platform.

3. Selection phase

Less than half of the applicants (between 30% and 50%) are selected for an interview. Once selected for an interview, applicants have to register. We started working with the platform Microsoft Bookings. We let the applicants book their interview within the timeframe allotted in agreement with GIZ. It is also a way to make them more accountable for their applications.

3. The initial part of the application form is dedicated to the participant and shows the highest filling with 60% of the forms filled in with more than the average filling (91%). Note that 74% of the queries are mandatory. The second part of the form is about the company of the applicant. The filling rate is lower, 44% of the forms filled in with more than the average filling (74%), and 45% of the queries are mandatory. The last part of the application form is about the project and the identification of German companies of interest for the programme. It has the lowest filling rate with only 27% of the forms filled in with more than the average filling (44%). Half of the forms were filled in with less than 37%, and only 1/3 of mandatory queries.

Social protests and pandemic effects

Before the pandemic, all applicants selected for interview were participating to it with very few exceptions. Since the pandemic, 20% did not register for an interview or did not show up.

The number of applicants accepted in the programme is 227 to date, of which 25 have left the programme before completion. Most of them have left before the programme started. With the exception of the pilot year, the first participants to leave were of October 2019 in concomitance with the social outburst and protests occurred in Chile and establishing important economic uncertainty in the country. Indeed, following the call of December 2019, we observed the highest rate of departures from the programme, reaching 28% of the accepted applicants. Then came the pandemic and this rate dropped to a steady percentage of 10% until the last groups of 2021 where a quarter of them left. The reasons are first the change to the full online version of the programme in 2020, then the workload in the reactivation phase in 2021.

The question is then: how can we identify, before the final selection, who will most probably leave the programme? When they leave, it is usually too late for a change of participant and we lose precious tickets.

4. Monitoring the programme

As part of our effort to improve both the promotion of the programme and the results achieved by the participants, we designed a monitoring model. The objective of the monitoring is twofold. On the one hand, we want to get the most out of the programme. On the other hand, as part of our labour as Territorial Analysis Unit we need to know the specificities of SMEs across the country. The latter is also useful for the programme. All previous initiatives to follow the MP alumni were reviewed, including all aspects of the programme's results (quantified results, opinions, evaluations...), to generate suitable input for the design of the monitoring.

The model was implemented in the second semester of 2020 and considers the programme as a lifecycle, from a beginning to an end. The former is the time of application, the latter is not defined yet and corresponds to the time when the participant is no longer an active alumnus of the programme. The analysis will allow to define in some way this ending point. In between, there may have several years for some of the alumni, following their evolution since they started and what they achieved thanks to MP. The model is non-linear since it assumes feedback from the alumni, which may lead to changes in the implementation of the programme in Chile or in its content.

As an improvement, the model could include feedback on steps prior the programme: promotion, application, and selection phases.

There are two tools to collect information: the first is related to the starting point, that is the application platform (2 Application phase), the second is the survey. Application forms give the base line on which we can follow the evolution of the alumni through annual surveys. The first survey is sent one year after the completion of the training and contains additional questions on the design and direct impact of the programme, in particular the training. The following years, the alumni only receive the follow-up part of the survey dedicated to the progress of their business in relation with MP in the previous twelve months. The follow-up survey is only for alumni who are still working in the company for which they participated to the programme, as the questions focus on SMEs. The results are discussed in Part C - Follow-up and Results.

Finally, home-made dashboards are the last components of the model, enabling data cross-checking to get valuable insights and were used to create the graphics shown in this report.

PART A – THE UNIVERSE OF APPLICANTS

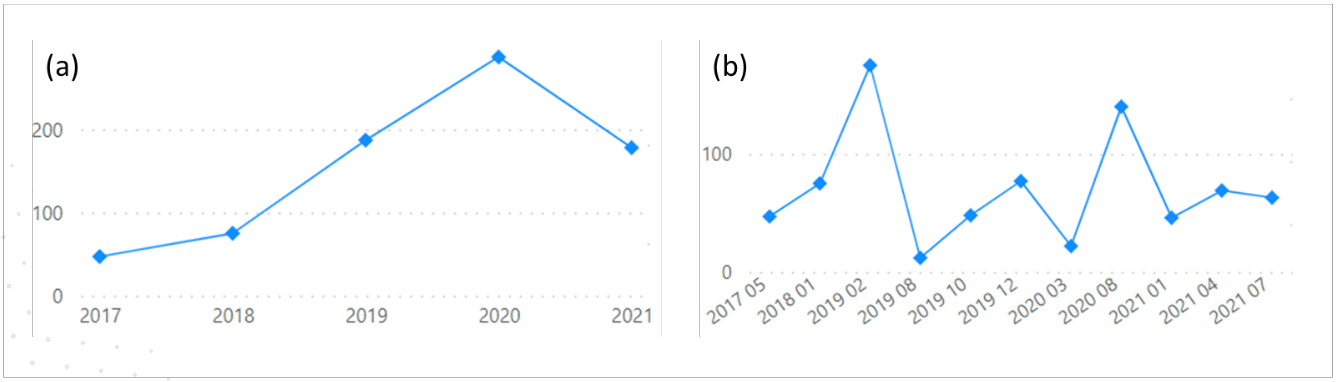
This first part is dedicated to a characterisation of the applicants, their professional profiles, their companies, and networks. To date[4] almost 2200 people have registered in the application platform. Approximately 36% (774) have applied, 62% (1350) have not sent their form and 2% (42) have desisted. The calls have been 11 since 2017. The alumni are 202 divided into 16 groups, which were distributed in 10 training centres. There are 25 more selected people who left the programme. Withdrawals of applications usually occur before the programme starts or at the very beginning of the preparation phase.

There were 4 sectors to apply for in 2019 and 2020, in addition to the open one (Table 1). Food industry in 2019 and industry 4.0 in 2020 only. Green business has been by far the most successful sector. Since the pandemic, there has been 5 calls with no sectors, i.e. open. However, thanks to the all-online version, GIZ could mix Chilean and Mexican participants, and this has been very good for our participants (11 Activities and business results).

Sector	Records	Proportion
Open	614	79,33%
Green Business	124	16,02%
Industry 4.0 and Digitalisation	22	2,84%
Health	9	1,16%
Food Industry	5	0,65%
Total	**774**	**100,00%**

Table 1. Application sectors.

Despite a rather constant number of applicants per call, usually between 20 and 80 people, the number of applications per year has been increasing from 2017 to 2020. This is due, in part, to an increasing number of calls per year, especially for the programme year 2020. This explains why the number of alumni follows the same trend shown in Graphic 6 (a), although the number of available places for participants does not really changes much. Note that programme years are calendar years, but usually with one or two calls in the second semester of the previous year.

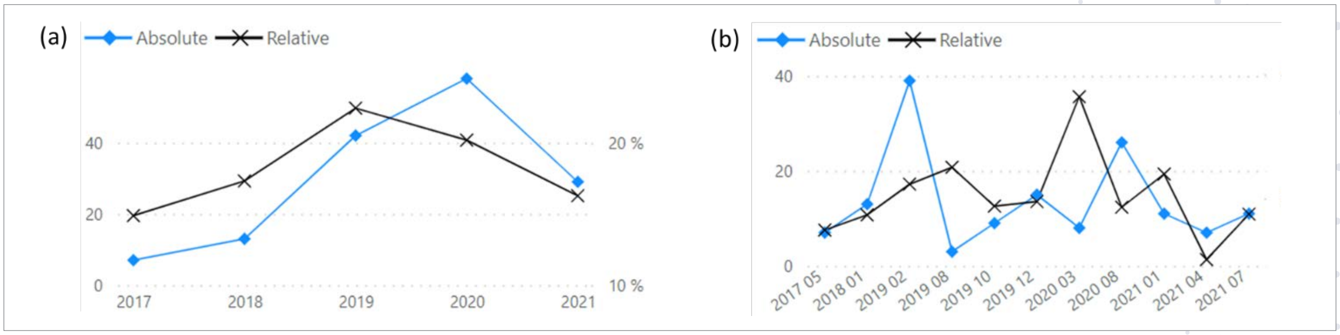


Graphic 6. Applications (a) per year and (b) per call, year and month of call end. Total applications are 774, i.e. 36% of registered people.

Women's share

The annual participation of women among applicants has been increasing continuously since 2017 until 2020. In this last year 2021, women's share has fallen back to the level of 2018 with less than 20%, as shown in Graphic 7 (a). However, when looking at the data for each call, there is no systematic effect. The share of women increased continuously over the first two years to reach a steady percentage fluctuating around 20%. To date, there has been 149 women applying and 41 selected (18% of all selected people), of which 4 have dropped out. The same proportions are found in men.

4 Last modification date of this report shown in front page.

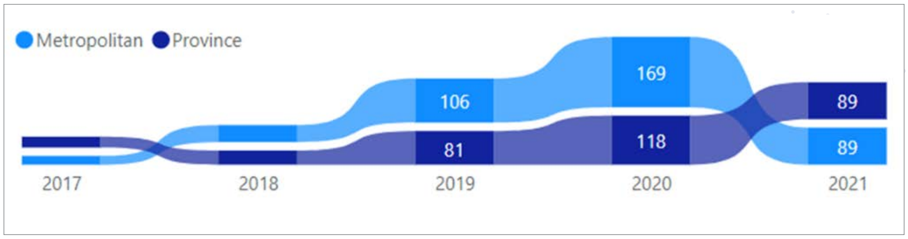


Graphic 7. Women's participation. Number of female applicants (blue curve with dots) and relative to total applicants (black curve with crosses). (a) per programme year and (b) per call, year and month of call end.

5. Territorial participation

Growing interest in the programme

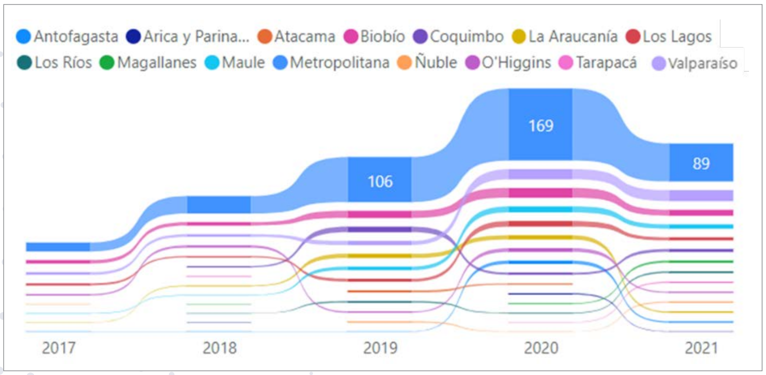
Registrations are proxies to assess the dissemination of the programme throughout the country.



Graphic 8. Regional annual trends. Number of applications per year.

The interest in the programme has been growing rapidly with registrations from all the regions already in 2019 and three quarters of the provinces, whilst applications are still missing from one region, Aysén, the same unique region with no alumni to date. Almost 70% of the provinces are represented with at least one applicant, from Arica to Punta Arenas (southernmost continental city).

Most of the companies that applied are in the metropolitan region (RM, 55%), and in particular 44% of them in Santiago centre, Las Condes and Providencia. These are urban municipalities that essentially concentrate company offices. The regions of Valparaíso and Biobío follow with approx. 9% each (province of Valparaíso and Concepción, respectively). These numbers are in good agreement with the last available statistics of the national internal revenue service which indicate 43% of the companies are established in RM (as well as the population), followed by Biobío, Valparaíso, and Maule with slightly less than 10%[5]. In our classification of SMEs locations by number of applications, the last regions are Tarapacá and Arica y Parinacota. For the first time this year, the number of applications from SMEs located in provinces has equalled that of RM (Graphic 8).



Graphic 9. Regional annual trends. Regional number of applications per year.

In addition to RM, some regions exhibit positive trends: Valparaíso, Biobío, as well as less populated regions: Los Lagos, Maule, La Araucanía (Graphic 9).

5 SII, 2017 www.sii.cl/destacados/ogp/distribucionempresas_estadisticas2017.html

Regions of Biobío and La Araucanía have maintained a women's share among applicants above 25% over years. The regions with the highest rate of female applicants since the beginning of the programme are Atacama, Tarapacá and La Araucanía with a women's share close to one third. RM has obviously much more applicants, but its women's share is only 18,5%.

In terms of sectors of interest, green business is an area of national interest as applications in this sector are coming from almost all regions, whereas applications for industry 4.0 and digitalisation is concentrated in the centre and south-central part of Chile, from Valparaíso to La Araucanía. Applications for the food industry and health sector are too scarce to comment on.

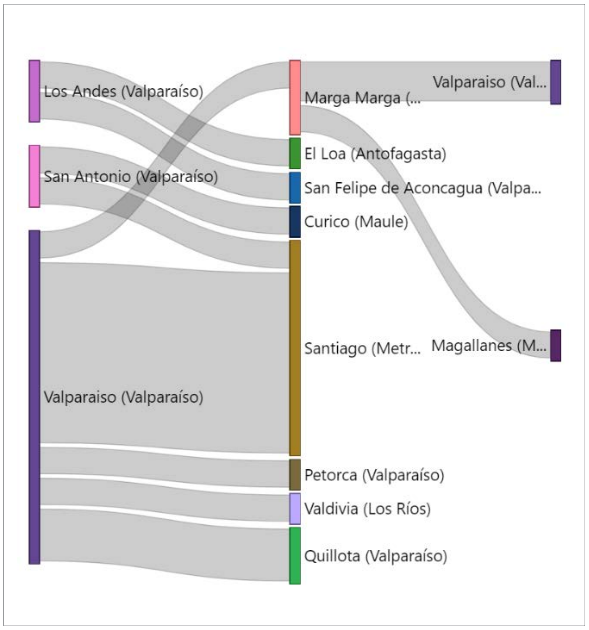
Selection rates

Here we focus on the success rate in the selection process, and we consider the location of the companies, not the applicants'. Although RM is present with more alumni than all other regions, the regions of Magallanes, Ñuble and Los Ríos have a higher percentage of selected applicants, close to 37% each. On the other side, the regions of Coquimbo, Maule, Tarapacá, and Atacama have less than 20% selected applicants. As mentioned above, there are no alumni or applicants from Aysén.

With the exception of RM, which maintained a steady rate of selection since 2017 (approx. 30%), almost all other regions suffered a deterioration since 2020. Only Antofagasta and Maule exhibit much higher selection rates.

Commuters

Here we intent to use registrations data to assess commuter mobility patterns, comparing the locations of residence with those of the companies. Without going into much detail, we can comment that, not surprisingly, the region with the highest outflow and inflow is RM, and mostly Santiago Province where urban municipalities concentrate offices. The managers of these municipalities are coming from 12 of the 16 regions, and those who live in Santiago have their companies in 7 distinct regions. We also observe important mobility from Valparaíso where managers have their companies in 5 other regions, from the north (Antofagasta) to the extreme south (Magallanes), as illustrated in Graphic 10.



Graphic 10. Commuters from the provinces of Valparaíso with companies in 5 other regions.

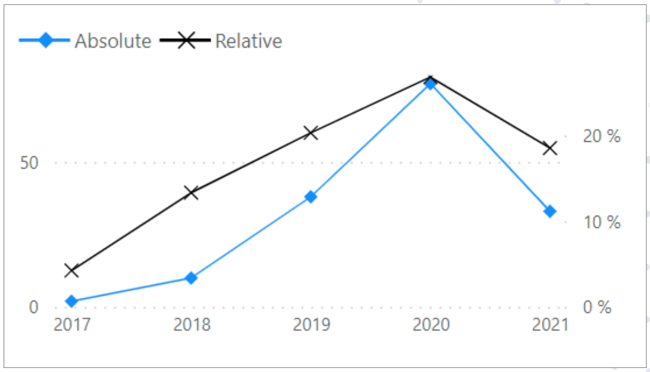
6. Applicants profile

One third of applicants is between 40 and 49 years old at the time of application. Another third is between 30 and 39 years old. Less than 12% are younger. The distribution is roughly the same when looking at the selected applicants only. These numbers haven't changed much over the years, with one exception. Applications over 50 have increased until 2020 (Graphic 11).

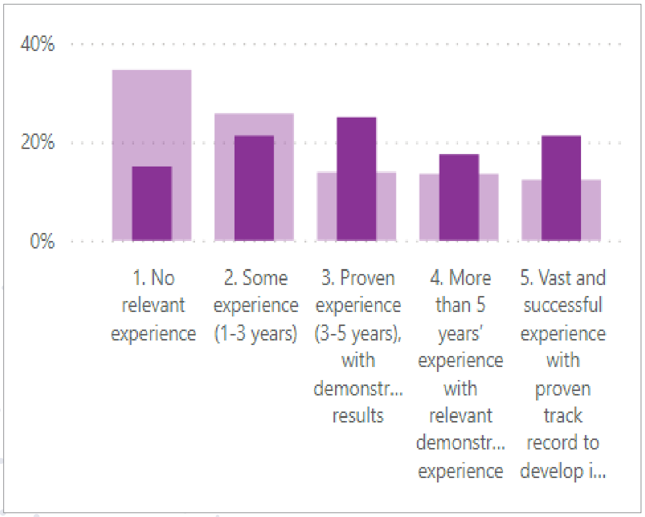
The large majority of applicants are men (81%) who studied at some Chilean university (91%), first of all in engineering and secondly in areas related to business and administration, in the early 2000s.

Half of the applicants (56%) had some additional training, mostly in Chilean academic institutions in the area of administration, management, and business. Almost 70% of the trainings were shorter than a year, and 40% less than 3 months, and made in the last 10 years for 60% of them. This picture does not change when considering only selected applicants.

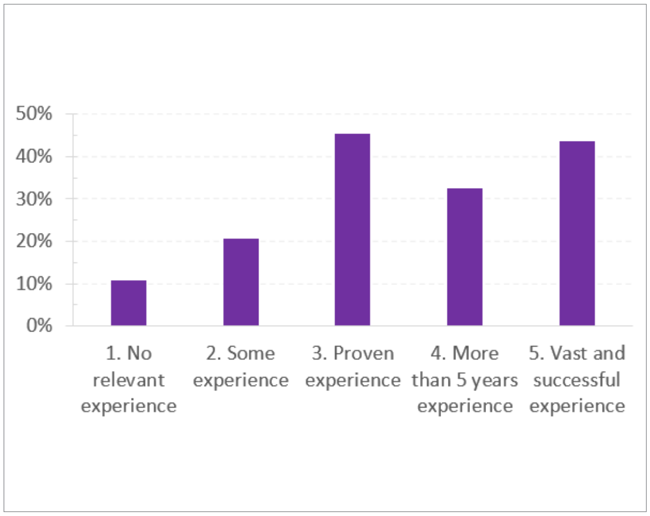
Interestingly, the experience with international projects is coherently related with the selection of the applicants. Graphic 12. shows both distributions of level of experience: for all applicants and for selected applicants only. Note that this question of the application form is not a criterion for the selection. Most applicants have little or no international experience (60%). The higher the level of experience, the lower the number of applicants. This trend is reversed when looking at the selected ones. Most of the selected applicants (64%) have various years of experience in doing business with foreign companies (Graphic 13, level 3 or more). Only 11% of applicants with no experience have been selected, while the average rate of selection within experienced applicants is 40%.



Graphic 11. Applicants over 50. Number of applicants aged 50 and over (blue curve with dots) and relative to total applicants (black curve with crosses).



Graphic 12. Experience with international projects. The level of experience is measured from 1, no experience, to 5, vast and successful experience. Light coloured columns show the distribution for all applicants (318 since 2020), while dark coloured columns focus on selected applicants only (80 since 2020).



Graphic 13. Percentage of selected applicants for each level of experience with international projects.

English skills are evaluated during the interview. Although 90% of the applicants pretend to have good or outstanding language skills, the interviews show that they are grossly overestimating their proficiency. Only 16% of applicants pretend to speak German (good level or fluent), which is not a requirement to apply. Among other languages, French and Portuguese rank first.

Within the company

The applicants are essentially part of the top management (45%) or owner of their company (36%). As such, they are working in the management of their company (52%). Engineering, production, and sales areas follow. Graphic 14 illustrates the main responsibilities of applicants. Business development, sales and project management are those of selected people.

There are small companies where the applicants do a bit of everything (8%). Two thirds have less than 10 subordinates and work mostly in micro and small companies (see next section).

One third is in the company since less than 2 years and another third more than 6 years.

Graphic 14. Applicants' main responsibilities within the company (cited at least 5 times).

7. Characterisation of the companies

The most common legal form within the companies applying to the programme is the joint stock company (SpA)[6]. Indeed, half of the applicants are SpA and 30% are limited liability companies (SRL). This percentage is roughly the same for the distribution of selected companies. The difference appears with individual limited liability companies (EIRL), which are in some sense smaller companies, and limited companies (SA), also called corporations. Although EIRL are twice as much as SA within the applicants, there is almost three times more SA within the selected companies compared with EIRL. In any case, 99% are private companies.

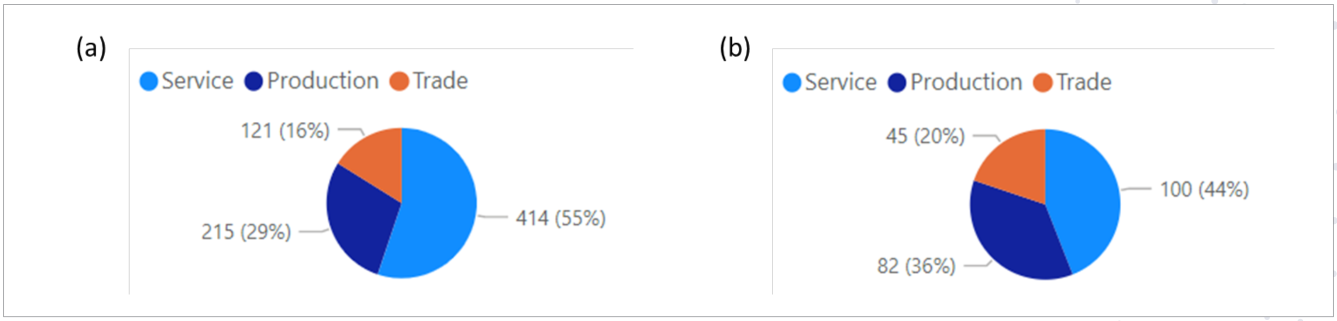
Holdings and German culture

As a general rule the programme does not accept SMEs that are part of holdings. Nevertheless, 9% are part of holdings. These exceptions are made when the holding is not affecting the basements of the programme. For instance, when the applicant company is part of a group of the region, South America, where other companies of the group may take advantage of the programme as well. SMEs related to large EU companies are usually not accepted. Moreover, if the applicant is already doing business with German companies or is familiar with German culture, he or she is invited to give way to a colleague who fulfils the conditions of participation. In fact, the programme will not be of interest of the applicant.

Business activities

Companies can be categorised according to their main type of business: providing services, manufacturing goods (includes digital production like movies or video games), or trading, which is explicitly buying/selling goods or services, exportation, or importation. Although services are the most important business type in both the applicant and selected companies, the selection process seems to favour production and trade activities. Indeed Graphic 15 shows that both types of business have relative increase of 25% once selection occurred.

6. Here we use the acronyms in Spanish, see Abbreviations and acronyms in page 5.



Graphic 15. Distribution by main business type, averaged values since 2017. (a) Applicants and (b) Selected companies.

There is more relevant information when looking in detail at the changes occurred since 2018. The distribution of business types within the applicants has been roughly the same over the years, while the distribution of the selected companies exhibits differences over time according to the business type. The proportion of trading companies within the selected companies has been fluctuating. Production companies have reduced their participation in the programme since 2018, with a relative decrease of 40%, for more service businesses, with relative increase of 20%. In 2018, production businesses were dominating. In 2021, service businesses dominate. This change occurred in 2020. First the service business increased for less trading companies (2019). In 2020 both services and trading increased for much less production businesses.

The top 3 main economic sectors of the companies, applicants and selected, are professional, scientific and technical activities (9%), agriculture, forestry and fishing (7%), and manufacture of food products (6%)[7]. The latter is the most relevant sector in the case of companies dedicated mainly to production businesses (17%), as well as agriculture, forestry and fishing (12%) and manufacture of beverages (6%). In the case of companies providing mainly services, information and communication appears within the first sectors (10%), as well as electricity, gas, steam and air conditioning supply (8%). When focusing on companies primarily engaged in trade, surprisingly the first economic sector is agriculture, forestry and fishing (13%), followed by wholesale and retail trade (12%), and mining with only 6% (other service activities with 12%).

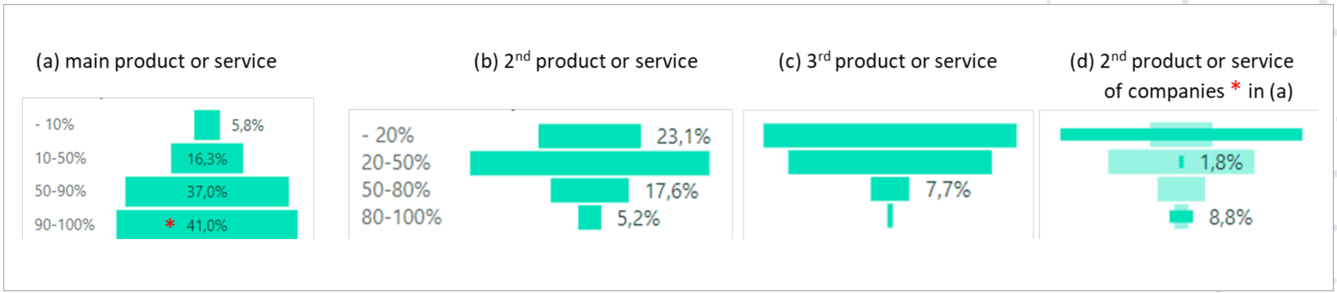
Diversification of applicant companies

In terms of products and services, the main line of activities is related to the engineering or development of software solutions. Energy and water are also within the most cited topics. The most cited sectors of application are industrial, construction and mining. The distribution of companies by contribution of their main product or service to their sales (Graphic 16 a) shows that for 41% of the companies, the main product or service accounts for more than 90% of their sales, indicating little diversification. Indeed, when looking at these companies, 90% of them have their 2nd product or service bringing less than 20% of sales (Graphic 16 d).

For slightly less than a quarter of the companies, the 2nd product or service accounts for less than 20% of their sales. This percentage grows to 50% for the 3rd product or service.

The top 3 technologies used or developed are in accordance with the main economic sectors and activities: information technologies (24%), manufacturing or advanced manufacturing (22%), energy technologies (16%). Then follow environmental technologies (7%), materials (5%) and internet of things (5%). In the production business type, manufacturing technologies are the most relevant (42%), followed by energy technologies (15%), and biological technologies (9%).

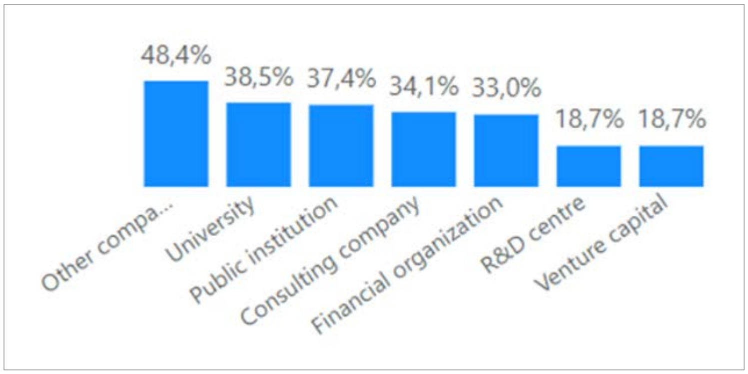
7. The first economic sector of the distribution is undefined: "Other service activities" (13%), from the standard list of BMWi.



Graphic 16. Distribution of companies by sales of product or service. The size of bars gives the percentage of companies. Vertical scale shows the part of sales for (a) main product/service, (b) 2nd product/service and (c) 3rd product/service. For instance, 7,7% of the companies have their 3rd product/service bringing between 50% and 80% of their sales (c).
Graphic (d) is the distribution of sales for 2nd product/service of the 41% of companies that have their main product/service bringing more than 90% of sales, as shown in graphic (a). For 90% of them (first darker bar of d), the 2nd product/service accounts for less than 20% of sales.

The 3-year vision of the companies is consistent with the objectives of the programme in most cases: opening up to the international market for 40% of the companies, 83% of which have no sales coming from exportation (the percentage of companies willing to open up to the international market rises to 50% in the case of companies whose main business type is production); expanding the range of products or services for 37% of companies. A minority is looking to sell more of their current products or services (10%), and to export to more countries (7%[8]).

Half of the companies (51%) are developing new products or services with the support of other companies or entities that provide financing, infrastructure or knowledge. Graphic 17 shows that the most relevant entities are being other private companies and universities. In the case of production business, the most relevant entities supporting their activity are public institutions (58%) and consulting companies (52%). Research and development centres are supporting a quarter of applicant companies mainly dedicated to production.



Graphic 17. Entities providing support for developments.

Size of companies

In Chile companies can be classified according to the amount of sales (Table 2) or the number of employees (Table 3)[9]. The respective distributions of applicant companies are shown in Graphic 18. The trends of the distributions do not change when comparing with selected companies, or when looking specifically at the business type, with one exception. Trading companies stand out with fewer employees (+8% micro sized, 8% small sized) but higher sales (-13% micro and small sized, +13% medium and large companies).

Micro-sized companies by sales are also micro by number of employees (89%). However, small and in particular medium-sized companies by sales would be classified micro and small (87%) by number of employees. These are essentially providing services and trading.

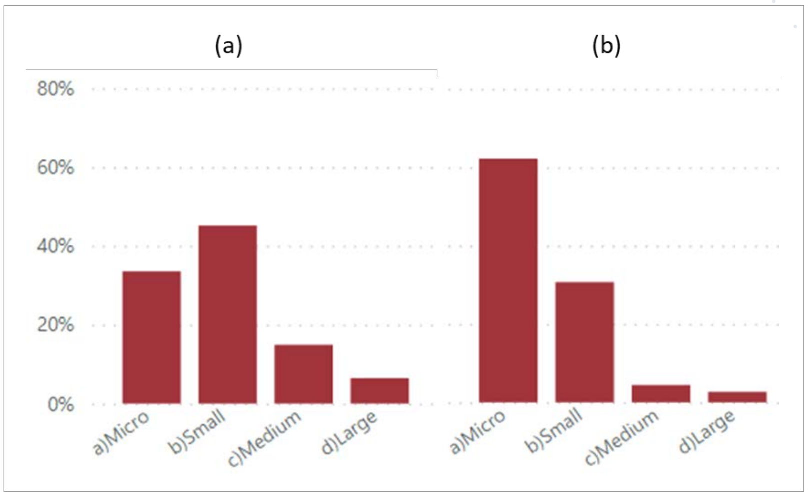
8. Value corrected with sales coming from exportation.
9. www.bcn.cl/leyfacil/recurso/estatuto-de-las-pymes and www.sii.cl/sobre_el_sii/nominapersonasjuridicas.html

Size (sales)	UF min	UF max	EUR min	EUR max
Micro 1	0,01	200	€ 0	€ 7.072
Micro 2	200,01	600	€ 7.072	€ 21.216
Micro 3	600,01	2400	€ 21.217	€ 84.865
Small 1	2.400,01	5000	€ 84.866	€ 176.803
Small 2	5.000,01	10000	€ 176.803	€ 353.606
Small 3	10.000,01	25000	€ 353.606	€ 884.014
Medium 1	25.000,01	50000	€ 884.014	€ 1.768.028
Medium 2	50.000,01	100000	€ 1.768.029	€ 3.536.056
Large 1	100.000,01	200000	€ 3.536.057	€ 7.072.113
Large 2	200.000,01	600000	€ 7.072.113	€ 21.216.338
Large 3	600.000,01	1000000	€ 21.216.338	€ 35.360.563
Large 4	1.000.000,01		€ 35.360.564	

Table 2. Size of companies according to the amount of sales in UF. The ranges in Euro are provided for information only, with the exchange rate 1 UF = 35,36 Euro is the mean value over the period 2015-2021, excluding year 2020 for pandemic effect.

Size (employees)	Employees
Micro	01-09
Small	10-49
Large	200+
Medium	50-199

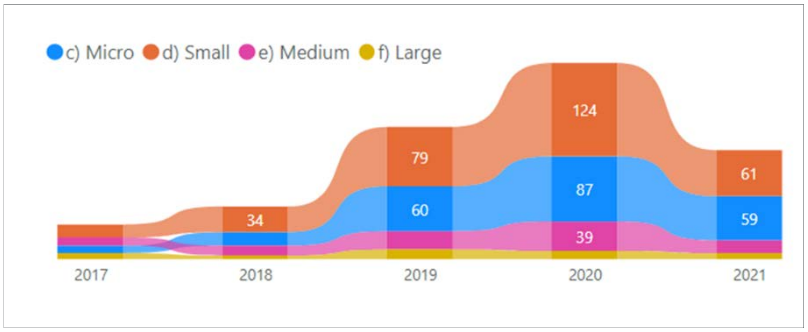
Table 3. Size of companies according to the number of declared employees.



Graphic 18. Distribution by size based on (a) sales and (b) number of employees. Both distributions are averaged over the period 2017-2021.

The percentage of small companies by sales has not changed over the years, while the relative participation of micro companies has increased, especially in the last year, reaching the participation level of small companies (41%), as shown in Graphic 19.

For a vast majority of companies (80%), the sales are not coming from exportations, and for only 9% of applicant companies more than half of their sales is made with exportations.



Graphic 19. Annual evolution of size distributions by sales.

8. Business networks

Business networks of applicant companies can be characterised through 1) third-party companies, 2) the nature of business relation with third-party companies, and 3) competitors of applicant companies. Business relations are analysed in terms of their nature, clients or providers of products or services. Third-party companies and competitors are analysed in terms of location, at a country level.

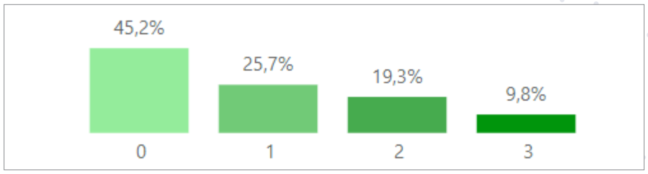
If the business relation is a client, the Chilean applicant company is a provider and the type of sale, that is product or service, is informed with the applicant business type: service, production or trade (7 Characterisation of the companies). The application form allows to register up to 3 relations and 2 competitors. Note that these are business relations with other companies, exclusively. Consequently, companies with no client are selling directly to natural persons.

Business relations

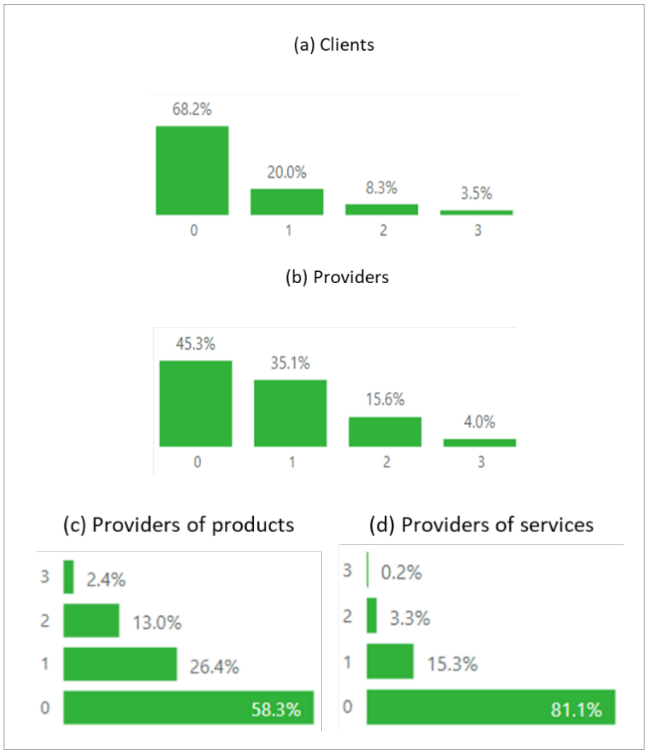
Almost half of the applicant companies (45%) had no business relations at the time of application, as shown in Graphic 20. This percentage is averaged over the period 2017-2021. It has decreased to half of it in the last two years (24% for 2021 applicants). To date, 46% of the business relations have been providers of products, 36% clients of Chilean applicant companies and 18% providers of services, in Chile and worldwide. This distribution has suffered large variations since the beginning of the programme with the proportion of providers of services decreasing rapidly from 2018 to 2020, while the part of clients of Chilean companies has doubled since 2020.

On average, at the time of application, each Chilean company had 1,8 business relations (1,13 with providers and 0,67 with clients) with 1,5 companies worldwide and with 1,06 German companies. The continent with the major diversification is South America with 1,4 business relations per applicant company[10]. In 2021, 37% of the business relations were with client companies, of which 2/3 were Chilean companies and 10% German. On the other hand, 43% of the providers were Chilean, while 20% Germans. In other words, 23% of the relations with Germany were with clients and 77% providers (of which 74% for products and 26% services). Note that in 2019 there were no German clients. Historically, the providers of services have been in Chile (60%), while the providers of products abroad (81%).

Two thirds of the applicant companies do not sell to other companies (client companies), as shown in Graphic 21. As previously mentioned, they are most probably selling to final clients directly. The graphic shows the detailed distributions of applicant companies by nature of business relation.



Graphic 20. Distribution by number of companies with business relations. Last category (3) is three or more companies with business relations. Average values since 2017.



Graphic 21. Distributions by nature of business relations. (a) Number of clients, (b) Number of providers, (c) Number of providers of products, (d) Number of providers of services. Last category (3) is three or more.

10. *Statistics based on the 178 applications of 2021.*

While companies whose business is providing services or products have similar distributions, trading companies exhibit particular features. The percentage with no clients is higher (72%), i.e. more of this business type is selling to natural persons. The proportion of trading companies with two or more providers is much higher (39%). These providers are mainly providers of products: only 28% have no products providers, while 89% have no providers of services. Their providers are outside of the country (80%) and 1/3 in Germany.

Map 1. Locations of companies with business relations. Darker green indicates more relations. Source: 353 applicant companies and 561 local companies worldwide, to date.

Map 1 exhibits the countries where Chilean companies have at least one business relation. Countries painted with darker green have more relations, in particular Chile with 33% of the companies with business relations since 2017, and Germany with 26% of the companies. China, which one may have thought to be within the very first, come fourth with only 5% of the companies, preceded by United States of America with 11%. These numbers have been increasing continuously year after year. The participation of Germany is higher in the case of trading companies, as 34% of the relations are German companies for this business type.

This picture shows a universe of companies with strong business relations with Germany already at the time of application. Note that there may be a bias, as people are applying for a programme which purpose is directly related to Germany.

In respect of the products and services covered by the business relations, the most cited words are water, energy, food, industrial, mining, development, and equipment. Water treatment systems and electric are the most cited words for business relations with German companies. And the German companies most cited are Lorch, Bosch, Belectric, Jäger, Keyou, and Grünbeck. At the time of application, there were no clients in Mexico and only one provider. This has changed since the online version of the programme, which allowed our participants to share trainings with Mexicans. Various new agreements were signed with Mexican participants (see section 11 Activities and business results).

Competitors

Applicants are asked[11] to name up to two competitors and their country. One third of them has named at least one. Only 15% has identified two or more competitors. Once again, the figure is different when focusing on trading companies, 47% of which have named at least one competitor, and 20% have 2 or more competitors. On average, at the time of application, each Chilean company had 1,3 competitors worldwide and 1 German competitor. The continent with more competition is South America with 1,2 competitors per applicant company.

Map 2 shows the countries where Chilean companies have at least one competitor. Countries painted with darker red have more competitors. Most competitors are established in Chile (68%), and in Germany 8% of the competitors. The territories with competitors and business relations (Map 1) are Northern America, part of South America, Western Europe, China, India, and Australia.

There is one company that stands out, as a competitor and as a company of interest, Siemens.

Map 2. Locations of competitors. Darker red indicates more relations. Source: 258 applicant companies and 339 local competitors worldwide, to date.

11. *Since the second semester of 2020.*

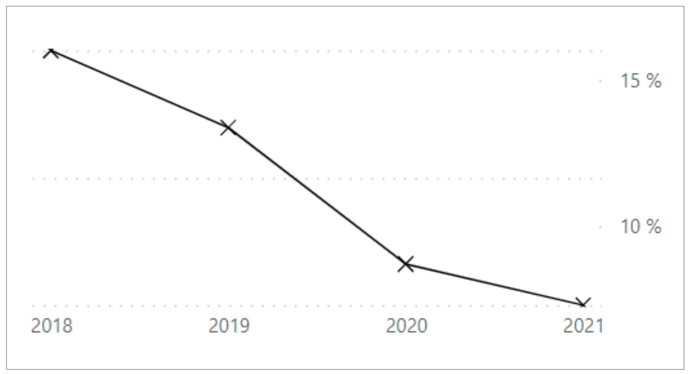
PART B – COOPERATION PROJECTS AND SELECTION

9. Programme projects and German companies

Most of the information collected in this part of the application form is textual. The preferred tool to analyse such kind of data is the word cloud, with a classification based on the frequency, or number of repetitions, of each single words. For instance, the objectives keywords of the applicants since 2018 are illustrated in Graphic 22.

Graphic 22. Objectives of participation cited at least 10 times, since 2018 (no data registered in database for 2017 applicants).

A more detailed view of this word cloud is required to reveal useful information. In fact, the objectives contain, first of all, the words “new”, “products” and “quality”, followed with less repetitions by “development”, “energy” and “Europe”. Finally “technology”, with much less repetitions. While this scenario is observed since the beginning of the programme, the word “services” has been increasingly written, compared to “products”. Initially, “services” had a repetition weight of one third of that of “products”. This proportion has doubled since 2018. In the case of the calls focusing on green businesses[12], “energy” and “technology” have a much higher repetition weight, as well as “development”. Two more words stand out: “solar” and “sustainable”. Almost the same words are highlighted in the word clouds of the challenges and the proposals. The applicants who wrote “technology” in their objectives, also wrote “mining” in their challenges and cooperation, and “partners” in their proposals. The word “energy” is very much used, although it has been vanishing since 2018 as shown in Graphic 23. This is confirmed by the activity sectors of the German companies of interest. The energy sector is vanishing since 2018, and with no companies dedicated to it in 2021.



Graphic 23. Presence of the word “energy” in the challenges, expressed as the percentage of applicants who wrote it.

These observations tell a likely scenario as follows. The main objectives since the beginning of the programme have been pointing to essentially acquire new products from German companies, with an increasing interest for services over the years, as already observed in the activity type of the applicant companies (see section 7 Characterisation of the companies). Chilean participants have been looking for quality as something specific they thought German companies could offer. Secondly, they have been looking for partners to develop solutions together or to buy technologies. Historically, the topic of major interest has been energy, despite a slow but constant decrease of interest.

12. Calls of years 2019 and 2020.

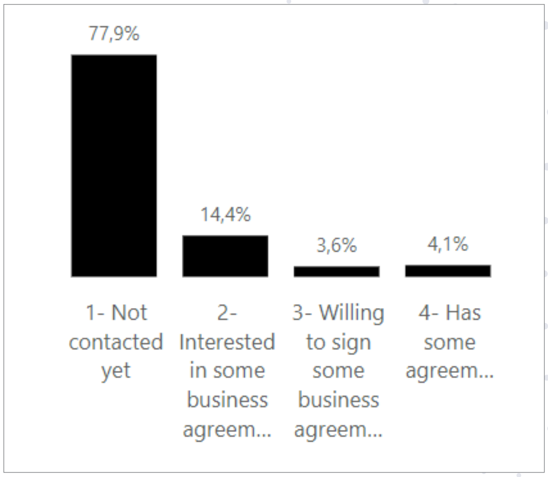
Most applicants (78%) had no contact with German companies of interest at the time of application and less than one in ten had reached some higher degree of interest from a German company, as shown in Graphic 24. This distribution is the same for selected companies.

The activity sectors of the German companies of interest cover the whole list of the German standard economic sectors. The most cited sectors are services in general (6%), agriculture forestry and fishing (4%), and manufacture of food products (3%) and machinery (3%). This is in accordance with the activity sectors of the applicant companies (see section 7 Characterisation of the companies). There are some regional specificities. The applicants located in the North of Chile are mainly looking for companies in the sector of mining, while water supply and sewerage are the sector of interest for the South of Chile.

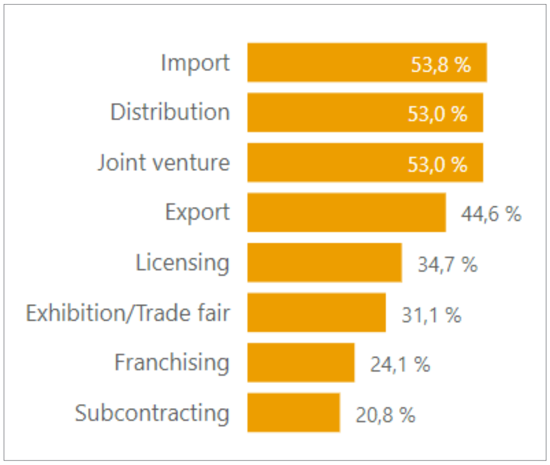
Graphic 25 shows the distribution of the associated cooperation forms averaged since 2018 (no data registered in database for 2017 applicants). Although import/export, joint venture and distribution have been the most wanted forms of doing business, the joint venture option has been continuously decreasing since 2018, from 61% to 49% of votes from applicant companies. Licensing option has also decreased, from 37% to 32% of votes, showing a trend as the decrease was continuous. On the other hand, subcontracting as a sought form of cooperation has continuously increased, although very slowly from 18,7% to 21,3%.

Applicant companies with some business agreement at the time of application (level 4 in Graphic 24), are much more oriented to distribute products of German companies (77%), whose activity sectors are mainly services in general (11%), electricity, gas, steam and air conditioning supply (11%) and manufacturing (other 11%).

Most cited products and services of the German companies are (by keywords) energy, technology, water, organic, and hydrogen since 2021. The last one is an increasing trend in Chile since public development policies have started the promotion of this area.



Graphic 24. Distribution of applicant companies with respect to the business agreements with German companies. Source: 443 German companies since 2020.

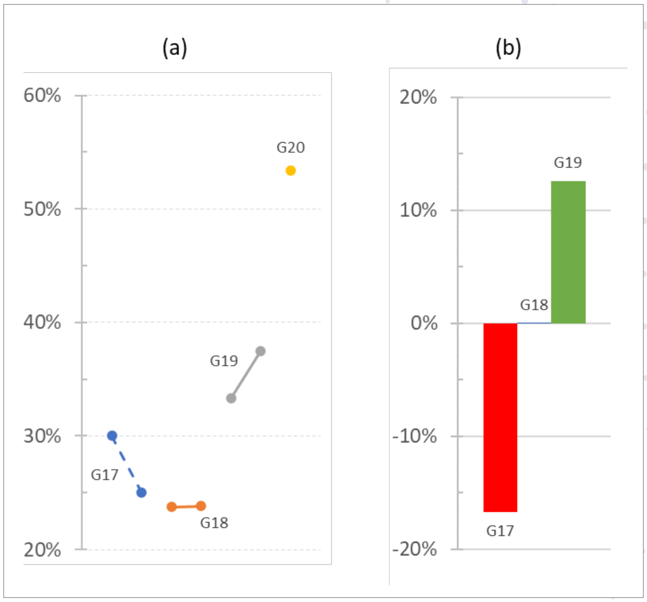


Graphic 25. Distribution by cooperation forms. Source: 727 applicants since 2018.

PART C – FOLLOW-UP AND RESULTS

This part is dedicated to the follow-up and results achieved by the alumni. The new monitoring model was implemented in 2020 (see section 4 Monitoring the programme). The results presented here mainly come from the two standard surveys conducted in November 2020 and October 2021. It is supplemented by a previous shorter survey of 2019.

The long new survey has 40 questions. It is sent to the alumni who did the training the year before and includes 16 questions specifically on the training. The short survey does not include these questions and is sent to the older alumni who participated up to two years prior the survey. One might think that the number of questions makes the survey too long. However, on average, people spent less than 15 minutes to answer the long version of the survey (40 questions), and 6 minutes for the shorter survey (24 questions). We do not ask for sensitive information that previous attempts have shown people tend to omit, such as sales or financing. Instead, we ask for the number of new agreements or areas of investment, for example. We believe that this measure prevents the alumni to leave the survey. Note that for the same reason there are no mandatory questions.



Graphic 26. Participation in the 2020 and 2021 surveys for the generations 2017 (G17) to 2020 (G20). (a) Participation rate of each generation and for each year of survey. All the pairs of points represent years 2020 and 2021, except the generation 2020 (G20) that participated to the 2021 survey only. The pairs are shifted for visualization purpose. (b) Relative variation in participation from survey 2020 to 2021 for each generation.

The last two generations exhibit the highest rates of participation to the surveys as shown in Graphic 26. If we assume that participating to these surveys is a strong signal of involvement as alumni, these figures give some clue on the activity of the generations within the programme. Graphic 26 (a) can be seen as a time observation window of the generations that reveals the following dynamics. Year after year, each generation behaves like the previous one. In this scenario, it takes one step, i.e. one year, for a generation to understand the benefits of the programme and the network, take advantage of them, and after 3 years, for some reason to be determined, the generation starts to distance itself from the programme and its participation to vanish. Graphic 26 (b) shows the relative change in participation to the surveys from 2020 to 2021 for each generation from 2017 to 2020. Further looking into the participants, individually, will allow to measure, to some extent, the expected life of the alumni in the programme, i.e. when the participants are no longer active alumni.

The last generation is mainly responsible for maintaining the level of participation, and even increasing overall participation from 30% in 2020 to 43% this year. Generation 2018 continues to be the one with the lowest participation.

Interestingly, people do not wait for the weekend to give their feedback. One third, or more, of the responses are sent the same day or the morning after the survey is sent. The regions participating to the surveys were 6 in 2020, and 9 in 2021. The highest participation is always from RM. Nevertheless, in terms of relative participation, many other regions of the Province are more active. Despite a reasonably good turnout, the conclusions we draw will need to be corroborated or corrected by subsequent surveys.

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Reminders and communication channels

Reminders are useful and necessary, and allowed to get the turnout of last survey. They trigger an increase in daily response rate but have decreasing effect with repetitions. In 2020 survey, the only reminder brought in 11% of the responses, while in 2021 two reminders brought in 32% of the responses.

About the profile of the alumni, data collected at the time of application were not standardised as they are at the time of the survey. These data do not allow to assess changes of department, but the distributions of positions within the companies. Almost all the participants (97%) were and still are owners or part of the top management and they do a bit of everything because the company is small, or they work in general management. There are virtually no lower or middle managers.

About the communication channels with the alumni (see section 1 Promotion), ¾ of the alumni who replied the surveys know the LinkedIn group of the programme in Chile (80% in RM, 2/3 in Province). The alumni webpage asogich.org was created this year and is already known by 37% of the alumni (36% of 2020 alumni and 39% of older generations).

Comments on asogich.org point to a missing list of associates with contact details by category and region among other, information on how to join the association, news, and updates on a regular basis.

10. On the training programme

This part of the survey is sent only to the generation of the year prior the survey. The response rate was 33% in 2020 survey (generation 2019) and 53% in 2021 (generation 2020).

Within the generation 2019, ¾ was considering the training had a normal intensity, and for ¼ of them the training was too fast. This has not changed with the generation 2020 who experienced the online version, except for very few alumni who found it slow. All the participants of 2019 worked as a team and found it efficient. They knew how to do so. In 2020, there were a few alumni who thought teamwork was inefficient or have not worked in a team.

In addition to the benefits described in the programme presentation (technical training, methodologies, international business, networking, visits, meetings, etc.), positive aspects mentioned by the alumni are seeing and doing things differently, learn to present the business in few minutes, gain confidence. For the generation 2020 (survey 2021): doing the training with entrepreneurs in the same or related business (groups); participating with Mexican SMEs; quality of exhibitors.

Independently of the programme, the most popular training format is the visit to companies (47%), followed by workshops (19%) and the group coaching by experts. Class teaching received much more votes in 2021 survey. This could be due to the full online version experienced by the generation 2020. No one selected the seminar format.

Benefits provided

In both 2020 and 2021 surveys, in a list of 9 suggested benefits, 4 have received 2/3 of the votes.

- Exchange of knowledge, experiences, and ideas
- Learning new business management practices or methods
- Learning to negotiate with foreign companies, in particular German companies
- Develop new professional competences (2020) / Networking (2021)

Key learnings

The alumni were asked to describe their main learnings. The responses, in a free text format, were analysed with keywords and grouped into verbs that designate what the participants want to do, and nouns describing goals or activities.

- Know, understand, achieve, show, compete, negotiate
- Ecosystem, culture, proposal, project
- Management, marketing, sales, leadership, innovation

These keywords confirm and reinforce the ideas that are at the basis of the programme with the benefits recognised by the alumni, and which could then be further developed with sectorial focus, for instance.

Topics relevant for the company

The alumni were asked to select up to 4 topics that are the most important for their business, in a list of 15 choices regardless of whether these were part of the training or not[13]. Five topics account for 2/3 of the votes.

- New products or services
- The link between business, science and R&D
- International business models
- Communication and networking
- Innovation management

In this year survey, Market trends, Technology transfer and Business management are short listed as well.

For companies whose main business activity is providing services (see section 7 Characterisation of the companies), the most important topic is communication and networking (2020) and innovation management (2021). On the other side, new products are obviously by far the most important topics for manufacturers, and trading companies in 2021 survey.

Business-science-R&D nexus lost relevance since last year, going from being a topic of interest for 63% of the alumni to only 24% of them. Watching (technology, market, regulation, etc.) is one of the last choices, when it should be related to innovation management and business-science links, which received many more votes. This emphasizes the need to address this topic in trainings. Quality management is poorly to moderately well positioned, as is Export/import processes. Note that only one choice was not selected at all, obsolescence management, in either the 2020 or the 2021 survey.

Changes in the company

This query refers to changes in the company, or intentions for, after the participation in the programme. The three surveys, since 2019, show that most of the participants have made changes, or intend to do so, as a result of the experience gained in the programme. In the new survey, since 2020, the alumni could choose as many options as required within 12 options[14].

13. New products/services; Analyse market trends; International business models; Company establishment abroad; Export/import processes; Communication and networking; Innovation management; Business management; Technology management; Quality management; Obsolescence management; Management control; Watching (technology, market, regulation, etc.); Business-Science link and R&D; Technology transfer.
14. New organizational practice or method; Quality management; New or improved product or service; Change management; Human resources; Budget optimization; Time optimization; Training; New or improved production process; Marketing; Business negotiation; Business focus.

Almost 1/3 of the votes went for two options: new or improved product or service in both the 2020 and 2021 surveys. Time optimization second rated in 2020 changed to Business focus and Business negotiation both second rated in 2021 survey. With less votes budget optimization, and new or improved production process.

We observe many changes from one survey to the next one. These changes depend strongly on the economic and social situation at the time of the survey and will be further analysed in the next future.

Barriers to closing deals with German companies

The main barriers faced are project size and investment, project not aligned with contacted German companies, incipient market for product or service, and lack of preparation. In 2021 survey the lack of German interest moved to the first place. Minor barriers were the low level of production to enter the market, and administrative and legal barriers. In 2020, for manufacturing companies, the most relevant barrier was the size and investment in the project, while the providers of services mostly need more time to have an agreement. Surprisingly, in both surveys, the pandemic is within the less elected barriers.

Promoting the programme

The alumni were asked what are the elements that could better motivate others to apply.
Beyond the objectives given in the programme presentation, the alumni commented the following. In summary:

- High level of the programme
- Business links and networks with participating Chilean companies
- Comprehensive growth: personal, professional, and business
- To stay ahead of global trends by learning from leading companies
- To have other visions to strengthen your company, opening your mind to new alternatives and approaches
- Real learning in the field
- The skills learned are of vast help beyond the programme
- The programme is the perfect interface that can help you enter the German market

Tips for preparation

All comments point to the need to prepare the programme in advance and with adequate resources, because the programme requires a significant workload, which implies an effective use of time. This means freeing oneself from the workload of the company. It is necessary to start to search for German companies as soon as possible and keeping in mind the focus of the participating company, the business proposals, and the objectives the participant seeks to achieve. Another important tip is to maximise the number of contacts and possibly talk to companies prior traveling to Germany. Last but not least, several alumni warn of the need to have an adequate level of English. If not, review at least business English.

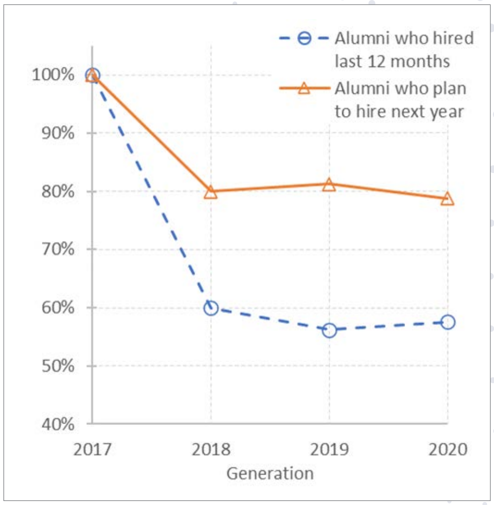
11. Activities and business results

This section is sent to all generations, the year before the survey and older ones, and it reports on the activities of the companies, in terms of employment, investments and business agreements.

Employment

In both the 2020 and 2021 surveys 90% of the respondents were still working in the same company. Half of those who left had moved or created a new company.

In 2020 survey, 80% of the alumni intended to hire new employees within the next 12 months. This employment projection is the same this year for next year. There is no relation with the size of the company.



Graphic 27. Job creation among alumni companies over time. The period of hiring refers to 12 months prior the 2021 survey, roughly from September 2020 to September 2021. Source: survey 2021.

Within the alumni surveyed this year, 60% have hired new employees during last year, of which 92% pretend to hire in the next year as well, and also have made investments (more information in next section). Considering this as a first approximation which will need to be further confirmed, Graphic 27 shows the proportion of alumni who hired new employees during the last 12 months, from September 2020 to September 2021, and those who plan to hire next year. The employment outlook for next year is clearly better than the creation of jobs during last year. Excluding the first generation, which brings in very few data, both curves are constant with time. Large companies are excluded from this measure because they have much more resources and employees to be compared with micro, small and medium[15]. The generation 2020 was in MP during the last 12 months and generation 2019 is the first to have completed the programme when they started to hire in the period considered here. This is an attempt to measure the effect of the programme in terms of employment, looking for some crossover which is not observed yet. At the present time, data do not allow to define any time scale related to the growth of the alumni companies. This will be further analysed.

These numbers show a vibrant activity despite the pandemic, which could be the signature of a reactivation time.

Investments

The alumni are asked about the nature of investments: infrastructure (not office furniture, but building, sheds, workshop, etc.), new standard machinery, advanced technology equipment, and/or software, with the possibility to select multiple options.

On average, in both surveys, each company made 1,6 distinct investments the year before, since 2019. Investments have been maintained during the pandemic. In 2020, the first type of investment was infrastructure and the last was advanced technology. In 2021, the situation clearly changed with 55% of the companies investing in software, the last being infrastructure with 26% of companies.

This inverted trend is possibly highlighting some accelerated digitalisation process through the pandemic.

Business results

Here we intent to characterise the business that alumni do with German companies, independent of the programme, and the agreements achieved through the programme with companies in Germany and other countries. Here, business is intended as a commercial relationship formalised through a contract with another company and with one or more of the following objectives: to buy or sell products or services; to export or import products or services; to develop new products or services with another company. We are monitoring the number of companies the alumni did new business with, as well as the nature of the business deals.

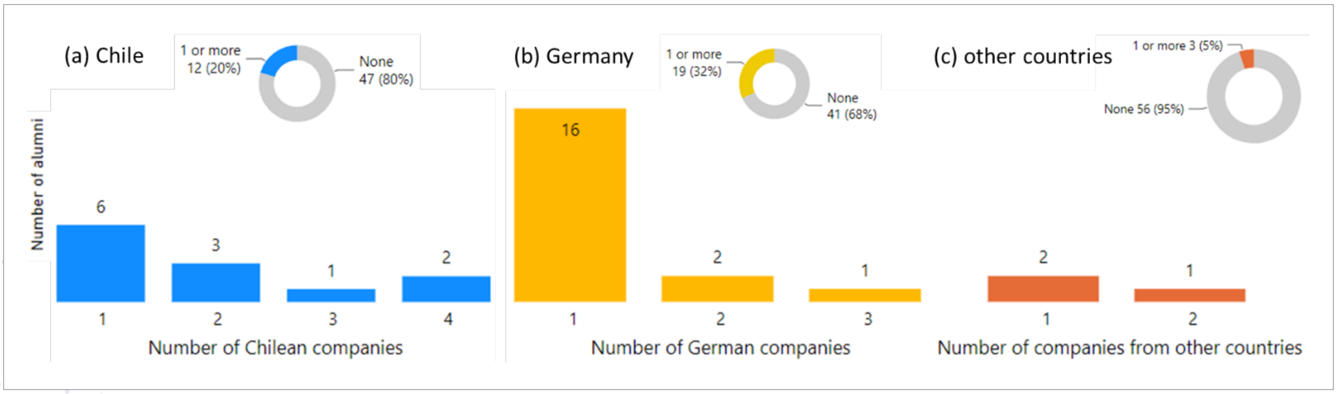
15. The inclusion of large companies delivers similar results.

In the first case, with German companies in or out of the programme, the 2020 survey did show that a majority (70%) of the alumni just maintained the business they had one year before the survey or with no agreement at the time of the survey. In 2021, the alumni who have not signed any agreement whatsoever with German companies are 62% and 18% have maintained the same business.

Looking specifically at the deals closed thanks to the programme, in 2020 survey, i.e. during 2019, there was 2,5 more companies doing new business with Chilean companies known through the programme than with German companies. In the last survey, the rate changed in favour of German companies with one third of the alumni having signed some agreement with them, while 20% signed with Chilean companies. Note that these numbers refer to companies known through the programme, but not necessarily alumni of the programme. These deals can result from contacts obtained through alumni of the programme, for instance.

The 2019 survey revealed that 46% of the alumni (21 from 2017 to 2019 partially) had closed at least one business deal with German companies through the programme in the two years before, since the beginning of the programme. In first approximation, these numbers are divided by two to compare with the surveys 2020 and 2021 that collect data referring to the last 12 months prior the survey, while the 2019 survey was referring to the period since the beginning of the programme, about two years.

The 2020 survey reveals that 54% of the alumni (13 of 24 alumni still active at the time of the survey) had closed at least one new business deal with 22 companies known through the programme worldwide in the 12 months before: 16 companies established in Chile, 4 in Germany and 2 in other countries. The latest are certainly Mexican companies as the alumni participated in mixed groups with companies of Mexico. These numbers have to be compared with the survey 2021 illustrated in Graphic 28, which shows the distributions of the alumni as a function of the number of companies they did business with, in Chile, Germany and other countries. In all cases, businesses are made with companies known in the programme, directly or indirectly. Here the numbers refer to a total of 63 companies still active.



Graphic 28. Distribution 2021 of the Chilean alumni companies as a function of the number of companies they did business with last year. (a) 20% of alumni closed at least one deal with companies established in Chile, (b) 32% closed at least one deal with companies established in Germany, (c) 5% with companies established in other countries. Source: survey 2021 with 63 companies still active.

The 2021 survey reveals that 40% of the alumni (25 of 63 alumni still active at the time of the survey) had closed at least one new business deal with 50 companies known through the programme worldwide: 12 alumni (60% from generation 2020) with 23 companies established in Chile, 19 alumni (2/3 from generation 2020) with 23 German companies and 3 alumni (again generation 2020) with 4 companies of other countries most probably Mexico. Various alumni (30% of still active companies) did business with distinct companies in various countries. The generation 2020 is particularly active, even considering that they are 80% more than the annual average number of alumni. In the last year, for the 2020 generation, 16 German companies known through the programme have been added to the 19 with which the alumni already had business relations at the time of application.

Assuming these are all distinct German companies, there has been an increase of 84% in the business network with Germany for the last generation. The network with Chilean companies has expanded by 82%, from 17 companies prior the programme to 14 additional companies in the last year. The comparison of Graphic 28 (a) with (b) and (c) shows that the alumni more easily get multiple business deals with local companies, up to 4 Chilean companies per alumni.

From 2020 to 2021 survey, i.e. roughly from years 2019 to 2020, although the proportion of alumni who did new business has decreased, the number of companies they did business with has doubled, and in particular German companies are almost six times more. The relatively important quantity of business deals done with local companies, in Chile, is a very beneficial and unexpected outcome of the programme for the Chilean SME ecosystem.

Nature of new business

The alumni were asked to select all corresponding options. The choices were selling product or service, buying technology (product or service) to modernize the alumni company, developing product or service with another company, represent in Chile a foreign company to sell its product or service.

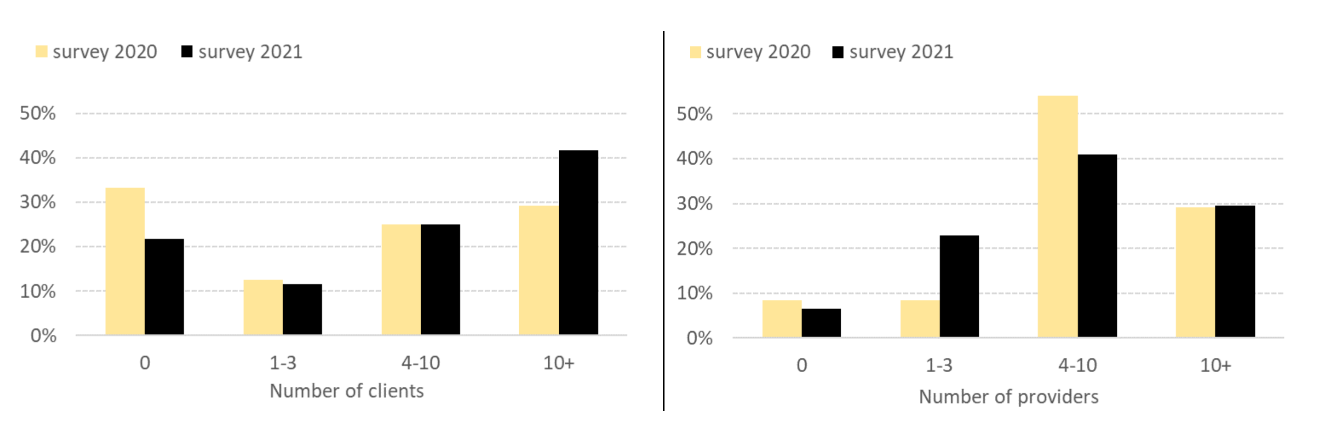
First, we refer to new business deals with companies known through the programme, worldwide. In 2020 survey, none was predominant, while in 2021 survey the representation of foreign companies in Chile is being the most elected nature of business (50%). This option is immediately followed by the joint development of product or service (46%) and selling product or service (42%). The last option is buying technology to modernise the alumni SME. The same trend is observed specifically in the case of new business with German companies, and in the 2019 survey. Half of the alumni who invested in advanced technology equipment during last year did business to develop products or services in particular with German companies.

12. Alumni business networks

This section builds on section 8 Business networks, where data were compiled at the time of application, and updates the information with the annual surveys on the business networks. Note that the relations are considered with other companies only, i.e. between companies. Hence, clients are companies supplied.

We first quantify the relations with clients and providers. Graphic 29 shows the distributions with respect to the number of companies supplied, i.e. clients, and the number of suppliers. In both cases the distributions are quite heterogeneous and for both survey years, with very few alumni having more than 300 clients and/or providers. Half of the alumni had more than 4 clients in 2020, and more than 8 in 2021, while they had more than 7 providers in 2020 and more than 5 in 2021[16]. A slight positive shift in the distribution of clients and negative shift in the providers distribution. Provincial companies tend to have more providers than metropolitan companies.

16. We refer to the median value because of the heterogeneity of the distributions.



Graphic 29. Distribution of alumni by clients and providers for surveys 2020 and 2021. Categories are arbitrary.

In 2020, 1/3 of the alumni, small and medium sized, had no client companies. A straightforward interpretation suggests that these companies are directly selling to the final consumer, natural persons. They could also be selling to public institutions or academia. Despite an important reduction this year, there are still 23% of alumni, small-medium and micro sized, which do not have client companies. This may have been a pandemic effect. Next surveys will help to understand this peculiarity. On the other side, very few companies claim to have no providers.

We do not observe any clear difference when comparing the alumni in terms of location (region) or gender.

Collaborating with competitors

The coexistence of competition and cooperation between firms is a research topic that deserves to be explored further[17]. The alumni have been asked how many competitors they collaborate with, whether to develop new products or services, or in any other way. Here we assume that 3 competing firms is a significant number for SMEs, and we categorise the possible response as: no collaboration with competing companies, with 1, with 2, or with 3 or more competing companies. The previous to be answered for 3 regions: Chilean competitors, Germans, and of other countries.

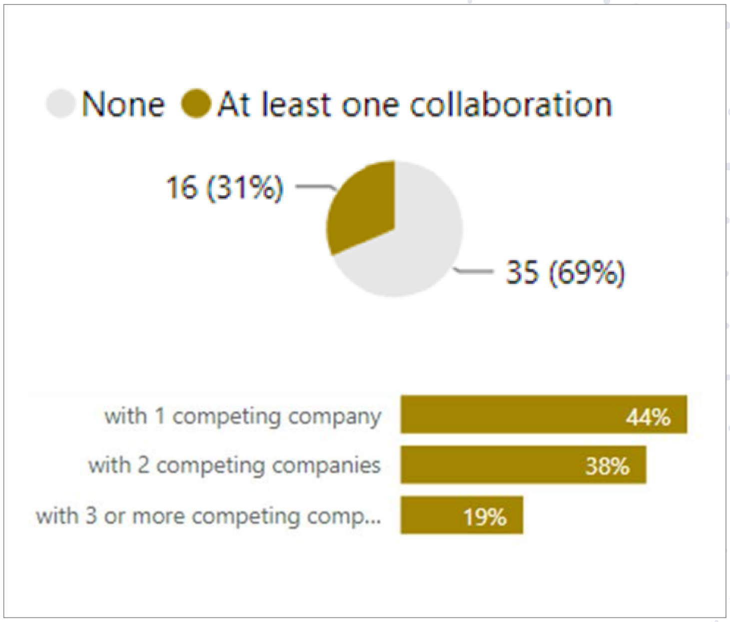
While in 2020 half of the alumni was not collaborating with any competitor, 71% of them does in the latest survey. The alumni who were collaborating with competitors in 2020 had their competitors located mainly in Chile: 38% of alumni had collaborations in Chile, 18% had collaborations in Germany and 27% in other countries. The proportion of collaborations with competitors in Chile has not changed much (41%). It has grown to 31% with German companies and 41% with other countries. In addition, those who collaborate with at least 3 competitors are 38% in Chile, 19% in Germany and 42% with companies of other countries.

17. Cooperation and competition as antecedents of product innovation. Is there a different logic for new ventures and incumbents?, Antolín-López et al., European Research in Management and Business Economics 19 (2013) 53-62 https://doi.org/10.1016/j.iedee.2012.09.001

In 2020, collaborations with German competitors were mainly with one company. One year later the outlook has changed, as shown in Graphic 30. More companies of RM do collaborate with German competitors (40%), against 13% of provincial alumni. Moreover, each provincial company has collaborations with less competitors (with 2 or less). In terms of business activity, trading companies are collaborating with German competitors much more (46%) than manufacturers (21%).

The alumni who do not cooperate with any competitor do not exhibit any pattern in terms of their main business type, location, or generation of participation to the programme. However, at the time of application only 17% had identified competitors and these were located in very few countries.

These observations are depicting an exciting scenario for the development of a network of alumni and, generally speaking, the development of business networks. An effort is necessary with provincial companies.



Graphic 30. Collaboration with German competitors in 2021 survey and distribution by number of competitors. Percentages refer to those alumni who have at least one collaboration.

MANAGER TRAINING PROGRAMME "FIT FOR PARTNERSHIP WITH GERMANY"

REPORT ON THE PERIOD 2017-2021 IN CHILE

Micro, small and medium-sized enterprises of Chile facing the pandemic

November 2021

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