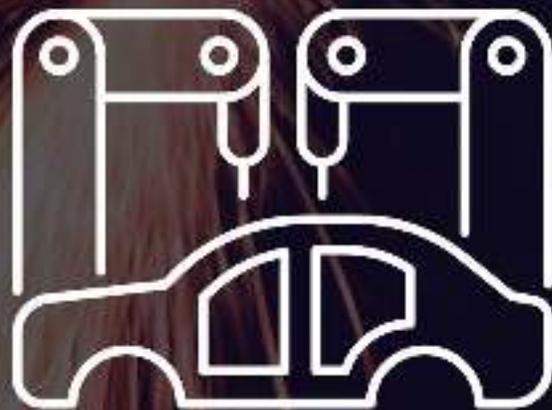




ECONOMIC MISSION OF
ISRAEL TO MEXICO

ADVANCED MANUFACTURING REPORT

2022 SECTORIAL OVERVIEW



Prepared by
COMMERCIAL OFFICE
OF ISRAEL IN MEXICO



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Executive Summary

The following report was written by the Commercial Office of Israel to Mexico to provide an overview of the Advanced Manufacturing ecosystem in Mexico. With the information presented in this report, you will be able to obtain a vision prior to the establishment of business in Mexico, with examples of companies and public institutions that will be able to guide you regarding the best practices to be carried out for a successful establishment of business in the country. Likewise, to expand your business in Mexico, in case that you are already operating here. For further information beyond what is stated in this report, as well as questions or connections between the companies, organizations and conferences listed in this report, please contact Deborah Bar-Nissim, which is in charge on the sectors of Life Science, Automotive, Advanced Manufacturing, Consumer good and Investments.



Deborah Bar Nissim
Senior Trade Officer
Life Science, Automotive,
Investment &
Consumer Goods



1. The Israel Economic Mission in México

The Israel Economic Mission is based in Mexico City and represents the Foreign Trade Administration of the Ministry of Economy and Industry of Israel. Our objective is to promote, improve, and facilitate trade and investment in a wide variety of sectors between Mexico and Israel. We work to develop strategic bilateral partnerships, identifying new attractive opportunities in business and G2G bilateral trade between Mexico and Israel. We are doing so via B2B meetings, business seminars, delegations, exhibitions, and other services.

1.1. The Team



Lior M. Yafe
Commercial Attaché



Deborah Bar Nissim
Senior Trade Officer
Life Science, Automotive,
Investment &
Consumer Goods



Estefanía Ustarroz Wood
Trade Officer
Agriculture, Water,
Cleantech, Food-Tech
& Mining



Karla López Ruelas
Trade Officer
HLS, Telecom, Smart Cities
Construction-Tech, E-learning
& G to G



Carla Rodríguez Ramírez
Trade Officer
Cybersecurity, New Media,
Retail-tech, Sports-tech
and Fintech



Regina Salvatori Campos
Project Manager



2. General Information About Mexico and its Business Culture

Official Name:	Estados Unidos Mexicanos (México)
Capital:	Mexico City
Currency:	Mexican Peso (1 USD = 19.87 MXN)
Population:	128,649,565 (July 2020 est.)
Administrative divisions:	32 states (estados, singular-estado); Aguascalientes, Baja California, Baja California Sur, Campeche, Chiapas, Chihuahua, Coahuila, Colima, Ciudad de Mexico, Durango, Guanajuato, Guerrero, Hidalgo, Jalisco, Mexico, Michoacán, Morelos, Nayarit, Nuevo León, Oaxaca, Puebla, Querétaro, Quintana Roo, San Luis Potosí, Sinaloa, Sonora, Tabasco, Tamaulipas, Tlaxcala, Veracruz, Yucatán, Zacatecas.
Government	Federal Presidential Constitutional Republic
President	Andrés Manuel López Obrador
Official Language:	Spanish



2.1. Major Cities

- Mexico City
- Tijuana, Baja California
- Leon, Guanajuato
- Puebla, Puebla
- Juarez, Chihuahua
- Guadalajara, Jalisco
- Monterrey, Nuevo León

Mexico is the largest importer and exporter in Latin America and is the second-largest economy in LATAM after Brazil.

2.2. Business Communication

Mexican business-culture prefer face-to-face methods of communication, as they find it critical in determining potential partners' character, level of trust, and compatibility.

Business Etiquette: do's and don'ts:

- **Presentation:** Although before scheduling the call the Commercial Trade Officer sent your information (presentation, one pager, etc.) that you provided on your ERM request, it is important to have a short and precise power point presentation about your product or service. For Mexican companies, a previous experience in other markets is very important. Especially in the United States, European union and Latin America. In case you do have such an experience, please emphasize it.
- **Read about the local company before:** Make some research, look for the person profile in LinkedIn and such.
- **Know your goals in the local market:** It's important that you provide clear information about what you are expecting from your local partners, sales, strategic plan, if you already have some distributors in the market, approximately how much they are selling, etc.
- **Importation issues:** it is considerable to know the HS code of your product, packaging for the importation and if there is any Mexican-local regulation relevant.
- **Additional information:** it is always attractive for the local company to know if you are willing to give training, marketing percentage, free samples, or pilots, before closing a deal.

- **Be friendly:** In Mexican business culture, a direct, unmediated, pleasant and respectful relationship is very important, long before doing business. It is important not to go straight to business, before conducting a small talk. It can be viewed as a rude behavior. DON'T make them feel rushed or undervalued.
- **Accurate information:** If you don't know an answer about a question been asked during the call, it's better to apologize and send the information later via email, instead of providing misinformation, that can mislead or affect the meeting adversely.

Mexican business-people do not like to say “No”. It's important to be hyper-aware of body language and other non-verbal cues to avoid miscommunications. If you push the Mexican business-people, they could stop answering you.

Be careful in how you are doing business. Business in Mexico takes time to close and longer when everything is by mail and calls.



3. Overview of the Mexican Advanced Manufacturing Sector

Mexico is the most important manufacturing center in Latin America. In fact, a large proportion of manufactured goods for North America and the world come from Mexico. In this sense, Mexico currently concentrates the 2.16% of [world trade](#). This is due, in large part, to its economic openness and its wide network of trade agreements (11 [free trade agreements](#) that give preferential access to 43 countries) among which are [the U.S. – Mexico – Canada Agreement \(USMCA\)](#), the [Mexico-European Union Free Trade Agreement \(TLCUEM\)](#), and the [Mexico-Israel Free Trade Agreement](#).

Thanks to its competitive advantages, [Mexico is currently the main exporter in Latin America](#). In 2010, the exports of the Mexican manufacturing sector reached 243 billion, which represents about 48% of total Latin American exports. In that sense, Mexico is developing into the advanced manufacturing sector, focusing in certain industries that will be discussed below.

3.1. Iron and Steel Industry

Mexico is the 14th iron producer in the world, with total revenues of \$ 15.4 billion dollars in 2018. The steel industry is mainly concentrated in the center and northeast of Mexico, with an [annual production](#) of 20.2 million tons of pure steel. Imports of this material increased by 15.4% between 2015 and 2018, while exports increased by 45% during the same period. The growth prospects of the steel sector in Mexico are supported by competitive operating costs and strong growth in domestic demand. The challenge now is to improve levels of technology and develop the level of expertise in the production of more sophisticated results, and bring more value to the industry overall.

3.2. Aerospace Industry

Mexico is positioning itself as a global leader in the aerospace industry with large volumes of direct foreign investment from the largest companies in the sector. The aviation and aerospace industry in Mexico is one of the three largest industries manufacturing in Mexico today. It has positioned itself as the ninth most important supplier of parts for manufacturers in the aerospace industry in the United States. During the last decade, the quality of aerospace production in Mexico has reached global quality standards with more than 40,000 employees.

Mexico is the [third largest recipient](#) of foreign direct investment in the world in its aerospace sector, after the United States and the United Kingdom, having reached 2.5 billion dollars during the last 10 years.

Mexico has become the location of choice for aerospace and aviation companies seeking a low-cost manufacturing footprint in North America. [The U.S. – Mexico – Canada Agreement \(USMCA\)](#) also plays a role in attracting aircraft manufacturer operations because of the low cost for raw materials. Today, nearly every component of an aircraft can be manufactured in Mexico, including turbines, fuselages and sensors for jet engines.

3.3. Automotive Industry

In 2015, Mexico held onto its position as the world's [seventh-largest vehicle producer](#) and the leading producer in Latin America. Production and exports of vehicles has reached almost 6 million units. Some of the factors that have helped consolidate the industry in Mexico include: its attractive export activity, investment flows in the sector and the broadening of its production capacities. Today, Mexico boasts one of the most dynamic and competitive auto industries in the world-You can read more on the automotive industry in the [2021 Automotive Report](#).

3.4. Chemical Industry

The chemical industry in Mexico is managed by large international players and it is mainly focused on chemicals used in the process of transformation of oil and gas. Basic chemicals are the largest segment in the industry, with a 68.1% market share and \$ 16.3 billion in [revenue](#), but a shift in focus to specialty chemicals is likely in the future, if enough is invested in innovation.

Mexico is the provider of more than 40 branches of the industry, such as the automotive, aerospace, textile and construction industries, agriculture, electrical appliances, among others, it also allocates significant resources for technological development and generates highly specialized jobs. The chemical industry in Mexico offers diverse opportunities from the gross potential of the countries to the support of government entities.

4. Trends in Advanced Manufacturing

Advanced Manufacturing is leading the way in the development of technologies that are unlocking new forms of value for manufacturers and transforming the global manufacturing industry. The following advancements focus on the leading trends that are paving the way for strengthening the Manufacturing Industry in Mexico.

4.1.1. 3D Printing

[3D printing](#) is an additive process of building objects, layer upon layer, from 3D model data as opposed to subtractive manufacturing methodologies like machining. 3D printing helps in creating intricate designs that are difficult to make through traditional methods, saves enormous amounts of time during product design and development stages, and eliminates scrap.

4.1.2. Advanced Materials

[Advanced materials](#) refer to the development of new materials and chemicals that can be designed to optimize production and quality. These materials can be developed to have higher thermal, magnetic and structural properties. This opens the possibility for the improvement of functional design and manufacturing challenges that can change the perspective of manufacturers.

4.1.3. Artificial Intelligence

Recent developments in artificial intelligence (AI), especially Machine Learning have shown great potential to transform the manufacturing domain through advanced analytics tools for processing the vast amounts of manufacturing data generated, known as [Big Data](#). Enabled by rapid developments of computational power, digitalization, and sensor network in Industry 4.0, artificial intelligence (AI) is receiving increasing attention to explore new ways in which to improve manufacturing practices.

4.1.4. Energy Storage

[Energy storage technologies](#) enable higher, more efficient storage and capture of energy. These technologies enable a more resilient energy distribution infrastructure and bring more cost savings to utilities and consumers.

4.1.5. Advanced Robotics and Cognitive Automation

Advanced robotics are machines or systems capable of accepting high-level mission-oriented commands and performing complex tasks in a semi-structured environment with minimal human intervention. [Automation](#) using robotics and cognitive technologies leads to greater efficiency by replicating human action and judgment. .

5. Initiatives for Improving Advanced Manufacturing in Mexico

5.1. Public Sector

5.1.1. CIMAT

[CIMAT](#) is a research center related to robotics in terms of planning of movements and perception for mobile robotics as well as analysis of multidimensional data and pattern recognition. It refers to statistical modeling; exploration, prediction, and classification of big data; automatic learning, information transmission, databases and data mining, and pattern recognition.

5.1.2. CIATEC

In 2013, the [CIATEC](#) opened the airbag-testing laboratory with the main purpose of evaluating and validating passive security systems in a controlled environment. This laboratory is aimed to decrease the costs and time of assembly plants in the region, as well as performing tests abroad. This center, located in Leon, Guanajuato, performs more than 350 tests for the automotive sector under international quality regulations and certifications, that allows the center to provide services to the main assembly plants located in the country, such as: VW, Nissan, Ford, GM, Honda, and Mazda.

5.1.3. CIDESI

In terms of advanced manufacturing, [CIDESI](#) provides technological services for the aeronautic and automotive sectors, such as: design and building of parts and test bench equipment. On the other hand, in terms of innovation and manufacturing process development, the center does research in flexible manufacturing, intelligent manufacturing, high mix and low volume manufacturing, among others.

5.1.4. LANIF

[LANIF](#) seeks to create an experimental and productive innovation ecosystem consisting of hardware and software infrastructure, in where colleges, research centers, cities, companies, and other organizations can experiment with the use of technologies related to the internet of the future: IoT, Big Data, and cloud computing.

5.1.5. CIATEQ

[CIATEQ](#) is a specialized center in advanced manufacture with national coverage through their headquarters in 8 states and more than 3,600 linked projects, providing more than 44,000 technological services for 3,400 customers. Its areas of specialization are: IT, electronics and control, measurement systems, mechanical systems, engineering and plant development, virtual engineering and manufacture, plastics, and advanced materials.

5.2. Private Sector

5.2.1. Intel Design Center (Guadalajara)

The global processors company invested US \$ 170 million in the [Intel Design Center](#) located in the Zapopan, Jalisco. The human capital working in this center is approximately 1,000 people, between Intel experts and researches, as well as specialized high-engineering students.

5.2.2. Continental Automotive Innovation and Design Center (Querétaro)

This [center](#) was established to develop security and comfort products for automobile users; It is expected that in the next five years one thousand engineers will develop high quality technologies for the automotive industry.

5.2.3. Honeywell Engineering and Design Center (Baja California and Chihuahua)

The Chihuahua Engineering and [Design Center](#) has more than 32 thousand square feet, including a 14 thousand square feet laboratory and 74 employees; which adds to the install capacity of the center located in Mexicali, Baja California. The facilities were developed to design test equipment, design mechanical engineering equipment, electronics engineering, embedded software development, product validation, and manufacturing support.

6. Relevant Associations and Companies in Mexico

6.1. CANALUM

The integration of the aluminum industry has managed to capitalize its potential to the maximum in the Mexican market and has achieved that the national demand is covered with its own production, generating around 122,500 direct jobs and more than one and a half million indirect jobs throughout the country. [CANALUM](#) promotes the development of the aluminum industry, ensuring that companies have access to programs aimed at the growth of the industry and its trade.

6.2. ANIQ

The [National Association of the Chemical Industry](#) is a Civil Association, established on November 11, 1959. It currently represents more than 95% of the private chemical production of Mexico through around 258 companies of different sizes and activities within the sector that are voluntarily affiliated. This Association promotes the sustainable development and global competitiveness of the chemical industry in harmony with the community and the environment, offering specialized services, consulting, information, training and dissemination.

6.3. NMM

[National Material of Mexico](#) (NMM) is one of the largest steel service centers in Mexico serving automotive, HVAC, home appliance, motor and transformer manufacturers in Mexico. NMM excels in supply-chain management, just-in-time programs and inventory control. Supported by a network of 7 strategic locations between partners and wholly owned facilities, NMM is the premier processor in Mexico for a variety of steel products.

6.4. CANACERO

[CANACERO](#) is an autonomous body officially recognized by the Federal Government that promotes the development of ethical, sustainable and responsible business practices; and that groups together the steel producing and transforming companies in the country and those closely related. Since 1949 they have been the official spokesperson for the Mexican steel industry that proposes the design of policies that promote the growth and sustainable development of the sector. They are the [National Standardization Agency \(ONN\)](#) responsible for issuing Mexican standards that establish the technical specifications of steel products made in Mexico.

6.5. CONCAMIN

The [Confederation of Industrial Chambers](#) is the top body representing the different industrial sectors, economic activities of high importance for the economic development of Mexico.

It is an effective business representation body, recognized for its leadership and full capacity to develop, through its work committees, projects and initiatives that contribute to achieving the sustained development of Mexican industry.

7. Events on Advanced Manufacturing

[Expo Manufactura](#) is the most important show of the manufacturing industry in Mexico. It brings together the most productive community in the sector who have proven solidity, experience and international support, making this show the most reliable, profitable and prestigious in Mexico.

Dates: February 15-17, 2022.

Place: Cintermex, Monterrey, Nuevo León.

The [FITMA 2022 Conference Program](#) is devoted to processes, applications and advanced manufacturing techniques that will allow engineers and manufacturers, both Mexican and Latin American, to excel in the global market and grow with their companies to make them much more competitive.

Dates: January 18-20, 2022

Place: Centro Citibanamex, Ciudad de México, México.

[EXPOMAQ](#) is the International Exhibition of Metalworking, Machine Tools and Manufacturing Technology. It will focus on the following sectors: Automotive, Aerospace, Metalworking, Oil & Gas, Appliances, Power generation, Medical Devices and many more.

Dates: June 22-24, 2022.

Place: Poliforum, León, Guanajuato

[Industrial Transformation Mexico](#) contains an exhibition area, conferences and an extensive educational program, all this united by the general themes of digital transformation in Mexico and smart manufacturing. The exhibition area features eight main categories: Research Institutes, Automation and Robotization, Digital Factory, Additive Manufacturing, Smart Logistics, Power Solutions, Machine and Tool and Government as well as areas for live demonstrations and individual consultations.

Dates: October 5-7, 2022.

Place: Poliforum, León, Guanajuato.

[FABTECH Mexico](#) is the most important exhibition of the metal manufacturing industry in Latin America that connects you with more than 8,000 potential high-profile customers. FABTECH Mexico offers a unique platform to introduce your products and services to the professionals of the metal manufacturing industry in Mexico. Segmented into four pavilions specialized in cutting, forming, welding, and coatings which in total are more than 30,000 m² of exhibition floor and opportunities.

Dates: May 3-5, 2022

Place: Cintermex, Monterrey, Nuevo León.

[PLASTIMAGEN® MÉXICO 2022](#) presents more than 400 companies representing 1,000 brands from more than 27 countries, 9 international pavilions and 1 specialized pavilion of the National Association of Plastic Industries in Mexico (ANIPAC). An event designed to meet the needs of 22,000 national and international visitors in search of innovative solutions for their companies. It has the participation of the most important suppliers worldwide, a single forum to bring together the best options, technology and processes as well as the most innovative.

Dates: March 8-11, 2022

Place: Centro Citibanamex, Ciudad de México, México.

8. Business Opportunities in Mexico

Over the past decade Mexico has started a transformation from a low-cost manufacturer to an advanced manufacturing hub. As a result, the country has become a key player in the automotive industry, is the world's largest flat screen exporter, and is about to join the world's top 10 aerospace industry manufacturers. The recent implementation of the Free Trade Agreement USMCA, which replaces the more low-cost manufacturing focused NAFTA, further strengthens the outlook for advanced manufacturing in Mexico.

Opportunities include:

- Mexico is transforming into an advanced manufacturing hub, demanding innovation and expertise.
- World's 6th largest automotive manufacturer, 4th largest light vehicle manufacturer.
- Young, skilled, affordable and available workforce.
- Direct access to US, the Atlantic and Pacific oceans.
- [USMCA](#), [MEX-EU FTA](#), [Pacific Alliance](#) & [MX-IL FTA](#).
- Governmental incentives promote FDI.
- Potential to become the Industry 4.0 hub of Latin America.