

Fundación Chile Incubator

CHILE CASE STUDY



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Mailing Address: MSN I9-900 1818 H St. NW, Washington D.C., 20433 USA
Telephone: (+1) 202- 458-4070
Website: www.infoDev.org
Email: info@infodev.org
Twitter: @infoDev
Facebook: /infoDevWBG

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TABLE OF CONTENTS

BACKGROUND AND CONTEXT	2
STRATEGIC VISION, MISSION, AND TARGETS	3
FUNDACION CHILE'S DISTINCTIVE FEATURES	3
BRAND AND MARKET POSITION	3
APPROACH TO INCUBATION.....	4
INSTITUTIONAL SET-UP	7
BUSINESS MODEL	7
STAFFING	8
FUNDACIÓN CHILE'S MOST RECENT SUCCESSES:.....	9
CRITICAL SUCCESS FACTORS.....	10
LESSONS LEARNED AND IMPLICATIONS FOR AGRIBUSINESS INCUBATORS.....	10
GOALS MOVING FORWARD.....	12
CONTACTS.....	12
REFERENCES.....	12



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SUMMARY

Fundación Chile was created in 1976 as a nonprofit governed jointly by the Chilean government and an large American conglomerate. It proactively introduces technology innovations and develops companies in target industries including agribusiness, marine resources, forestry, environment and chemical metrology, human capital, and information and communication technologies. Among its successes have been a new method for packaging beef that enables ranchers to export it more easily, and introducing raspberries, blueberries, oysters and salmon farming for profitable overseas markets.

1. BACKGROUND AND CONTEXT

Fundación Chile was created in 1976 as a private, non-profit corporation with its own endowment. It was governed jointly by ITT, an American communications conglomerate, and the Chilean Government. The foundation initially focused on scientific and technological research and development,¹ and their application to agribusiness and other industries where Chile had little or no presence.

The relationship between the government's market-based priorities and ITT's social investment interest produced an approach that focused on market feasibility and operational management designs. Additionally, Fundación Chile's board of international ITT executives helped reinforce its corporate development.

The Foundation's privately endowed R&D department proved crucial in the 1980s, when the military government withdrew subsidies from research institutions and many organizations were forced to undertake short-term, less innovative projects. Thanks to its endowment, Fundación Chile was able to maintain its R&D standards and technological advancement.

Fundación Chile's Role in Technology Transfer and Incubation

Fundación Chile's effectiveness in protecting the benefits of R&D against market failures comes from its perception of technology transfer as an adaptive process.

Fundación Chile's incubation and technology transfer process has five phases:

1. Detecting potentially profitable subsectors
2. Developing and/or importing technology suitable for specific subsectors
3. Selecting appropriate technologies
4. Implementing and adapting technologies, including incubation support and/or investment in pioneer firms
5. Diffusing technology results.

Fundación Chile's market impact is one of value creation through mitigation of inherent market failures, incubation of and co-investment in pioneer firms and industries, and the adaptation of technologies essential to Chile's economic growth.

2. STRATEGIC VISION, MISSION, AND TARGETS

Fundación Chile's vision is to become the country's leading technological institution, acclaimed nationally and internationally, for the creation and dissemination of innovative businesses that have a high impact on the institution's target sectors.

Its mission is to introduce innovations and to develop human capital in the Chilean economy's key clusters through technology management, in alliance with local and global knowledge networks. Target industries include agribusiness, marine resources, forestry, environment and chemical metrology, human capital, and information and communication technologies.

In the 1980s, the onset of self-financing policies and lower interest rates provided Fundación Chile with cheap investment opportunities in companies that were desperate for financing. The pervasive self-financing culture also forced Fundación Chile to rely less upon institutional funding and more on revenues earned from increased prices for its goods and services. These complementary circumstances enabled Fundación Chile to take risks on businesses in new sectors that later yielded large returns. Successful businesses sectors (and companies) include:

- Farmed Pacific oysters in Tongoy
- Salmon farming in the Puerto Montt region
- Boxed beef in Osorno
- Raspberries and blueberries in Araucania region.

3. FUNDACION CHILE'S DISTINCTIVE FEATURES

Key features that distinguish the foundation from other incubators are its:

- Public-private alliance
- Private control
- Market orientation
- Use of networks for value creation and project scale-up
- Creation of companies that will spread innovations
- Self-financing.

4. BRAND AND MARKET POSITION

In 2006, Fundación Chile participated in a diagnostic review to determine exactly how organizational stakeholders viewed its brand. Using this analysis as a starting point, Fundación Chile developed a new organizational media concept to improve its marketing.

The review showed that entities involved in innovation and technology transfer viewed Fundación Chile as a "serious, trustworthy, and transparent organization committed to Chilean development."

Fundación Chile then commissioned the design of a new logo that included the phrase, "Movemos la Fronteras de lo Posible" ("Extending the Boundaries of Possibility"). Fundación Chile's 30th anniversary,

its 2008 Innovation Dialogue, and the addition of the BHP-Billiton mining company (and the Minera Escondida copper mine) as a new partner helped solidify its new positioning.

Fundación Chile's marketing budget has tripled since 2006 as it has pursued enhanced relationships with popular media outlets in Chile. Additionally, Fundación Chile redesigned its website to disburse information to the public simpler and easier to access, and can now be found on social media sites like Twitter, Facebook, and YouTube. The foundation provides incubatees and companies in which it has a direct investment with access to investors, finance, and government programs.

5. APPROACH TO INCUBATION

Fundación Chile takes a three-pronged approach to incubating companies: identifying opportunities for new products and services, obtaining the necessary technology, and scaling up the company and diffusing knowledge of the technology throughout the relevant sector. Its specific activities in these areas are outlined below.

Identify opportunities to add value to an innovation

- Focuses on "relative innovations,"² applying technology for the first time in sectors that are new to Chile.
- Conducts an evaluation to determine market needs.
- Designs innovations to fulfill these needs, adding value by making changes to products, services, productive processes, and business models.
- Evaluates R&D projects for investors.

Results: Create new businesses or new "technological packages" that can be sold to established entities with abilities to disburse technologies to pertinent markets.

Obtain technologies

- Obtains technology to complement the innovations it has developed.
- Locates financing sources when necessary to help Chilean companies acquire foreign-owned technology.
- Legitimizes the technology and provides the necessary coordination among various actors.
- When the technology source is domestic, Fundación Chile applies its technical capabilities to further develop the technology and reduce associated risks.
- As the project becomes more attractive to investors, Fundación Chile searches for partners that can contribute relevant technical and organizational assistance to the project.
- With respect to the management of R&D networks, Fundación Chile acts as a liaison between national and international institutions with similar focuses on sector-specific technologies.
- Additionally, Fundación Chile locates commercial outlets for the technology and creates skills within sectors that enable them to maintain long-term commercial developments.

Scaling-up and diffusion of technology

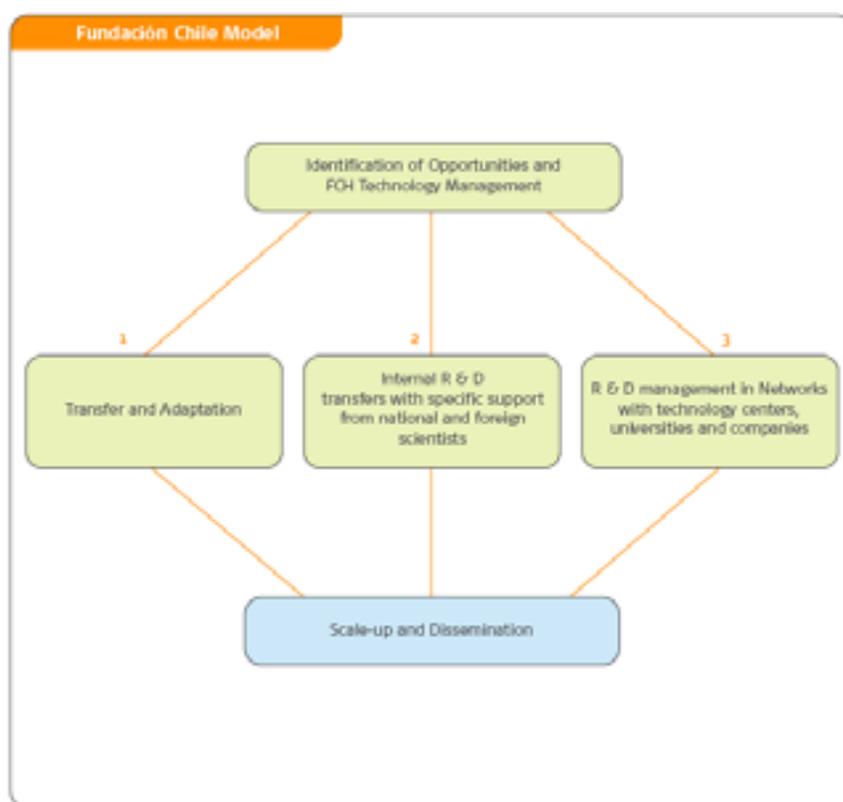
The organization increases the presence of established technologies by recognizing the following exit strategies:

² Los 30 Anos de Fundacion Chile, "Visualizando y Constryendo Futuro" pg. 12-14

1. Creating new companies and supporting the incubation of clusters
2. Developing, adapting, or transferring technology to clients by selling or licensing technologies and by providing technological services or assistance
3. Supporting applications for certification and standards for implementation
4. Through training and publications, spreading the new technologies to many users
5. Using partner and business alliances to promote innovations with new technology transfer approaches.

This direct approach to incubation focuses on value chain creation by determining where and how technologies are best incorporated into business models to create a positive market impact. Often these types of services cater towards the individual needs of agribusiness incubatees.

Fundación Chile is also an “indirect enabler” that seeks companies and projects with high impact value creation, large-scale changes, and minimal private returns. As an indirect enabler, Fundación Chile embarks upon projects that reach more stakeholders, have greater continuity through time, and generate large positive externalities to multiple stakeholders.



Time Line of the Fundación Chile’s Agribusiness Incubation and Direct Investment

Fundación Chile’s incubation process evolved in the late 1970s and 1980s, a time when investors sought chances to make “big bets” on entirely new businesses or product lines. Fundación Chile invested directly in companies and developed programs aimed at encouraging exporting in the agribusiness sector for asparagus, salmon and aquaculture, meat, and fruit.

- **1979.** Fundación Chile initiated the “Asparagus Cultivation” program, encouraging exports while providing technical assistance to farmers. The foundation operated 40 percent of the national acreage dedicated to asparagus crops. As a result of this program, cultivation techniques were adopted that led to improved product quality, and exports increased considerably, from 6.2 tons a year to 7,550 tons a year by the 1990s.
- **1980.** The Salmon Project established a local knowledge base about salmon farming, drawing from salmon ranching technologies and activities in Norway. Fundación Chile acquired “Domsea Farms,” an aquaculture company, which eventually became “Salmones Antártica,” and which initiated salmon ranching in Chile. At the time of the Domsea Farms acquisition, Chile’s exports of salmon and trout were 300 tons per year. They grew to over 24,000 tons per year by the 1990s.
- **1982.** The foundation created “Cultivos Marinos Tongoy,” a company geared towards cultivating and exporting oysters to Japan.
- **1982.** The “Boxed Beef” project was created. The project aimed to process cattle in livestock production areas and to transport the meat to consumption centers in vacuum packaging.
- **1983.** The “Boxed Beef” initiative led to the creation of Procarne. The company was later transferred to the private sector. The main impact of this project was the creation of a new industrial activity, which, together with creating jobs, introduced more hygienic and better quality packaged meat products.
- **1985.** Fundación Chile established “Berries la Union,” a berry program to introduce new species and varieties of berries and to expand the zone where they could be grown domestically.
- **1987.** Tenagro Cautín (Berries in the BioBio region) and Salmones Huillinco (Alevin, first juvenile Atlantic salmon company in Latin America) were created.
- **1988-** Salmotec and Tecnofrío Cautín were created.
- **1989-** Granjamar (Turbot) was established.

Part of the motivation for this back-to-back creation of companies was apparently concern over a law due to take effect shortly that would regulate the state’s role as a business owner. The law would prevent Fundación Chile from creating demonstrative businesses. Another factor was the absolute commercial success of Salmones Antartica, which was acquired in 1981 for \$1 million and sold in 1988 for \$22 million.

Fundación Chile’s success in the salmon industry was widely acknowledged in the business community. From that point on, it grew easier and easier to find new private partners for projects. This success had its flipside, however. The explosive growth of its business creation inevitably led to mixed results or even outright failures for later initiatives, marginally eroding Fundación Chile’s prestige at times.

In summary, at the end of the 1980s, Fundación Chile was positioned as a catalyst agent for innovation and export development within the country. The salmon farming initiative was a true accomplishment, and the foundation’s name remains permanently tied to the creation of an entire world-class cluster. Thanks to its approach of learning by doing, the organization anticipated the need to solve all issues in the production chain, from hatchery to its commercialization, even including the develop-

ment of specialized feed. The foundation also saw the importance of creating a robust trade organization. It contributed to the formation of the Salmon and Trout Producers Association in 1987, the precursor to Salmon Chile, an association of producers that acts as a unit in addressing new challenges faced by the industry.

6. INSTITUTIONAL SET-UP

Fundación Chile was set up as a public-private joint venture, with a clear public mission and a strong private-sector corporate structure. It was built not as a “think tank,” but a “do tank.” Private co-governance gave Fundación Chile stability and guaranteed that the funds were well used. In addition, the foundation was designed to be isolated from political influence. Fundación Chile has developed and maintained a strong neutral brand as an independent broker.

Fundación Chile now has a Board of Directors representing the co-founders and founding partners, including the Chilean government, ITT, and, since 2005, BPH Billiton. The partners appoint the Board of Directors to head the internal operational structure of this private, non-profit corporation. The general manager heads the Corporate Holding division responsible for management and support activities. The Technology Center, Business Unit, and Companies & Investment divisions represent the base of this moderate hierarchical structure and constitute the source of Fundación Chile’s principal activities. The Business Unit specializes in the sale of technology products and services. The Companies & Investment unit manages the companies that are incubated and created to support the spread of technology innovation.

At the core of Fundación Chile’s activities, the Technology Center maintains over 100 projects annually that are relevant to the organization’s principal interests. The Technology Center researches, develops, adapts, and promotes innovations. In addition to identifying market opportunities, it also facilitates interactions between business sectors and various technologies, seeking so-called transverse technologies. The identification of transverse technologies ensures that “market opportunities can be identified and materialized in innovations and undertakings that are critical for our [Chilean] economy.”

The Technology Center is divided into the following sectors: Agribusiness, Marine Resources, Forestry, Center for Human Capital Innovation, Education, and Environment and Energy. These sectors are connected through common themes such as sustainability, natural Resources, renewable energy, and food and certification.

7. BUSINESS MODEL

Fundación Chile’s typical business model begins with the identification of an innovative opportunity with high potential, based on a technology transfer or development that is adapted for local conditions.³

The evolution of funding for Fundación Chile’s business model is unique to non-profit entities. Despite Fundación Chile’s social mission, ITT’s corporate identity, combined with former Chilean leader Augusto Pinochet’s business-centered policies, initially promoted a corporate governance structure within

³ Los 30 Anos de Fundacion Chile, “Visualizando y Constryendo Futuro” pg. 15

the organization. Complete funding by these two partners also ensured Fundación Chile’s financial stability. As self-financing policies took effect in the 1980s, Fundación Chile’s business configuration persisted even as partner funds declined. Since then, Fundación Chile has applied its corporate structure to successfully leverage competitive funds from CORFO (Chile’s Economic Development Agency) and CONICYT (Chile’s Science and Technology Ministry), revenues from the sale of its products, contracts with public organizations, and eventually revenues from private companies.

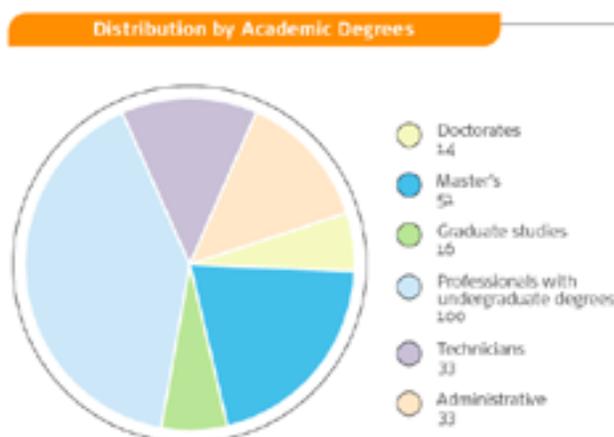
YEAR	Level of operation Millions of US\$ at 2005	Self-financing
1976	2.5	0%
1983	5.6	32%
1991	11.4	53%
1997	11.7	77%
2005 [1]	31.5	88%

[1] Includes activities resulting from the merger with Intec

Once Fundación Chile acquires and adapts technologies, it incorporates private partners to create a company around the new technology. More than 75 companies—dominated by agribusiness companies—have been created through this practice, and recently most have been aided by private and majority partner funding and business skills. Despite the foundation’s insistence on a minority partnership in each new company, there is increased demand for Fundación Chile’s R&D initiatives.

8. STAFFING

Fundación Chile currently has 350 professional staff and nearly 300 external consultants. The majority of Fundación Chile staff is professional, with a skill profile equivalent to that of a Bachelor of Arts or Science. Technical and administrative employees create the second largest cohort, followed by employees with master’s degrees. Those with a doctorate degree represent a minority in the organization.



Fundación Chile focuses on value chain elements:

- It looks for relative innovations—those which are new to Chile, if not new elsewhere—when it applies technology within sectors new to Chile.
- It conducts a market evaluation in which it searches for market needs.
- It designs innovations to fulfill these needs, including changes to products, services and/or productive processes, and adjustments to business models.
- It eliminates information asymmetries by providing investors with evaluations of R&D projects.

As a result, it is able to create new businesses or new technological packages that can be sold to established entities that can disburse them to pertinent markets.

9. FUNDACIÓN CHILE'S MOST RECENT SUCCESSES:

Compania Chilena de Esterilizacion (CCE)

Created in 2002 in a collaboration between Fundación Chile and Brazilian Sterilization Company, CCE uses modern technology in the form of ionizing energy to increase the quality, safety, and competitiveness of materials in different food products.

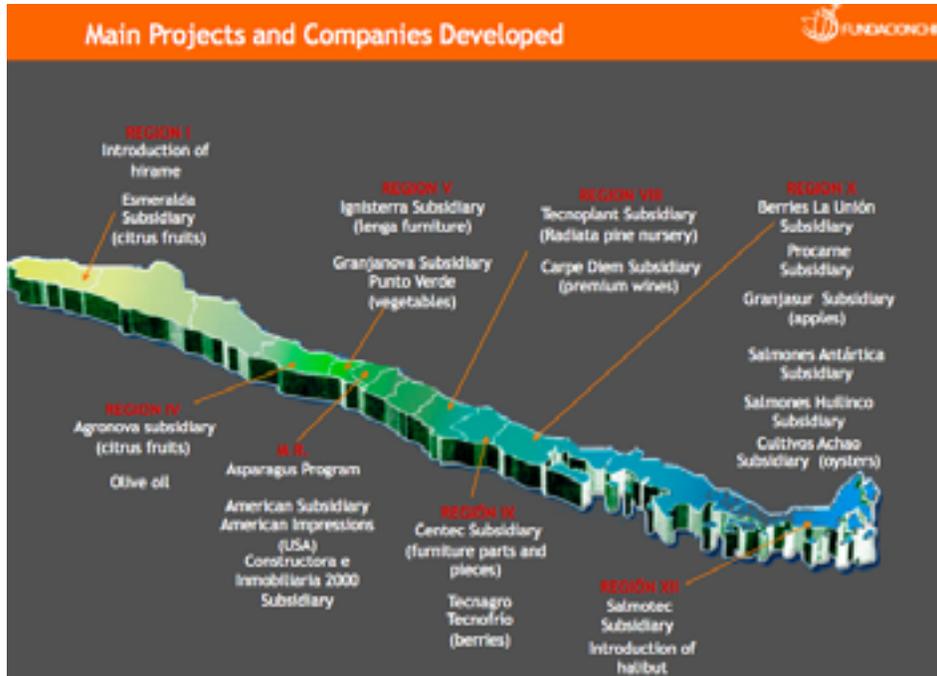
Chevrita

Created in 1994 as a joint venture between Fundación Chile and the French firm Lescure Bougon, Chevrita produces and sells gourmet goat cheese for third parties and under its own brand name. It also developed a new production and commercialization process for cow's milk cheese.

Vitro Chile Fundación Chile collaborated with the Viollier family to create Vitro Chile in 2003 in order to meet the increase in world demand for flowers and flower bulbs. Vitro Chile has biotechnological capabilities it uses in the micro propagation of genetic material to be exported to Europe.

Oloetop

Founded in 2004 with three partners including Fundación Chile, Granotrop, and the Schiess Group, Oloetop produces canola oil (rapeseed) for the salmon feed industry, and sells bran in bulk or pressed as a by-product. It has the capacity to produce 24 thousand tons of rapeseed per year, which yields 8,500 tons of oil.



10. CRITICAL SUCCESS FACTORS

- Diverse project portfolio
- Openness towards international partners
- Consistent financial base provided initially by private partners.

11. LESSONS LEARNED AND IMPLICATIONS FOR AGRIBUSINESS INCUBATORS

Micro Lessons

Lesson 1: Adequate Funding Promotes Organizational Sustainability

While not all organizations can mimic Fundación Chile's financial structure and significant private endowment, it is important that they maintain balanced base financing. A large financing base can create space for organizational inefficiencies, while a narrow financing base can limit innovation and the attainment of organizational goals.

Lesson 2: Local Impact Depends Upon Global Associations

Increasingly, partnerships are becoming valuable sources of expertise and financing. Therefore, organizations relying upon the presence of innovative technologies or special knowledge must be willing and able to expand their networks to include global partners.

Lesson 3: Pick Partners Wisely

Some of Fundación Chile's partnerships with entrepreneurs have been much less than ideal over the years. The foundation is constantly scanning for entrepreneurs that manifest the following characteristics:

1. Strong business knowledge combined with management support through good networks and valuable experience
2. Contribution of experience and networks to support good management
3. Direct involvement in conflict resolution
4. An entrepreneurial and flexible vision of the business.

Macro Lessons

Lesson 1: Identify the Project's Impact at Its Inception

Even if a project metric is indefinite, use of a metric allows for project discipline, accountability, and the ability to track progress over time. Such a metric should judge the project by the following criteria:

1. Will the project alter the "rules of the game" or prompt a change in industry operations?
2. How large is the project's scale?
3. Will the project attract relevant stakeholders?
4. Will the project resolve a pertinent problem?
5. Can the project be replicated?

Lesson 2: The Organization Should Have a Portfolio Approach

A varied project portfolio is necessary to reduce the uncertainty associated with innovation and investment in new businesses. Such a portfolio should have a variety of risks and returns, short-term and long-term results, and limited and high-impact ventures.

Lesson 3: Successful Impact Models Include Direct Value Creation and Indirect Value Enablers

Through direct value creation, an organization can maintain valuable connections with the private sector. Alternatively, indirect value enablers that provide certification standards and support for public policies generate broader impact and coverage, and take a less visible ownership role. In making use of both innovation methods when appropriate, organizations can diversify the manner in which promote development.

Lesson 4: The Path to Innovation Is Similar to a Poker Game

While project management objectives and preliminary processes should be established in the initial planning phase, successful innovation requires organizations to adapt to changes in these plans. Organizations are advised to cultivate nonlinear project management capacities.

12. GOALS MOVING FORWARD

As climate change, water, CO2 emissions, and human capital become pertinent within the Chilean and world economies, Fundación Chile understands that its focus must continue to expand to include work beyond single sectors or businesses with narrowly focused impacts. Therefore, Fundación Chile will adapt a client-focused perspective in which it can simultaneously use all of its functional capacities. Fundación Chile must also adjust its institutional framework to create consistent financing for projects where self-financing policies may be insufficient. The foundation intends to strengthen its own financing base, possibly through larger endowments, provision of more services, consulting, participation in companies, or receiving public financing and venture capital from the private sector.

13. CONTACTS

www.fundacionchile.com/en/

Andres Pesce, apesce@fundacionchile.cl
Vice President, Business Development and Investment
Fundación Chile, Santiago, Chile
Tel: +562 240-0489

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