Invest in Chile
Opportunities for Biotechnology

www.ciechile.gob.cl
Land of Opportunities

Chile is not only Latin America’s best evaluated economy but also one of the best evaluated emerging economies internationally. Its hallmark stability, transparency and competitiveness and excellent business prospects position the country as the best destination for foreign investment in Latin America and one of the world’s leading destinations.

In its World Investment Report 2015, UNCTAD ranked Chile as the world’s 11th largest recipient of foreign direct investment in 2014. With an inflow of US$23,000 million in 2014, Chile took second place in Latin America after Brazil and ahead of Mexico.

Chile was the sixth largest recipient of FDI among developing economies in 2014, according to UNCTAD.

US$23,000 million in inbound FDI in 2014.

FDI in Chile 2004/2014 (US billion)

Source: Central Bank of Chile
Why invest in Chile?

A reliable country
Chile is a safe place in which to do business as borne out by risk ratings agencies which have increased or maintained their high ratings for the country, highlighting its low level of public debt, the health of its financial system and its solid institutions.

A competitive country
In the 2014-2015 Global Competitiveness Index published by the World Economic Forum, Chile took 33rd place out of 144 economies, ahead of all other Latin American countries.

An attractive business climate
In the Economist Intelligence Unit’s Business Environment Ranking 2014-2018, Chile took 13th place out of 82 economies.

A transparent country
In Transparency International’s 2014 Corruption Perceptions Index, Chile obtained a score of 73 points, ranking among the 21 best-placed economies out of the 175 countries included in the Index.

An internationally integrated country
Chile has signed trade agreements with more than 60 countries, expanding its domestic market of 16.6 million inhabitants to one of over 4,302 million potential consumers around the world (representing 85.7% of global GDP and 63% of the world’s population).
A globally connected country
Chile has world-class highways and telecommunications services, with a high penetration of technology and excellent connectivity. In the Networked Readiness Index 2014 published by the World Economic Forum (WEF), it took 35th place out of 148 economies, ranking first in Latin America.

A country with talent
Chile stands out not only for its high-standard professionals but also as the home of two of the universities that, according to the latest Academic Ranking of World Universities (ARWU), are among the top ten in Latin America. In addition, it took 26th place out of 60 economies in the Global Talent Index 2015 of the Economist Intelligence Unit (EIU).

A country to live in
The capital Santiago is one of Latin America’s most liveable cities, according to the Economist Intelligence Unit (EIU), and the country is also well evaluated in studies such as the Global Peace Index where, in 2014, it ranked 30th out of 162 countries.

Headquarters in Chile
Santiago offers overseas companies some of the world’s most attractive installation costs. In its Prices and Earnings report for 2012, the UBS investment bank gave Chile’s capital a score of 52.8 points and 60th position out of 72 cities in a ranking where first place indicates the most expensive city (Oslo) and New York is the base of comparison with 100 points.

Biotechnology in Chile

Biotechnology Industry
- Over 100 biotechnology companies (79 private + 22 consortia), including leading global players, have operations in Chile.
- The sector’s total annual sales reach an estimated US$900 million.
- The sector has received foreign investment worth over US$170 million.

Biotechnology Companies (by sector)

Specialization (Number of sectors in which companies are active)

Source: Investment Opportunities in Biotechnology in Chile, DGE Consulting, CIEChile.
Why invest in biotechnology in Chile?

**Over 100 companies**
There is a dynamic local industry, comprising over 100 companies and including leading international players such as Bayer, Pioneer, Ewos and Syngenta.

**Centers of excellence in Chile**
Fraunhofer, Pfizer and Wageningen UR University have established international centers of excellence in Chile.

**Stability and transparency**
Chile offers political and economic stability and transparency.

**Competitive businesses**
Through government institutions such as CORFO, CONICYT and FIA, subsidies are available for R&D and the development of competitive biotechnology businesses.

**Tax incentive**
Chile has a 35% tax incentive for private expenditure on R&D.

**12,000 PhD degrees**
Over the past five years, more than 12,000 people have received PhD degrees from local and overseas universities in areas where biotechnology is used (agricultural sciences, natural sciences, engineering and technology, medical sciences and health care).

**ARWU 2014**
Two Chilean universities (Universidad Católica de Chile and Universidad de Chile) are among the 500 best in the world (ARWU 2014) and among the six best in Latin America (QS Latin American Ranking 2014). Eleven Chilean universities offer undergraduate and postgraduate training in biotechnology and there are 22 PhD programs.

**Biotechnology patent**
The capacity to obtain a biotechnology patent is greater than in other Latin American countries (OECD 2013).

**Low prevalence of pests**
Chile is rich in biodiversity thanks to its geographic and climatic characteristics which, in addition, mean a counter-season advantage with respect to the northern hemisphere while excellent phytosanitary and zoosanitary conditions also mean a low prevalence of pests.

**Infrastructure**
Good infrastructure and competitive costs exist for the support industry for biotechnology R&D and related services (offshoring).

**Impact in other sectors**
Biotechnology companies are having an evident impact in mining, the food and agribusiness sector, health care and alternative energies.

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Investment opportunities

AGRIBUSINESS SECTOR

Key facts
- Food industry exports growing by US$1,000 million each year.
- Biodiversity within easy reach: germplasm banks and genetic material available for biotech R&D.
- International Centers of Excellence working on food science in Chile (Wageningen University UR and UC Davis).

Investment opportunities
- Design and industrial escalation of bioreactors for biomass production.
- Microalgae for functional food production.
- Gene sequencing for large-scale enhancement of commercial fruits and wine grapes.
- Biopesticides.
- Bioinformatics applied to fruit varieties.
- Genetic enhancement applied to wine grape growing.

Main driver
- Important market penetration (China, US, EU, etc.).

MINING SECTOR

Key facts
- The world’s leading copper exporter; exports for US$41,041 million (2014) and investment projects for US$112,000 million through to 2021.
- Mining FDI attraction index among the top ten in the world, according to UNCTAD.
- Fourth most attractive country for mining investment after Australia, Canada and United States, according to Behre Dolbear ranking (2014).
- 556,000 tonnes/year produced through bioleaching, accounting for 10.4% of total copper output (2013).
- Biotechnology companies with active projects and potential for globalization.
- At least seven research institutes working on mining biotechnology.
- Capacity to transform industrial waste into ecological products.
- Soil remediation costs of between US$52 and US$131/m3.

Investment opportunities
- Biocorrosion.
- R&D in genomics and biomining.

Main drivers
- Increasing demand for copper concentrate in China (annual growth rate of 19.9%).
- Commitment to reducing production costs and improving international competitiveness.
- Positioning in global mining sector.
- There are currently 22 mining operations with high level of risk of contamination, 28 with a medium level and 40 with a low level (2013).
- Local and regional communities increasingly oppose the development of mining projects.
- Pressure to comply with Law 20.551 on the closure of mines and mining installations.
- Development of solutions that protect and remediate the environment.

LIFE SCIENCE

Key facts
- Pharmaceutical global market worth US$959 billion.
- Biotechnology global market worth US$232.5 billion.
- In Chile, life science represents 2% of GDP (2013).
- Public investment in R&D for human health is US$797 million.
- In Chile, biomedicine accounts for 30% of the biotechnology sector.
- International Health Center of Excellence (Pfizer) and leading companies in global biomedicine industry working in Chile (Novartis, Novo Nordisk, etc.).
- Ancillary industry for R&D in biomedicine (CRO): 8 international companies and 2 local companies offering services in Chile.
- Prestigious public health research and long historical data series.

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Opportunities in Biotechnology

Investment opportunities
- Development of cancer vaccine.
- Skin cancer diagnostic kit.
- Clinical trials and biopharmaceutical development from early to mature stages with global impact.

Main drivers
- Global health sector: 40% share in R&D (OECD, KBI 10).
- High returns on biomedical products.
- Constant growth of external demand.
- The biomedicine sector accounts for 30% of Chile’s biotechnology market.

AQUACULTURE SECTOR

Key facts
- Salmon exports, at US$4,351 million in 2014, are the second highest in the world.
- 77% of aquaculture exports correspond to salmonids.
- The main export markets are Japan, United States and Brazil.
- Success story in development of vaccines for local and international use.
- Important commercial relations and ties of trust already established.

Investment opportunities
- Development of vaccines.
- Genetic sequencing.

Main drivers
- Salmon products highly valued internationally.
- Increasing external demand.
FORESTRY SECTOR

*Key facts*
- Chile is an international authority on germplasm storage and microorganisms patented with the authorization of the World Intellectual Property Organization (WIPO).
- Good phytosanitary conditions (low pest prevalence).
- High level of endemic organisms and vegetables.

*Investment opportunities*
- Synthetic biology for modeling and developing commercial species.
- Abiotic stress for making use of arid and semi-arid land.
- Applied bioinformatics in forestry sector to generate genomic databases for commercial species.
- Generation of biomass and biofuels from lignocellulose.

*Main drivers*
- Keen interest in genetic sequencing of commercial species.
- Global trend towards use of currently idle land.

ENERGY SECTOR

*Key facts*
- Ongoing transformation and diversification of the current electricity matrix based principally on diesel, natural gas and coal.
- 70% of energy imported.
- World energy consumption expected to increase by 57% between 2004 and 2030.
- Substantial increase in cost of energy for non-regulated clients.

*Investment opportunities*
- Production of biofuels from micro and macroalgae.

*Main drivers*
- Growing demand for clean, sustainable and low-cost energy sources.
- Country’s need for energy self-sufficiency.
- Increasing non-renewable fuel prices.
Chile is a world authority on germplasm banks and storage of microorganisms.

World Intellectual Property Organization (WIPO).
“For us, Chile represents a market full of growth opportunities, with concrete incentives for growing in the field of innovation. It is one of Latin America’s most prosperous countries, with great political and economic stability that allows us to invest here and seek to grow. Chile also stands out for the quality of its professionals and scientists, which is vital for us.”

Ricardo Ávila, Medical Director, Pfizer Chile

“A factor that has been fundamental for us is the government’s support for research initiatives that have an economic impact and strengthen the country’s innovation climate. In Chile, it is also very easy to do business. The country is known for there not being corruption in either the political or financial system and the government has a strong policy of transparency.”

Wolfgang Schuch, General Manager, Fraunhofer Chile Research
The Foreign Investment Committee (CIEChile) is the agency that represents the State of Chile in its dealings with foreign investors and helps to position Chile as a highly attractive destination for foreign investment and international business through its role in matters related to the administration and communication of the corresponding legal norms, the development of promotional activities of different types and the preparation of information concerning foreign investment for investors and potential investors.

**What can CIEChile do for you?**

* Provide you with information in Spanish, English or Chinese about Chile’s business climate and the investment opportunities offered by different sectors.

* Supply you with a portfolio of public and private investment projects.

* Provide you with legal advice for the signing of an investment contract with the State of Chile.

* Help you in preparing schedules of meetings with relevant players.

* Guide you in presenting queries to different government services.

* Respond to your enquiries and requests in the shortest possible time.

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