D. 3.2 – Preparatory Briefing on Mexico

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Abstract: The preparatory briefing on Mexico is the result of the collection of relevant cluster information in the country, including business and sector trends, cluster policies and programmes, as well as a cluster mapping. It concentrates on Mexican clusters in four relevant industrial sectors. This document is intended to provide a good overview of the country's opportunities for European cluster organisations and SMEs.

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1. Objective of the report

The aim of this "preparatory briefing" is to provide up to date information on the cluster landscape in Mexico in order to support European cluster organisations and their (SME) members to familiarise with the country and explore its potential for collaboration and market opportunities. More specifically, this briefing paper provides an overview of the country's economy and sectoral trends/strengths where clusters contribute. In addition, it aims at giving an idea of the existing cluster community, the cluster policies /local support to clusters and the cluster programmes - including their historical development in short and internationalisation activity where applies.

A complementary report, "discussion paper", will be available within short time that will provide an overview on the existing EU-Mexico cluster cooperation, present related good practices/success stories and opportunities for future exchange, including recommendations for an EU-Mexico cluster policy dialogue (non-public information).

The information of this report is provided through desk research and confirmed by relevant local contact points, notably through interviews conducted at the EU-Mexico matchmaking event organised by the ECCP in October 2016.

2. The economy of Mexico: focus on sectoral trends

2.1. Overview

The economy of the United Mexican States is the second largest in Latin America and growing at a moderate annual growth rate of around 2.5% of GDP[1].

In 1997, Mexico signed an Economic Partnership, Political Coordination and Cooperation Agreement with the EU, which took effect in 2000. Mexico was the **first Latin American country finalising a Global Agreement with the EU[2]. The EU is Mexico's third-largest trading partner**. In 2015, 7.7% of Mexico's total trade took place with the EU. Moreover, the EU was Mexico's second largest export market after the US. The EU was also Mexico's third- largest source of imports after the US and China[3].

The EU's key exports to Mexico include industry machinery (23%), electric equipment (14%), transport equipment (10%) and refined oil (7%). On the other hand, the EU's key imports from Mexico are mineral products (21%), machinery and electric equipment (12%), transport equipment (18%) and optic photo precision instruments (4.2%). In terms of services, EU imports from Mexico are dominated by travel, sea transport, air transport and construction services. EU services exports to Mexico consist mainly of travel, sea transport, air transport and computer and information services[4].

The **EU is the second largest investor in Mexico** with 37.8% of total Foreign Direct Investment (FDI), in front of the USA. In 2015, the EU invested $7.3 billion (€6.55 billion[5]) in Mexico[6].

2.2. Opportunities for Europe – investment, trade and Science, Technology & Innovation cooperation

According to the Global Competitiveness Index, Mexico is ranked 57th (140 in total), the 3rd in Latin America ahead of Costa Rica and Panama[7]. The GDP Growth Rate in Mexico has shown several fluctuations over the last fifteen years (minimum -4.7% in 2009 and maximum 5.1% in 2010). However,

[1] Information about Mexico's economy at: World Bank, http://www.worldbank.org/en/country/mexico/overview#1
[2] EU Relations with Mexico http://eeas.europa.eu/mexico/index_en.htm
[3] Trade agreements EU- Mexico http://ec.europa.eu/trade/policy/countries-and-regions/countries/mexico/
[4] Trade relation EU- Mexico http://eeas.europa.eu/delegations/mexico/eu_mexico/trade_relation/index_en.htm
[5] Average exchange rate in 2015: $1.00 equal to €0.90
[6] Ibidem [4]
[7] World Economic Forum, The Global Competitiveness Report 2015-2016, Mexico http://reports.weforum.org/global-competitiveness-report-2015-2016/economies/#economy=MEX

GDP growth has been stable over the last two years and is expected to increase in the next few years[8] (Figure 1).

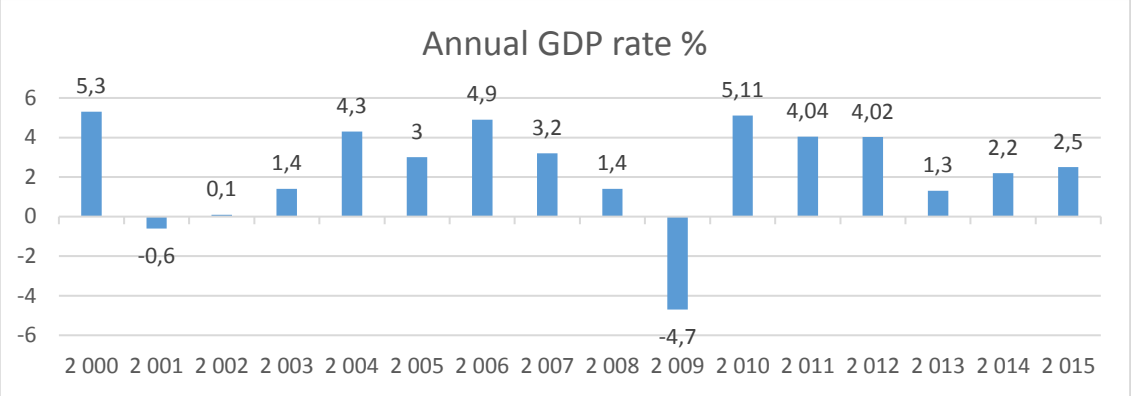

FIGURE 1 – ANNUAL GDP GROWTH % (2001-2015) IN MEXICO [9]

Mexico has a GDP per capita of $9,009.3 (€8,007.7) in 2015[10]. The Mexican economy is recovering after a brief recession. In 2015, the annual growth of GDP was 2.52% and the prospects are that in 2018 the GDP growth will be equal to 2.96%[11].

Mexico is carrying out several economic reforms that are gradually evolving. The country is improving its competitiveness and promoting innovation. Despite these efforts and positive results, corruption is still an obstacle for doing business in Mexico[12].

Mexico is a **leading exporter of advanced high-technology manufacturing** in Latin America. In 2013, almost 83% of exports consisted of manufacturing goods. Mexican exports grew by 2.5% in 2013 compared to 2012, and 129% compared to 2000. The main exported goods are light vehicles (8.2% of its total exports value), auto parts and accessories (5.7%), trucks (5.4%), computers and parts (5.2%), TVs (4.2%) and telephones (3.9%), for instance[13].

According to the A.T. Kearney's FDI Confidence Index, Mexico is currently 18th most attractive country for investors (2016)[14]. Furthermore, this country also offers a **favourable business environment**.

[8] Ibid.[7]
[9] World Bank, Source: World Economic Forum http://data.worldbank.org/country/mexico?view=chart
[10] Average exchange rate in 2015: $1.00 equal to €0.90
[11] World Bank data about Mexico http://data.worldbank.org/country/mexico?view=chart
[12] World Economic Forum, The Global Competitiveness Report 2015-2016 , Mexico http://reports.weforum.org/global-competitiveness-report-2015-2016/economies/#economy=MEX
[13] ProMexico with data from the Global Trade Atlas 2013. Diaporama p.24. http://www.promexico.mx/en/mx/por-que-mexico
[14] The 2016 A.T. Kearney Foreign Direct Investment Confidence Index https://www.atkearney.com/gbpc/foreign-direct-investment-confidence-index

According to the World Bank, Mexico is the 39th most favourable country to do business (2015)[15]. It takes only six days and six procedures for any investor to open a business in Mexico[16].

Mexico has a dedicated organisation to **support companies aiming at entering into the Mexican market** called **ProMexico,** which is a Mexican government trust within the Economy Ministry. This organisation promotes international trade and investment and it provides support for foreign companies that want to invest in Mexico, giving information about interesting industries or about legal procedures when starting a business in Mexico[17].

Mexico signed a **Free Trade Agreement (FTA) with the EU** (in 1997) which has liberalised trade in all industrial and some agricultural goods, and improved market access conditions to other international markets. The FTA has eliminated or reduced goods tariffs and, as a result, entrepreneurs from the EU and Mexico do not have to pay any tariffs to sell their products on the Mexican or European markets, respectively. Since the establishment of the FTA, the average yearly investment in Mexico by the EU has tripled. Over the past 15 years (2000-2015), it amounted to $156 billion (€140 billion[18])[19].

Despite the FTA, not all products are tariff free. Both parties (the EU and the Mexican government) have negotiated a progressive reduction tariff schedule. The schedule establishes the rates of the transition to free trade according to the sector and party concerned. Currently, 62% of agricultural goods are fully free of tariffs. These include the EU exports of alcoholic beverages and olive oil to Mexico and the Mexican exports of tropical fruit and vegetables to the EU. The FTA also covers services including, financial, telecommunications, distribution, energy, tourism and environment services[20]. In June 2016, the EU and Mexico started trade and investment talks with the aim of updating the free trade agreement, with the aim to "broaden its scope".[21]

Mexico's network of free trade agreements gives it preferential access to 45 countries. It is therefore the ideal export platform to reach almost two thirds of the world market. Mexico has for example signed **the North American Free Trade Agreement (NAFTA)** with the US and Canada in 1994. The NAFTA market, which is home to 444.1 million people, is worth almost $17.0 trillion (€15.2 trillion[22])[23].

In terms of Science and Technology cooperation, an **Agreement for scientific and technological cooperation** between the European Community and Mexico has been in force since 2005. The agreement promotes bilateral cooperation in fields of common interest in science and technology such

[15] World Bank Doing Business 2015 Report www.doingbusiness.org/~/media/GIAWB/Doing%20Business/Documents/Annual-Reports/English/DB15-Chapters/DB15-Report-Overview.pdf
[16] ProMexico www.promexico.mx/es/mx/razones-invertir
[17] ProMexico www.promexico.mx
[18] Average exchange rate in 2015: $1.00 equal to €0.90
[19] EU-Mexico Trade Relations http://eeas.europa.eu/delegations/mexico/eu_mexico/trade_relation/index_en.htm
[20] EU-Mexico FTA http://eeas.europa.eu/delegations/mexico/eu_mexico/trade_relation/free_trade/index_en.htm
[21] EU Business, "EU and Mexico start trade and investment talks", June 2016. www.eubusiness.com/news-eu/mexico-trade.31at/
[22] Average exchange rate in 2015: $1.00 equal to €0.90
[23] NAFTA www.naftanow.org/default_en.asp

as research on the **environment and climate**; **transport**; **non-nuclear energy**; **biotechnology**; **aeronautics and space**; and science and technology policy[24].

The National Council of Science and Technology (Conacyt) promotes an Incentive Programme for Innovation that supports Mexican companies which invest in research, technology development and innovation focused on developing new products, processes or services[25]. There are 3 modalities:

- INNOVAPYME: Technologic innovation for SMEs
- INNOVATEC: Technologic Innovation for large companies
- PROINNOVA: Networking projects focused on innovation

Within the EU's Framework Programme Horizon 2020, 12 projects involving a total of 17 participants from Mexico are currently implemented. Most of them consist of Marie Curie actions under the "Excellent science" pillar. The EU and Mexico are also developing a bilateral project, the EU-Mexico Bilateral Innovation Initiative, called **EU-MEX-INNOVA** (2013-2016). The partnership aims to strengthen and develop the bilateral collaborations for the development of innovation, to address societal challenges and industrial technologies.[26]

2.3. Sectoral strengths

Mexico is considered a country of **services**, since 59% of GDP is produced in the tertiary sector, followed by 32% in the secondary sector, 3% in the primary sector and 6% in other sectors[27]. In 2015, the Mexican aggregated FDI primarily came from manufactures (46%), services (28%), trade (8%), media & telecom (5%) and mining (6%)[28]. In terms of manufactured goods, Mexico in particular stands out in the **automotive and aerospace** manufacturing sectors.

Several industrial sectors are well developed and have a strong market potential in Mexico. Among those, there are a few sectors of common interest for the EU and Mexico that are undergoing growth: renewable energies, advanced engineering (manufacturing technologies, automotive and aerospace components or specialised alloys) and biotechnology [29] [30] [31].

[24] Agreement for Scientific and Technological Cooperation between the EU and Mexico http://ec.europa.eu/world/agreements/downloadFile.do?fullText=yes&treatyTransId=3681

[25] Incentive Programme for Innovation http://conacyt.gob.mx/index.php/fondos-y-apoyos/programa-de-estimulos-a-la-innovacion

[26] European Commission, DG R&I, International Cooperation Mexico- EU http://ec.europa.eu/research/iscp/index.cfm?pg=mexico#policydialogue

[27] ProMexico with data from INEGI. Diaporama p.19. www.promexico.mx/en/mx/por-que-mexico

[28] ProMexico www.promexico.mx/en/mx/por-que-mexico

[29] UK Government, Department for International Trade. Doing business in Mexico: Mexico trade and export guide. Updated 2016. https://www.gov.uk/government/publications/exporting-to-mexico/exporting-to-mexico

[30] Forbes, Sectors to invest in Mexico, 2015. www.forbes.com.mx/los-5-sectores-que-impulsaran-mexico-en-2015/#gs.9hOFnFk

[31] Forbes, Sectors to invest in Mexico during crisis, 2014. http://www.forbes.com.mx/que-sectores-son-ideales-para-invertir-en-tiempo-de-crisis/#gs.Y8aWhlg

Automotive sector

Mexico is **the 7th world's largest producer of vehicles and the largest producer of light vehicles in Latin America**.

According to the Ministry of Economy, the automotive industry attracted $2,208 million (€1,657 million)[32] in 2014, representing 19.5% of total FDI. This sector grew in the domestic market, exports and production: the auto parts industry accounted for approximately 3% of the country's GDP in 2015, the auto sector accounts for 18.3% of Mexico's manufacturing sector[33] and the automotive industry is the second industry in the top exports of Mexico. There is a large number of well-known companies established in Mexico, like General Motors, Ford, Chrysler, Volkswagen, Nissan, Honda, BMW, Toyota, Volvo and Mercedes-Benz, distributed in 24 production complexes in 14 states.

Mexico produced 3.4 million vehicles in 2015 (new historical record), being ranked the seventh largest vehicle producer in the world and the first in Latin America[3435]. More than 80% of the automotive production in Mexico is designed for exports, especially to northern American countries, which makes it dependent on international demand. Mexico concentrates its production on light vehicles, with a production in rapid expansion (and recovery) after 2009 (eg. growing by 9.8% from 2013 to 2014)[36]. Besides, Mexican production is shared between the production of vehicles (cars and trucks) (55% of gross production) and the production of auto parts (43%).

The Mexican automotive industry has also gradually become more advanced, from purely functioning as an assembly manufacturer to becoming a centre for research and development. Mexico's automotive industry is in continuous growth. The recognized quality of Mexico's automotive manufacturing sector has enabled several OEMs to choose Mexico as a unique manufacturing platform for all their destinations. This provides a good industrial environment for luxury vehicles manufacturing, fostering Mexico as an exclusive platform for OEMs[37].

Aerospace sector

Mexico has consolidated its aerospace sector as a global leader. It has recorded 14.1% annual growth between 2006 and 2015. In 2015, the aerospace industry represented $1,140 billion (€1,022 billion[38]), with 1.9% annual growth between 2009 and 2015. On the other hand, the Asian market had 4% annual growth and the European market 7% in the same period[39].

Currently, there are more than 300 aerospace companies and support entities registered in Mexico, employing more than 45,000 high-level professionals. There are a large number of recognized

[32] Average exchange rate in 2014: $1.00 equal to €0.75
[33] International Trade Association, 2016 Top Markets Report Automotive Parts - Country Case Study , 2016.
[34] OICA, 2015. http://www.oica.net/category/production-statistics/ International Trade Association, 2016 Top Markets Report Automotive Parts - Country Case Study , 2016.
[35] International Trade Association, 2016 Top Markets Report Automotive Parts - Country Case Study , 2016.
[36] INEDI & AMIA, Estadísticas a propósito de.la Industria automotriz, 2016. http://www.amia.com.mx/
[37] Ibidem [27]
[38] Average exchange rate in 2015: $1.00 equal to €0.90
[39] Aerospace sector http://mim.promexico.gob.mx/work/models/mim/Resource/51/1/images/Aero_esp.pdf

companies established in Mexico like Bombardier, Grupo Safran, General Electric (GE), Honeywell and Eurocopter.

From 2006 to 2012, Mexican exports registered an average annual growth of over 16%, reaching $6,366 billion (€4,775 billion[40]) in 2014. By 2021, exports are forecasted to amount to $12,267 million[41].

According to KPMG's Competitive Alternatives 2014, Mexico is one of the most competitive countries globally and the most competitive in North America in terms of aerospace manufacturing costs[42]. Several national and international aerospace companies have developed various projects in the country, placing Mexico as one of the main investment destination countries of Latin America.

Mexico has dedicated its efforts to improve technological sophistication of exports, infrastructures, as well as specialising human capital. All of these conditions have facilitated the signing of cooperation agreements in the aerospace sector. In 2007, Mexico signed the Bilateral Aviation Safety Agreement with the Federal Aviation Administration[43]. As a result, Mexican aerospace companies certify their manufacturing processes to comply with industry standards such as ISO-9001, AS9100 and NADCAP[44].

Figure 2 presents the spread of activities by number of Mexican companies in the Aerospace sector, in majority in assembly and manufacture (70.6%) but also involved in maintenance and repairs, and with a strong component of engineering and R&D.

[40] Average exchange rate in 2014: $1.00 equal to €0.75
[41] Ibidem [39]
[42] KPMG Competitive Alternatives KPMG's Guide to International Business Location Costs 2014 www.kpmg.com/Ca/en/industry/ConsumerMarkets/Documents/2014-compalt-execsum-fc-en.pdf
[43] Bilateral Aviation Safety Agreement with the Federal Aviation Administration www.faa.gov/aircraft/air_cert/international/bilateral_agreements/baa_basa_listing/media/Mexico_BASA_EA.pdf
[44] Ibidem [27]

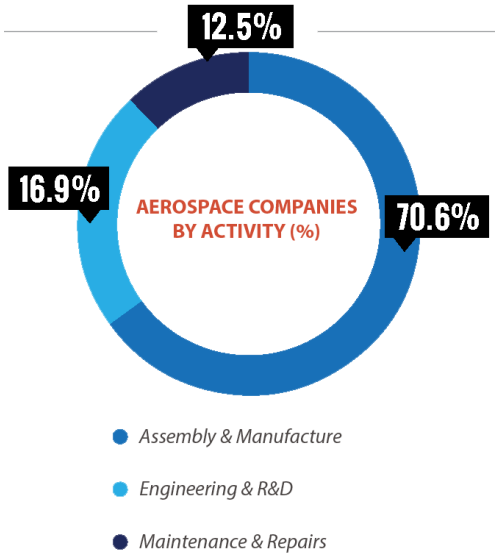

FIGURE 2 – AEROSPACE COMPANIES BY ACTIVITY[45]

Renewable Energy sector

Mexico has an enormous potential in the field of renewable resources. Currently 20% of electricity in Mexico is produced by clean energy. The renewable energy sector is growing and it is forecasted to continue growing in the coming years; thus, transforming Mexico into one of the world's leaders in the renewable energy industrial sector. Several recognised companies are developing projects in the renewable energy field in Mexico such as Repsol, Alstom, Acciona or Sunpower[46].

There are more than 230 power stations and the country has capacity to generate 65,452 MW of electricity, of which 24.5% comes from renewable resources. According to 2014 forecasts, it is expected that Mexico will be able to increase the renewable energies by share 5.67% till 2028, relying on wind and hydraulic sources (Table 1).

TABLE 1 – PROJECTION OF ADDITIONAL CAPACITY INSTALLED BY TYPE OF ENERGY SOURCE 2018-2028 IN MEXICO (MW)[47]

	2018	2024	2028	Share
Wind	7608	10260	11585	58%

[45]Aerospace Alliance of Baja California, Aerospace in Mexico. www.bajaaerospace.org/aerospace-in-mexico

[46] Renewable energy industry http://mim.promexico.gob.mx/work/models/mim/templates/JS/MIM/PerfilDelSector/EnergiasRenovables/Sector_ER_ING.pdf

[47] Projection of renewable energies 2014-2028. www.gob.mx/sener/documentos/prospectivas-del-sector-energetico

	2018	2024	2028	Share
Geothermal	178	258	338	2%
Bioenergy	92	494	671	3%
Solar PV	543	1941	3121	16%
Hydropower < 30 MW	110	352	502	3%
Hydropower >30 MW	1230	3017	3544	18%
Total	**9761**	**16322**	**197611**	**100%**

The renewable energy sector has grown steadily over the past few years, mainly within the wind and solar energy sub-sectors. The potential solar photovoltaic energy is estimated in 6,500,000MW, however, in 2014 there was installed only 66MW. The annual solar manufacturing equipment production is over 1217 MW. Regarding wind power, the Mexican wind potential is estimated to be 40,000 MW, although the installed capacity of wind power in 2014 was 2,037MW[48].

The renewable energy industry in Mexico received more than 40 FDI projects, which represent $13,372 million (€11,989.3 million[49]) between 2010 and 2015. The main investors were from Spain, Germany and the US[50].

Mexico has abundant natural resources, a great geographic location and climate for the renewable energies. Furthermore, the country is one of the most advanced in Latin America in terms of knowledge on geothermal energy.

It should be noted that currently it is being developed a project called Low Carbon Business Action-Mexico (LCBA)[51]. It is a project funded by the EU, which aims at reducing the CO2 emissions in Mexico. LCBA objective is to promote the signature (at minimum) 40 Collaboration Partnership Agreements (CPAs), and to involve at least 200 European and Mexican organisations to introduce Low Carbon technologies. The participants in these CPAs will have the following benefits:

- Technical Assistance from the European Union for the implementation of the selected "Low Carbon" Initiatives;

[48] Ibidem [46]
[49] Average exchange rate in 2015: $1.00 equal to €0.90
[50] Biotechnology industry
http://mim.promexico.gob.mx/work/models/mim/Resource/65/1/images/Biotecnologia_esp.pdf
[51] For more information about Low Carbon Business Action Mexico www.lowcarbon.mx

- Priority access to finance from RDI promoting instruments in Europe and Mexico;
- Priority access in the future to financial instruments.

Biotechnology sector

Mexico has one of the most competitive biotechnology industry in the world, ranked 10th according to KPMG[52]. The biotechnology industry sector in Mexico has a great growth potential because the country has a number of elements which are key for the development of this sector. The main elements are: a great biodiversity of ecosystems and species, a highly skilled human capital and internationally competitive manufacturing costs.

Mexico is the 5th largest biotechnology supplier to the US, in front of countries like China, Japan, Singapore, Belgium and India[53].

In Mexico, there are more than 400 biotechnology companies, 33% in health and human care, 19% in industrial applications, 14% in food solutions, followed by environmental and agricultural solutions. Figure 3 indicates the distribution of those companies across different sub-sectors/ applications of biotechnology.

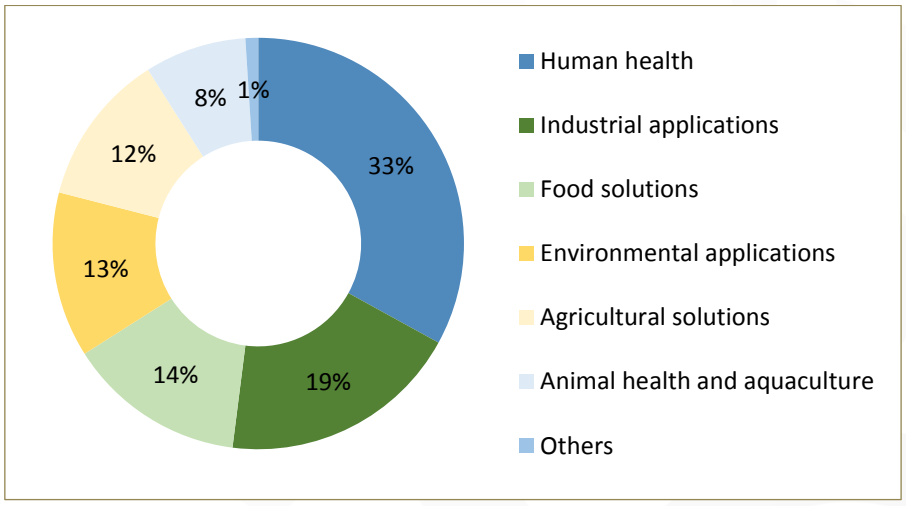

FIGURE 3 – DISTRIBUTION OF COMPANIES THAT USE OR DEVELOP MODERN BIOTECHNOLOGY BY AREA IN MEXICO (2012)[54]

[52] Guide KPMG's guide to international business location 2016.
https://www.competitivealternatives.com/industries/indsummary.aspx?id=8
[53] Ibidem [27]
[54] Survey Research and Technological Development and Activities Module on Biotechnology and Nanotechnology (ESIDET-MBN) 2012
www.inegi.org.mx/est/contenidos/proyectos/encuestas/establecimientos/otras/esidet_mbn/default.aspx

Mexico has significant human capital in biotechnology research, development and innovation (RDI), since in Mexico there are nearly 130 universities offering 614 degree programmes focused on biotechnology. Mexico also has 2500 researchers working in the biotechnology field[55].

In Mexico, the human capital in biotechnology RDI is continuously growing. According to the *Sistema Nacional de Investigadores* (SNI - National Research System) 50% of Mexican researchers are currently conducting research in the field of biotechnology and, according to the National Institute of Statistics and Geography (INEGI), in 2011 more than 480 companies established in the country were directly involved with a biotechnological activity[56].

Based on information from the World Intellectual Property Organization (WIPO), Mexico ranked among the top ten countries in terms of number of patents in 2013 and more than 20% of these patents consisted in medical technology, biotechnology and pharmaceutical products (2010-2013)57.

In summary, the four sectors, automobile, aerospace, energy and biotechnology represent interesting sectors for developing EU actions for enhanced cooperation and exchanges for the benefit of SMEs and businesses.

3. Cluster community in Mexico

3.1. Cluster mapping

Mexico has an important and well-established community of clusters. In Mexico, clusters are defined as a geographic concentration of interconnected companies, suppliers, and associated institutions in a particular field[58]. According to ProMéxico, the federal government agency responsible for internationalisation and exports, there are 155 clusters representing 9 sectors throughout the country[59]. Most of the clusters reviewed in this document implement a triple helix model (innovation clusters), in which members of public institutions, academic and business sectors cooperate to innovate. Hereafter, we will mention this type of clusters as “clusters with formal organisation” (Annex A).

[55] Info about biotechnology sector in Mexico http://mim.promexico.gob.mx/work/models/mim/templates/JS/MIM/PerfilDelSector/Biotecnologia/150727_Biotecnologia_ING.pdf

[56] Survey about investigation and technological development www.inegi.org.mx/est/contenidos/proyectos/encuestas/establecimientos/otras/esidet_mbn/default.aspx

[57] World Intellectual Property Organization, International Patent Classification (IPC) 2013 www.wipo.int/classifications/ipc/en/ITsupport/Version20130101/transformations/stats.html

[58] Clusters in Mexico www.isc.hbs.edu/competitiveness-economic-development/frameworks-and-key-concepts/Pages/clusters.aspx

[59] ProMexico www.promexico.mx

In a recent research paper elaborated by Igor Pecina about clusters and competitiveness[60], it identifies two types of clusters in Mexico. The first one consists in a number of companies that cooperate with the aim of dealing with orders from large customers; these companies are also associated with supporting institutions. The second model consists on companies (equal status) concentrated in the same state that do not interact themselves, they only interact with suppliers and support institutions.

The clusters are mostly concentrated on the border with the USA. Baja California and Nuevo León are the most relevant states in regard to the number of clusters, followed by the states of México and Querétaro which are located in Central Mexico (Table 2).

According to ProMexico, there are 9 key priority industry sectors: aerospace, automotive, processed food, renewable energies, biotechnology, medical devices, pharmaceutical, household appliances and electronics[61]. Considering the relevance and number of clusters, and also taking into account the European cluster interests, details of automotive, aerospace, renewable energies and biotechnology clusters are presented below in four industry sectors (Table 2).

In addition to this, ICT is another interesting sector, there are several benchmarked ICT clusters with silver and bronze label of the European Cluster Excellence Initiative (Annex- Table B); even ESCA has developed the document "Cluster Management Excellence in Mexico"[62] focused in ICT sector in Mexico. Despite of that, ICT sector was not included in this briefing because ProMexico does not consider it as one of the nine key sectors aforementioned.

TABLE 2- STATES WHERE CLUSTERS IN THE AUTOMOTIVE, AEROSPACE, RENEWABLE ENERGY AND BIOTECHNOLOGY SECTORS ARE PREDOMINANTLY LOCATED

Sector	State
Automotive	Nuevo León Guanajuato Estado de México Chihuahua Puebla Baja California
Aerospace	Baja California Nuevo León Chihuahua Querétaro Sonora
Renewable Energy	Puebla Baja California Chiapas Coahuila
Biotechnology	Nuevo León

[60] Clusters y competitividad (Igor Pecina) http://biblioteca.utec.edu.sv/siab/virtual/elibros_internet/55792.pdf
[61] ProMexico [59]
[62] CLUSTER MANAGEMENT EXCELLENCE IN MEXICO. Mexican Information Technology Clusters in Comparison with European Peers www.cluster-analysis.org/downloads/country-report-mexico-en-public

Sector	State
	Querétaro Baja California Guanajuato Estado de México

3.2. Clusters in automotive, aerospace, renewable energy and biotechnology

The geographical location of the different industrial clusters per each industrial sector as well as their respective economic information (e.g., production, revenues etc.) is provided by INADEM[63].

Automotive clusters

The automotive industry is highly developed in Mexico, mainly on the border with the USA and in Central México. There are 31 automotive clusters in the country (**Erreur ! Source du renvoi introuvable.**4).

FIGURE 4 – MAIN AUTOMOTIVE CLUSTERS IN MEXICO- BY STATE[64]

The most important automotive cluster organisations are the following:

[63] www.icluster.inadem.gob.mx/index.php?idioma=esp

[64] Source: ProMexico

Nuevo León Auto Cluster (CLAUT)

CLAUT is a non-profit organisation comprised of 92 members, Tier 1 auto industry manufacturers and related academic and government institutions. Its goal is to promote the development of the automotive industry, from vehicle manufacturers to Tier 1, Tier 2 and Tier 3 suppliers, including firms offering logistics, consulting and other services[65].

The Guanajuato Auto Cluster (CLAUGTO)

This cluster is a non-profit organisation comprised of **297 companies**, the most noteworthy of which are: General Motors and Volkswagen in Silao, Mazda in Salamanca and Honda in Celaya, as well as the reputable tire manufacturer Pirelli. Countries that have invested in the state include: Brazil, Canada, England, France, Germany, India, Italy, Japan, Korea, Spain, Sweden, Switzerland, The Netherlands, Taiwan, and the USA[66].

Clúster Automotriz Estado de México

This non-profit organisation is made up of 50 members, such as, original equipment manufacturers, Tier 1, Tier 2 and Tier 3 suppliers, consulting firms, logistics companies, customs agents and other service companies that comprise the automotive industry value chain in the region. Its goal is to promote the development of the sector and strengthen business networks by connecting companies and advocating projects that trigger regional growth and productivity[67].

Chihuahua Auto Cluster

The members of this association aim to consolidate Chihuahua as a world-class automotive cluster that is open to growth opportunities for international corporations seeking to join the supply chains of its affiliates. This cluster is composed by more than 120 members; among them include universities or technological institutions[68].

Aerospace clusters

The aerospace industry is mainly located on the border with the US. According to ProMexico, there are 5 aerospace clusters (**Erreur ! Source du renvoi introuvable.**5).

[65] Nuevo León Auto Cluster www.claut.com.mx
[66] Guanajuato Auto Cluster http://claugto.org/
[67] Cluster Automotriz Estado de Mexico www.clautedomex.mx/clautedomex.mx
[68] Auto Cluster Chihuahua www.automotiveclusterchihuahua.com/uploads/1/2/8/2/12823807/brochure_automotive.pdf

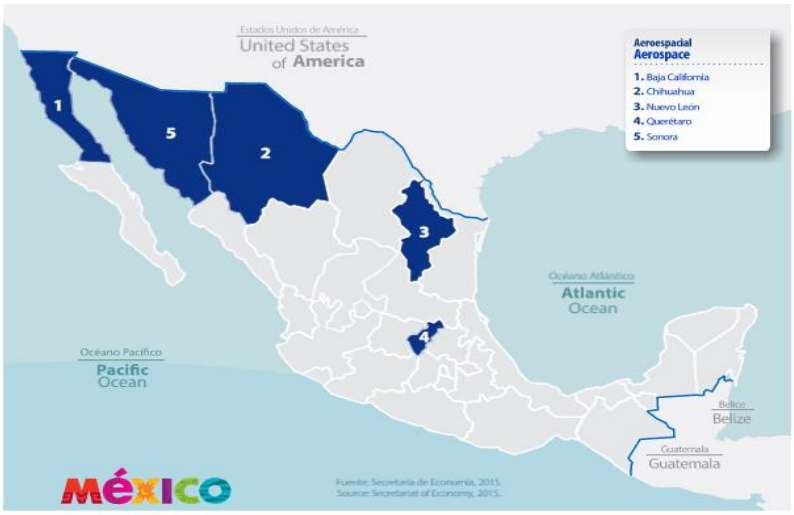

FIGURE 5 – MAIN AEROSPACE CLUSTERS IN MEXICO- BY STATE[69]

The most important Aerospace cluster organisations are the following:

Aerospace Alliance of Baja California

Mexico and Baja California in particular have consolidated themselves as global leaders in the aerospace industry. In the Aerospace Alliance of Baja California cluster, there are about **76 aerospace companies**, which in 2014 represented almost one third of all Mexico aerospace companies[70]. In 2015, exports from this cluster amounted to $1,533 million (€1,374.46 million[71]) annually[72]. The detail list of their relevant manufactured products is provided on the cluster website (such as turbine parts, plane interiors and equipment and electronic compartments)[73].

Aerospace Cluster of Nuevo León (Monterrey Aerospace)

Monterrey Aerospace is a non-profit organisation established in 2009, which **includes 6 companies, 2 universities** and 2 government entities. It aims to promote the development and growth of the aviation sector in the state of Nuevo León. One of its specific objectives is that local suppliers are integrated into the value chain of the national aviation industry by promoting the development of suppliers that manufacture high value-added parts for major OEMs and Tier 1 country[74].

Chihuahua´s Aerospace Cluster

This organisation was created with the objective of strengthening the capabilities and growth opportunities for manufacturing and service companies established or interested to become established in Chihuahua by offering facilitation services to start or ramp up operation, negotiating

[69] Source: ProMexico
[70] Aerospace cluster of Baja California www.bajaaerospace.org/aerospace-in-baja-california
[71] Average exchange rate in 2015: $1.00 equal to €0.90
[72] Aerospace Alliance of Baja California www.bajaaerospace.org/
[73] Aerospace Alliance of Baja California www.bajaaerospace.org/manufactured-products
[74] Aerospace Cluster of Nuevo Leon- Monterrey aerospace www.monterreyaerocluster.com

government incentives, organizing high technology training and facilitating certification services and supply chain. There are almost 40 companies located in this cluster[75].

Renewable Energy Clusters

There are 81 registered renewable energy clusters in the country. Many of these clusters are involved with the high number of wind energy projects (Figure 6).

FIGURE 6 – WIND POWER PROJECTS IN MEXICO –BY STATE[76]

The most important cluster organisations in this sector are the following:

Cluster Mexicano de Energías Renovables

This cluster has been created in 2010 and includes 16 companies. The main objective of this cluster is to generate and provide environmental energy solutions to promote the growth of the renewable energy economy in Mexico[77].

Cleantech Cluster Puebla

This is the first cluster established in Mexico with the objective of promoting the environmental industry sector. It consists of a set of SMEs involved in the sustainable economy[78]. Cleantech Cluster is

[75] Chihuahua's Aerospace Cluster www.aerospaceclusterchihuahua.com

[76] Source: Promexico

[77] Cluster Mexicano de Energías Renovables http://www2.ineel.mx//proyectofotovoltaico/DESCARGAS/3ER_COLOQUIO_PONENCIAS/03_Oportunidades_Industriales_1715-1830/01_Cluster_Mexicano_de_ER_Ing._Vicente_Estrada.pdf

[78] CleanTech cluster http://cleantechcluster.jimdo.com/membres%C3%ADa/

a non-profit association that was founded with the aim of fighting against climate change[79]. Representation of the cluster companies in international fairs for example, is one of its missions.

Biotechnology clusters

Figure 7 provides an overview of the spread of the biotechnology industry clusters in Mexico.

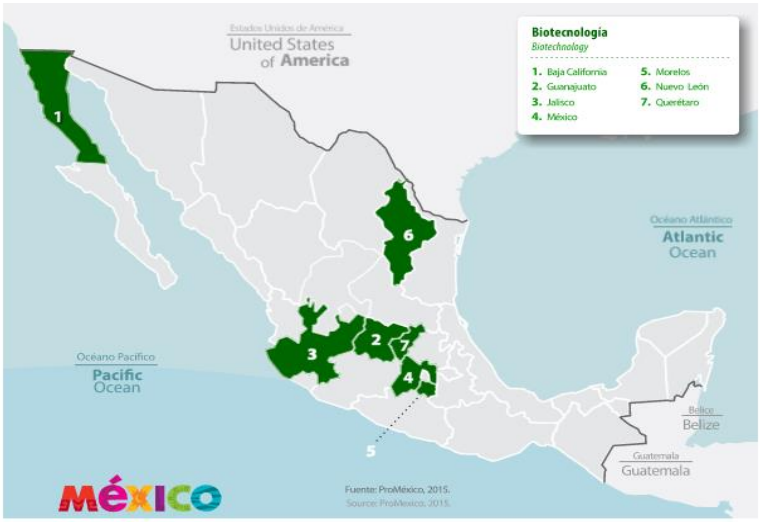

FIGURE 7 – MAIN BIOTECHNOLOGY CLUSTERS IN MEXICO- BY STATE[80]

The most important cluster organisations in this sector are the following:

Bioclúster de Nuevo León

This cluster currently has 25 active members that include 21 companies and 4 universities and governments entities. Its mission is to support the transfer and commercialization of technology in the field of biotechnology so that the new generation of biotechnology products, processes and services developed in Mexico meet the market demand[81].

Cluster de Biotecnología de Querétaro

This cluster has 35 members that include companies, universities and governments entities. It was created with the aim of promoting the cooperation amongst the cluster members through RDI projects. The cluster's mission is to stablish cooperation networks which could accelerate the development of innovative health and environment solutions. Its ultimate goal is to make Mexico a global reference in the biotechnology industry sector, particularly in the health and the environment sub-sectors[82].

[79] Cleantech Cluster Puebla : http://cleantechcluster.jimdo.com/qu%C3%A9-hacemos/
[80] Source: ProMexico
[81] BioClúster Nuevo León http://bioclusternl.org/
[82] Clúster de Biotecnología de Querétaro http://clusterbiotq.org/nosotros.php?idioma=es

4. Cluster policies and programmes in Mexico

4.1. The cluster policy of Mexico

Mexican clusters are managed differently at the Federal and State level. The National Secretary for Economy is responsible for the development of the clusters at the Federal level, whereas the State Secretary for Developing Economy is the key public stakeholder at the State level. The National Secretary for Economy needs to ensure the policies for the development of clusters are similar to international policies and that clusters are certified by The European Secretariat for Cluster Analysis (ESCA). Last year, 5 Mexican industrial clusters were certified by ESCA: 4 clusters received the gold certification and 1 cluster received the silver certification.

Mexico does not have a specific policy regarding clusters neither at the federal level nor at the state level. However, the states of Baja California[83], Nuevo León[84] and Aguascalientes[85] provide information and contact details of the existing industrial clusters in their states (on their websites).In Mexico, national policies do not sufficiently stimulate competitiveness throughout the country and there is a lack of a coordinated approach across the country for the development of regional development policies. Although the Mexican government does not explicitly express the aim of developing industry clusters in the country.

There is a *Instituto Nacional del Emprendedor* (INADEM- National Institute of Entrepeneurs)[86] within the Ministry of Economy (SE), which aims to implement, execute and manage policies that support SMEs and entrepreneurs, promoting the innovation and competitiveness in global markets[87]. INADEM has created two platforms to support entrepreneurs and SMEs, Red de Apoyo al Emprendedor (Entrepreneur Support Network) and the Observatorio Nacional del Emprendedor (ONE- Entrepreneur National Observatory). The ONE standardises and disseminates statistics, research papers and training programmes for entrepreneurial ecosystem development and generates knowledge in favour of SMEs through new TICs. The main objective of ONE is to provide useful information for decision making, design and improvement of programs for Entrepreneurs and SMEs in the Mexico.

In matters of internationalisation, ProMexico provides some services to the SMEs, such as, networking, legal advices about intellectual property, governmental support or identification and diagnostic of the project viability. The International Expansion process begins with the detection of a Mexican company that has the opportunity to have trade activities worldwide. Then ProMexico qualifies as a "Candidate"

[83] Red estatal de clústers Baja California https://rmcbc.spribo.com/
[84] Consejo nacional de clústers de Nuevo León http://cecnl.mx/index.php
[85] Gobierno estatal de Aguascalientes www.aguascalientes.gob.mx/temas/economia/agrupamientos/clusters/
[86] Created in 2015, previously it was *Subsecretaría para la Pequeña y Mediana Empresa*
[87] INADEM www.inadem.gob.mx

when the project's viability has been proved[88]. In addition, ProMexico also offers legal advices to foreign companies to invest in Mexico[89].

According to data from the National Institute of Statistics and Geography, there are about 4.15 million business units in Mexico, of which 99.8% are SMEs that generate 52% of GDP and 72% of employment in the country. They are recognized as a fundamental vector of growth for the country, and governmental policies aim at supporting SMEs and providing them with a favourable ecosystem and conditions for growth.

In 2012, **ProMexico signed a Memorandum of Understanding (MoU) with the ECCP.** Both organisations committed to motivating and facilitating the partnering between cluster organisations and cluster firms of Mexico and Europe. This resulted in the first policy initiative to foster the internationalisation of Mexican clusters[90] [91]. Several Mexican clusters have been awarded with the bronze, silver and gold labels by the European Cluster Excellence Initiative (ECEI) (Annex, Table B), which highlights the cooperation between the ECCP and ProMexico.

Although the Mexican government has not developed yet national policies to support the creation, development and consolidation of cluster organisations, there are several sectoral policies designed to foster the development of country priority sectors.

4.2 Automotive & Aerospace policies and programmes

The automotive industry plays a key role in the Mexican economy, since it acts as a booster for the development of other sectors. As a result, one of the government's goals is to strengthen this industry[92]. The sector has generated significant transfer of technological capabilities that are used in other sectors such as electrical, electronic and aerospace and, in turn, have led to the generation of specialized technical personnel[93].

Automotive Decree

The *Decreto para el apoyo de la competitividad de la industria automotriz terminal y el impulso al desarrollo del mercado interno de automóviles*[94] (Decree to support the competitiveness of the

[88] Internationalisation www.promexico.gob.mx/en/mx/internacionalizacion
[89] Inversion www.promexico.gob.mx/en/mx/inversion
[90] ECCP - D3.1 Initial Report Mexico, 2016 (Confidential report).
[91] ECCP-ProMexico MoU www.clustercollaboration.eu/sites/default/files/international_cooperation/mou_eu_mexico_2013.pdf
[92] Automotive Industry in Mexico www.economia.gob.mx/files/comunidad_negocios/industria_comercio/Monografia_Industria_Automotriz_MARZO_2012.pdf
[93] Ibidem [84]
[94] Decree to support the competitiveness of the automotive industry and boost the development of the domestic car market www.gob.mx/cms/uploads/attachment/file/86907/D25.pdf

automotive industry and impulse the development of the domestic car market), which has been in force since 2003, has the objective of promoting the investment in the light vehicles´ manufacturing through some benefits:

- To be considered “manufacturers companies” for purposes of the provisions on "deposit automobile tax" and other provisions of the Customs Law.
- They can import with duty free the car parts produced in Mexico, under the rate quota for an annual volume equal to 10% of production made in the last year.

Companies that comply the following requirements can register themselves as light vehicles manufacturers to access the Decree benefits. The criteria are: light vehicle production companies established in Mexico that have invested at least $100 million in fixed assets and produced a minimum of 50,000 units annually; companies that conduct manufacturing processes, montage, or armour, which increase the vehicle's value by 50%; and companies in the process of accomplishing the minimum required annual production but have covered the remaining requirements.

Official Mexican Norms (NOM’s)

Dependencies with authority on NOM’s in the automotive sector are:

- SEMARNAT - the Mexican Secretariat of Environment and Natural Resources (Mexican Government) promotes Mexico’s ecological system by developing instruments and policies to protect the environment; and by planning, monitoring and evaluating of progress in abating emissions of pollutants into the atmosphere.
- Seguridad SC - This entity is responsible for regulating federal services, international road transport, private transport and developing formal rules.
- Información al consumidor SE y PROFECO (Office of the Federal Prosecutor for the Consumer). The main goals of this organisation are: to monitor the marketing, distribution and consumption of goods and services and to design general industry, trade, supply and price policies.

Free Trading Agreements (FTAs)

Mexico has some agreements in the automotive field:

- Free Trade Agreement (FTA) EU- Mexico;
- North American Free Trade Agreement (NAFTA) - USA, Canada and Mexico;
- Free Trade Agreement and Economic Partnership Agreement (FTA & EPA) Japan-Mexico;
- Acuerdo de Complementación Económica (ACE 55- economic complementation agreement) Mercosur-Mexico.

Pro-Aéreo 2012-2020

Regarding to Aerospace policies and programmes, the Mexican government has a strategic programme to foster the Mexican aerospace industry called Pro-Aéreo 2012-2020. This programme integrates the

strategies and policies aiming at positioning Mexico in the top 10 of the best sellers in the field of aerospace industry[95].

The programme intends to reach the following specific goals:

- Locate Mexico within the first 10 countries, in terms of aerospace exports.
- Export more than $12,000 million of aerospace goods.
- Employ 110 thousand people, between 30-35% engineer positions.

4.3 Renewable Energy policies and programmes

Mexico's government has contributed to the development of the renewable energy industry by adapting the legislative framework and creating funds for programmes focused in energy efficiency and renewable energy:

- The *Ley Servicio Público de Energía Eléctric*a (LSPEE- Law on Public Service Electric Power)[96], established in 1992, allows private participation in power generation reform.
- The *Ley de la Comisión Reguladora de Energía* (CRE - Law of the Energy Regulatory Commission)[97], which has been in force since 2005, aims to promote the efficient development, generation, export and import of electricity.
- The *Ley para el Aprovechamiento de Energías Renovables y el Financiamiento de la Transición Energética* (LAERFTE- Law for the use of renewable energy and financing of the transition[98]) created in 2008. This law refers to the use of renewable energy sources and the use of clean technologies. It is a public utility and it will be held within the framework of the national strategy for energy transition, which will promote energy efficiency and sustainability, as well as reduce the dependence on oil as a primary energy source. The regulation of this law will establish specific criteria for different uses of renewable energy, as well as promote research and the development of clean technologies for their use.

It should be noted that in addition to the laws implemented by the government, there are also state laws. Currently nine Mexican states have their own regulations on the use of renewable energies[99].

As aforementioned, there is a project underway called ***Low Carbon Business Action in Mexico***, which is funded by the EU that expects to reduce the CO_2 emission in the country. The Low Carbon Business Action encourages European and Mexican clusters and companies to establish cooperation

[95] Pro-Aéreo www.2006-2012.economia.gob.mx/files/comunidad_negocios/industria_comercio/proaereo_resumen_ejecutivo.pdf
[96] Ley del Servicio Público de Energía (LSPEE) www.diputados.gob.mx/LeyesBiblio/abro/lspee/LSPEE_abro.pdf
[97] Ley de la Comsión Reguladora de Energía (CRE) www.cre.gob.mx/documento/33.pdf
[98] Ley para el Aprovechamiento de las Energías Renovables y el Financiamiento de la Transición Eléctrica (LAERFTE) www.cre.gob.mx/documento/3870.pdf
[99] Renewable Energies in Mexico http://mim.promexico.gob.mx/work/sites/mim/resources/LocalContent/42/2/130726_DS_Energias_Renovables_ES.pdf

partnership agreements in some fields such as: energy efficiency (industry and building) and waste management[100].

4.4 Biotechnology policy and programmes

The evolution of biotechnology raised new concerns, especially genetically modified organisms due to their possible harmful effects on health, biodiversity and the environment. As a result, several policies have been stablished:

- In 1991, the *Ley de Propiedad Industrial de Mexico* (industrial property law in Mexico) was created in order to grant and regulate patents to guarantee industrial property protection[101].
- In 2000 the *Cartagena Protocol* on Biosafety was signed, which aims "to ensure the safe handling, transport and use of living modified organisms (LMOs) resulting from modern biotechnology that may have adverse effects on biological diversity, taking also into account risks to human health"[102].
- In 2005, the *Ley de Biodiversidad de Organismos Geneticamente Modificados* (Genetically Modified Organisms Biosafety law) was created. The main objective of this law is to regulate the experimental and commercial liberation, marketing, imports and exports of genetically modified organisms in order to avoid potential risks for human health, environment and biodiversity[103].

[100] Low Carbon Business Action in Mexico www.lowcarbon.mx
[101] Industrial property law in Mexico (Spanish) www.sep.gob.mx/work/models/sep1/Resource/7dc3f003-329b-42ba-abb3-b7921ad2eda6/ley_propiedad_industrial.pdf
[102] Cartagena Protocol on Biosafety http://bch.cbd.int/protocol/
[103] Genetically modified organisms biosafety law (Spanish) www.diputados.gob.mx/LeyesBiblio/pdf/LBOGM.pdf

5. Conclusion

Mexico is an industrialised country with a relatively stable economy, which however still depends on the US economy and is strongly impacted by US GDP fluctuations. Despite the dependence of its economy on the US economy, Mexico is a country with a great potential for establishing businesses due to its wide variety of economic sectors, natural resources, favourable geographical position and high skilled labour. Mexico is particularly interesting for businesses with a global market because it has trade agreements with a large number of countries, such as NAFTA with USA and Canada, an FTA with the EU, Mercosur with Latin America countries and an FTA & EPA with Japan.

Mexico, especially Baja California and Nuevo León states, stands out in the automotive, aerospace, renewable energy and biotechnology sectors. Mexico is currently ranked among the biggest producers and exporters of manufacturing products. The Mexican government has been supporting the companies of several sectors with governmental grants. Consequently, it is expected a steady growth of main industries, such as the automotive, aerospace, renewable energy and biotechnology industry in the next decade.

In Mexico, an industrial cluster is defined by a geographic concentration of companies which work in the same field. Although, in most cases, these companies cooperate with each other to enhance their competitiveness in the marketplace and are in some cases organised in associations, there are no clear national policies to develop cluster organisations. Nevertheless, in 2012, ProMexico signed a MoU (Memorandum of Understanding) with the ECCP aiming to develop synergies and relationships between clusters and SMEs in Europe and Mexico. This is believed to be the first policy initiative to foster the internationalisation of Mexican clusters.

In the EU, Mexico is amongst the key international target countries for the European Strategic Cluster Partnerships – Going International (ESCP-4i), matching the sectors identified in this paper: EACP ABROAD on Aerospace, NATUREEF (Natural Resource Efficiency), CROSSCUT on Sustainable construction, REINA Plus on Renewable energy, and EnW (Energy in Water).[104]

[104] According to a survey launched by the ECCP towards ESCP-4i projects' coordinators, June 2016. More information: www.clustercollaboration.eu/eu-cluster-partnerships

6. Annex

TABLE 3 – FORMALLY ORGANISED CLUSTERS BY STATE

State	Number of clusters	Clusters (formally organised)	Sector
Aguascalientes[105]	7	Consejo de la Industria del Mueble y Accesorios Afines de Aguascalientes, A.C. (CONIMUEBLE)	Furniture
		Consejo de la Cadena Industrial Textil y del Vestido de Aguascalientes. (COCITEVA)	Textile
		Consejo de la Electrónica y Suministro de aguascalientes S.C (CELESA)	Electronics
		Cluster de Tecnologías de la Información de Aguascalientes A.C (INNOVATIA)	ICT
		Cluster de la Industria de los Alimentos y su Tecnología (CIATAC)	Alimentary industry
		Cluster de Autotransporte Logístico de Aguascalientes A.C.(CLUSTRANS)	Logisctics
		Cluster de Robótica y Automatización de Aguascalientes (CRAA)	Robotic
Baja California[106]	11	Aerospace Alliance of Baja California, A.C	Aerospace
		Bioeconomía	Bioeconomy
		Clúster Aeroespacial	Aerospace
		Cluster Manufactura Avanzada y Diseño	Manufacturing
		Cluster Mueblero Baja California (AFAMBAC)	Furniture
		Cluster Tecnologías de información	ICT
		Logistica	Logistcs
		Productos Médicos	Medical Devices
		Sistema Producto Vid de Baja California, A.C.	Agroindustry
		Telemarketing	Marketing
		Clúster Médico Dental y Hospitalario de B.C.	Heath Tourism
Campeche	1	CamBio Cluster	Biotechnology
Chiapas	1	Cluster TI de Chiapas[107]	ICT
Chihuahua[108]	2	Chihuahua's Aerospace Cluster	Aerospace
		Automotive Cluster Chihuahua	Automotive
Ciudad de México[109]	6	Clúster de la construcción e inmobiliaria	Real State
		Clúster de la industria del transporte y la logística	Logistics
		El clúster de la Publicidad	Marketing
		Clúster de las telecomunicaciones	Media
		Clúster de Servicios Financieros	Finance
		Prosoftware	ICT

[105] www.aguascalientes.gob.mx/temas/economia/agrupamientos/clusters/
[106] https://rmcbc.spribo.com/home
[107] www.clustertichiapas.com.mx/acerca.php
[108] www.indexchihuahua.org/clusters-industriales.html
[109] www.izt.uam.mx/sotraem/Documentos/AMET2011/AMET2011/REC/TEXTO/11-13/11_04.pdf

State	Number of clusters	Clusters (formally organised)	Sector
Coahuila de Zaragoza	2	Cluster de Energía Coahuila[110]	Energy
		Clúster Industrial	Industry
Colima	1	Cluster de Tecnologías de la Información de Colima (AIMSI)	ICT
Guanajuato	2	Cluster Automotriz de Guanajuato	Automotive
		Cluster de Vivienda	Real State
Jalisco	6	Clúster mueblero de Jalisco[111]	Furniture
		Clúster forestal de Jalisco	Forestry
		Cluster Integradores de Alta Tecnología (CIAT)[112]	ICT
		Cluster de las Flores de Jalisco	Agroindustry
		Clúster de Robótica del Estado de Jalisco	Electronic
		Clúster de la Industria Médica de Jalisco	Health
México	1	Cluster Automotriz Estado de Mexico (CLAUT)	Automotive
Michoacán de Ocampo	3	Cluster Aguacatero en el estado de Michoacán	Food
		Cluster Textil de Michoacán	Textile
		Cluster de Tecnologías de la Información y Comunicaciones de Michoacán, CLUSTERTIM	ICT
Nuevo León[113]	12	Cluster TIC de Nuevo León (CSoftMty)	ICT
		Cluster Monterrey Ciudad de la Salud	Health
		Cluster Automotriz de Nuevo León	Automotive
		Cluster Nanotecnología Nuevo León	Nanotechnology
		Cluster Biotecnológico de Nuevo León	Biotechnology
		Cluster de Electrodomésticos	Household
		Monterrey AeroCluster	Aerospace
		Cluster Agroalimentario de Nuevo León	Food
		Cluster de Vivienda y Desarrollo Urbano Sostenible	Real State
		Monterrey Interactive Media and Entertainment Cluster	Media
		Cluster de Transporte y Logística	
		Cluster de Turismo de Nuevo León	Tourism
Oaxaca	2	Cluster TI Oaxaca	ICT
		Cluster Industria del Mezcal de Oaxaca	Food
Puebla	2	Cluster Puebla TIC	ICT
		Cluster Automotriz de Puebla	Automotive
Querétaro de Arteaga	4	Aerocluster de Querétaro	Aerospace
		Clúster Vortice TI	ICT
		Cluster BioTQ	Biotechnology
		Cluster Automotriz de Querétaro	Automotive

[110] www.clustercoahuila.org.mx
[111] www.clustermdjalisco.org
[112] www.ciat.mx/personal-injury.html
[113] http://cecnl.mx/index.php

State	Number of clusters	Clusters (formally organised)	Sector
San Luis Potosí	2	Cluster Logítico	Logistics
		Cluster Automotriz	Automotive
Sonora	2	Cluster Minero de Sonora	Mining
		Cluster Aeroespacial Sonora	Aerospace
Tabasco	1	Cluster Petrolero de Tabasco	Oil
Tamaulipas	1	Cluster Energético Tamaulipas	Energy
Tlaxcala	1	Cluster Tecnologías de Información (CLUSTEC)	ICT
Veracruz	1	Cluster Agroalimentario	Agrofood
Yucatán	2	Cluster of innovation in health sectors	Health
		Cluster industria del software	ICT
Zacatecas	1	Cluster Minero	Mining

TABLE 4 – ESCA LABELLED CLUSTER

Label	Nº valid labelled clusters	Clusters	Sector
Gold[114]	0	Automotive Cluster of Nuevo León (CLAUT)[115]	Automotive
Silver[116]	2	IJALTI - Instituto Jalisciense de Tecnologías de la Información	ICT
		IT@Baja	ICT
Bronze[117]	17	Aerospace Alliance of Baja California	Aerospace
		ANDEA - Asociación Nacional de Emprendedores	Transportation and mobility
		Asociación Industrial de Productos Médicos de las Californias A.C.	Health and medical science
		Automotive Cluster of Queretaro, A.C.	Automotive
		Centro Articulador del Sector Productivo Forestal de Jalisco A.C.	Energy and environment
		CITI Tabasco A.C	ICT
		Claut Edo Mex	Automotive
		Cluster Automotriz San Luis Potosí	Automotive
		Clúster de Servicios de Salud de Baja California	Health and medical science
		Cluster Ti Chiapas	ICT
		Cluster TI Oaxaca	ICT
		Coconut Agricluster	Food industry
		Consejo de la Moda de Jalisco	Creative industries

[114] www.cluster-analysis.org/gold-label-new/?country=6bf487690ce6458c88e2aff0e44d27fb

[115] Automotive Cluster of Nuevo León (CLAUT) and Monterrey Aerocluster labels are not valid since mid- 2016.

[116] www.cluster-analysis.org/silver-label/?country=9c20853ad47a4b8e946f6cde09d790af

[117] www.cluster-analysis.org/benchmarked-clusters/?country=eaab51b460664f70808b21e3180c4a45

Label	Nº valid labelled clusters	Clusters	Sector
		Impulse TI - Promotora del Sector TI del Centro de Sinaloa A.C.	ICT
		MIND	Creative industries
		Monterrey Aerocluster[115]	Aerospace
		Monterrey Interactive Media and Entertainment Cluster	Creative industries
		Sistema Producto Vid De Baja California A.C.	Food industry

TABLE 5 - EU-MEXICO COOPERATION PROGRAMMES AND PROJECTS

Relation EU-Mexico	Field	Programme	Website and projects
Bilateral Cooperation	Social Cohesion	Social Cohesion Laboratory	http://eeas.europa.eu/delegations/mexico/projects/list_of_projects/22727_en.htm
	Economic innovation and competitiveness	PROCEI	www.procei.mx/Paginas/default.aspx
	Culture	CONACULTA	www.cultura.gob.mx/acerca_de_en/
	Health, energy, nano-science, food, agriculture and biotechnology, transport, security and space.	7FP : EU-MEX INNOVA	www.conacyt.gob.mx/pci/index.php/about-eu-mex-innova/funding?lang=en
	Geothermal Energy	H2020: GEMex	http://ec.europa.eu/research/index.cfm?&na=na-030616&pg=newsalert&year=2016
Regional cooperation in Latin America	Social Cohesion	EUROSocial	http://eurosocial-ii.eu/en
	Energy, agriculture, transport, environment, climate change, SMEs, ICT and social services	LAIF[118]	http://ec.europa.eu/europeaid/regions/latin-america/laif-latin-america-investment-facility_en
	Solar Energy	EURO-SOLAR	http://ec.europa.eu/europeaid/regions/latin-america/euro-solar_en
	Climate Change	EUROCLIMA	www.euroclima.org/en/euroclima
	Social sciences and humanities	Trans-Atlantic Platform	hwww.transatlanticplatform.com/
	STI	AlcueNet	http://alcuenet.eu/about-alcue-net.php
	ICT	Leadership	www.leadershipproject.eu/
	STI	Eranet LAC	http://eranet-lac.eu/
Cooperation on specific issues	Environment	High Level Dialogue on Environment (HLD)	http://ec.europa.eu/environment/international_issues/relations_mexico_en.htm

[118] List of projects approved under programme LAIF in Mexico
http://ec.europa.eu/europeaid/policies/innovative-financial-instruments-blending/blending-operations_en

Relation EU-Mexico	Field	Programme	Website and projects
	Nuclear Security	Instrument for Nuclear Safety Cooperation (INSC)	http://ec.europa.eu/europeaid/funding/funding-instruments-programming/funding-instruments/instrument-nuclear-safety-cooperation_en
	Migration and Asylum	Not specific programme	
	Human Rights	European Instrument for Democracy and Human Rights	www.eidhr.eu