

# SME GROWTH NEEDS REPORT

ANDALUSIA,  
SPAIN

SME  
CLUSTER  
GROWTH  
EMPOWERED ENGINEERING



CLUSTERS  
IN THE REGION

Role of  
ENGINEERING  
SMES  
within the Regions



THREATS TO  
SPANISH SMES



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## INTRODUCTION TO THE REGION

Andalusia is a service economy in which tourism plays a major role. Before the COVID health crisis, the economy showed sustained growth of 2.5% per year, largely because of the increase in investment, which in 2019 accounted for 18.3% of GDP (Andalusian Government, 2020). Although this positive performance, the region ranks in 16th place among the 17 Spanish regions (or 'autonomous communities') (Eurostat, 2020).

By activity, services accounted for 74.6% of the regional GVA, while the secondary sector accounted for 18.5% in 2019. The primary sector was the smallest contributor with 6.9% (IECA Andalusia, 2019).

The region leads the production and use of renewable energies. Andalusia is the leading producer of solar thermal energy, the second-largest producer of photovoltaic energy and is the leading region in Europe in terms of solar thermal installations (Junta de Andalusia, 2021a).

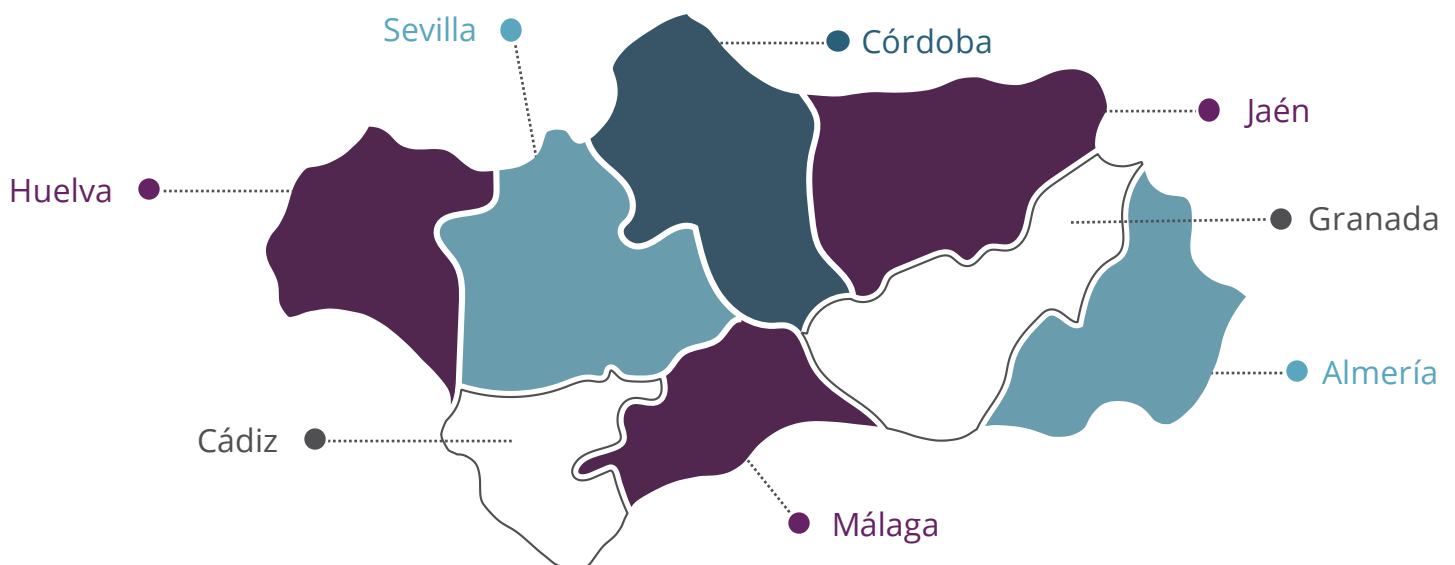
Related to the enterprise structure, Andalusia is one of the top four regions with the most SMEs, accounting for 15% of the national total. As of

January 2020, there were 530,599 SMEs, representing 99.8% of the region's enterprises (MINCOTUR, 2021c).

Most of these enterprises are members of one or several business organisations. Among the most relevant are the Confederación de Empresarios de Andalusia and the Confederación de Entidades para la Economía Social de Andalusia (Junta de Andalusia, 2021b).

Until 2019, the index of business confidence in the economic environment was positive, however, the health crisis has negatively affected it, only showing a slight recovery in the first quarter of 2021 (IECA Andalusia, 2021).

Related to priorities for economic development and strategies for innovation, the region has defined the following (RIS3 Andalusia, 2015): Mobility and logistics; Advanced industry linked to transport; Management of the region's endogenous resources; Tourism, culture, and recreation; Health system and welfare; Research and development in agroindustry and nutrition; Renewable energies, efficiency, and sustainable construction; ICT and digital economy.



Andalusia Region Source: (WDC, 2019)

## NATIONAL CONTEXT

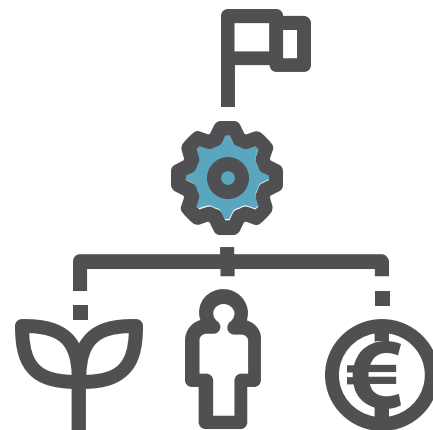
The country's strong tertiary sector contributes 67.9% of Spanish GDP and employs 74.66% of the active population (MINCOTUR, 2021a). Tourism in particular plays a major role in the economy of the country as one of the main sources of income.



The industrial sector represents 20.2% of GDP (World Bank, 2019) and is dominated by textiles, industrial food processing, iron and steel, naval machinery, and engineering. Growth is also achieved through activities related to the production of technological components, and information and communication technologies (Santander Trade, 2021).

In less proportion, the agricultural sector contributes only 2.7% of GDP and employs 4% of the labour force (World Bank, 2019). Spain is the world's largest producer of olive oil and the third largest producer of wine. Major crops include wheat, sugar beet, barley, tomatoes, olives, citrus fruits, grapes, and cork (Santander Trade, 2021).

Across the country, there are 3,404,428 enterprises and 99.9% of them are SMEs. On average, the number of enterprises increased 1.45% annually between 2008 and 2019 (MINCOTUR, 2019b).





## THE ECONOMY AFTER COVID

The economy of Spain was positive until the COVID-19 pandemic. Like most economies around the world, the GDP of Spain experienced a deep contraction (-12.8%) in the first half of 2020, contracting employment growth and increasing the unemployment rate among the active population (IMF; 2021).

**Negative implications of COVID have been exacerbated by (IMF, 2020):**

- The predominant role of the services sector.
- The high levels of temporary workers (26.4%);

One in four employees in Spain had a temporary contract in the second quarter of 2019 (Eurostat, 2019).

- The relevance of SMEs, which generated 61.3% of total value added and 71.9% of the total employment in Spain in 2019 (European Commission, 2019)
- The importance of tourism, that represented the 12.3% of Spanish GDP in 2019 (INE, 2020).

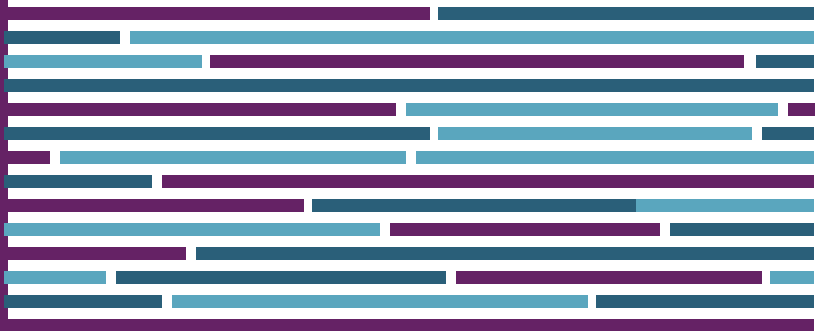
Indicator	2018	2019	2020 (e)	2021 (e)	2022 (e)
<b>GDP</b>	2.4%	2.0%	-12.8%	7.2%	4.5%
<b>GDP per capita</b>	2.3%	1.9%	-12.8%	7.1%	4.0%
<b>HICP (average)</b>	1.7%	0.7%	-0.2%	0.8%	1.4%
<b>Unemployment rate</b>	15.3%	14.1%	16.8%	16.8%	15.7%
<b>Employment growth</b>	2.7%	2.3%	0.6%	0.8%	1.4%

Source: IMF, 2020.

**Table 1:** Main economic indicators, 2018 -2022.

## CLUSTERS IN THE REGION

According to the European Cluster Collaboration Platform (2021), there are 17 clusters in Andalusia. Most of them are composed of SMEs, large firms, and research organisations. Their principal industries are creative, digital, mobility technologies, blue growth industries, advanced packaging, social economy and innovation, aerospace, agricultural, biopharmaceutical, and environmental (See Annex 1)



# ROLE OF THE ENGINEERING SMES IN THE REGION

## MAPPING

Traditionally, the region of Andalusia has its main source of wealth in the primary sector and tourism, however, it has recently been diversifying its dynamics towards the areas of ICT and the aeronautical industry.

Within the area of information and communications technologies, the region ranks third in terms of the number of companies (3,300 enterprises). These companies are mostly SMEs (97%), but also well-known companies in the area such as Microsoft, IBM, Oracle, Intel and Alphabet. The sector's

expertise lies in the software and application development, cloud computing, technology testing and the internet of the things (Junta de Andalusia, 2021c).

Another engineering sector that has been growing in recent years is aerospace. This industry is the region's main source of exports and accounts for 20% of regional GDP (Invest in Andalusia, 2021),

## INTERACTION WITH OTHER STAKEHOLDERS/ SUPPORTING MECHANISMS

### STRUCTURAL RESOURCES

As part of its structural resources, there are 11 technology parks in Andalusia housing 1,300 companies with a turnover of more than 4.7 billion euros. Among them, the Cartuja Science and Technology Park in Seville, On Tech Granada and the Technology Park in Malaga stand out (Junta de Andalusia, 2021a).

The region's structural resources are complemented by the government's investment in research and development, which since 2002 has ranked third nationally just after Madrid and Catalonia (Junta de Andalusia, 2021a).

In addition to these Technology Parks, the region is a base for 18 research centres, six advanced technology centres and ten technological innovation centres (Junta de Andalusia, 2021a).

Other relevant structural resources to promote university-business cooperation for economic growth are the Technological Corporation of Andalusia and the Malaga Tech Park Execs. The first is an agency founded in 2005 with the support of the local government aiming to impulse innovation among members. Nowadays it is integrated by 168 enterprises, from energy, aerospace, biotechnology, information and communication technology and agricultural sectors (CTA, 2021). The second is a network that joins the CEOs of the 50 most important enterprises' park members. Among its principal objectives are the increase of Malaga Tech Park international visibility, the attraction of new members and the evolution of the Malaga innovation ecosystem (PTA, 2020).

## EMPLOYMENT INDUSTRIES

It is necessary to highlight the importance of the services sector for the region's economy, 74% of the active population is employed in this area, with industry and agriculture accounting for 10% and 9% of employment respectively, and 7% in the construction sector (INE, 2021a).

Specifically, the main branches of activity among the employed population are wholesale and retail trade, hotels and restaurants, public administration, and health and service activities (See Table 2) (INE, 2021b).

Activity	Annual Average (thousands of people)
Agriculture, livestock, forestry, and fisheries	264.8
Mining and quarrying	6.6
Manufacturing industry	254.6
Electricity, gas, steam, and air-conditioning supply	14.6
Water supply, sewerage, waste management, waste disposal and remediation activities	23.7
Construction	197.2
Wholesale and retail trade; repair of motor vehicles and motorbikes	503.0
Transport and warehousing	151.3
Hotels and restaurants	256.7
Information and communications	56.9
Financial and insurance activities	51.6
Real estate activities	24.3
Professional, scientific, and technical activities	131.5
Administrative and support service activities	153.2
Public administration and defence; compulsory social security	248.2
Education	202.0
Health and social work activities	271.7
Arts, entertainment, and recreation	51.6
Other service activities	76.9
Activities of households as employers of domestic servants and as producers of goods and services for own use	80.5
Activities of extraterritorial organisations and bodies	0

**Table 2:** Employed population in Andalusia by activity, 2020

Source: INE, 2021b





## Agencies Responsible for Growth

At the national level, the Ministry of Industry, Commerce, and Tourism through the General Secretary of Industry and SMEs is the main body responsible for policy development on growth and innovation for SMEs.

As part of this government department, there are two public companies ENISA (National Enterprise of Innovation) and CERSA. Both are oriented to create financing strategies to impulse SMEs (DGIPYME, 2021b).

In Andalusia, the main agencies responsible for SME growth are:

Innovation and Development Agency of Andalusia (IDEA): Its main activity is to promote regional development and innovation, through projects and programs to help businesses.

- **Extenda:** Aims to promote the

internationalization of SMEs, Extenda is a public company owned by the Government of Andalusia and the Andalusian Chamber of Commerce.

- **Energy Agency of Andalusia (Agencia Andaluza de la Energía):** Promotes sustainability among SMEs.
- **Department of Economic Transformation, Industry, Knowledge and Universities (Consejería de Transformación Económica, Industria, Conocimiento y Universidades):** Is responsible for economic development based on knowledge, promoting research and business-university cooperation.
- **Department of Employment, Training and Self-Employment (Consejería de Empleo, Formación y Trabajo Autónomo):** In charge of developing strategies and programmes for entrepreneurship, social entrepreneurship, and employment.

## Stakeholder Collaborations

Within the region, different actions are being carried out in terms of collaboration between the business sector, government, and universities. Particularly noteworthy are the efforts made by the government to promote collaboration between these actors to generate development and innovation.

An example of this is the Innovalia project, through which an investment of 1.5 billion euros of public-private investment will be made for the development of innovation nodes, the first of which will be based in Málaga and oriented towards the creation of microelectronics and digital technologies (Diario Sur, 2021).

Likewise, and through the Network of Technology Transfer Offices (Red OTRI), it is possible to document some examples of research for the development and competitiveness of companies in the region. These include the University of Cordoba, the Pablo de Olavide University, the Agricultural Technology Centre, and the company AQUASEF, for the development of mechanisms to ensure the quality of the products processed by the company (Red OTRI Andalucia, 2021).

Among the examples mentioned by the network is the collaboration between universities to operate European projects that seek to promote the commercialisation of technology and the development of innovation, such as TERESA, a robotic telepresence system with social intelligence (Red OTRI Andalucia, 2021).

In addition to these initiatives, the region holds an annual forum called Convergía. This is a meeting where participants from both sectors meet to generate initiatives that promote the economic and social development of Andalusia. Convergía has the support and collaboration of the Regional Ministry of Economy, Knowledge, Enterprise and University, the Andalusian Confederation of Entrepreneurs, and the Andalusian Association of Public Universities (Convergía, 2021).

The city of Málaga has hosted the annual fair Foro Transfiere for a decade. This international meeting on science, technology and innovation brings together technology transfer professionals, innovative companies of all sizes, cutting edge technologies and policymakers to increase knowledge and technology transfer.

## OTHER SUPPORT

As part of the strategies and measures established to face the health crisis, the Government of Andalusia has established different subsidies, aid and credit guarantees for SMEs, entrepreneurs, and social economy enterprises (Andalusia Emprende, 2020). Also, and permanently, the government has signed agreements with banking institutions that allow access to loans under preferential conditions (Andalusia Emprende, 2021).





## POLICY AND FINANCING

The SME Strategy of the Government of Spain considered the following programs (DGIPYME, 2021a):

Initiative	Objective
Cluster Innovation (Agrupaciones Empresariales Innovadoras).	Promotes innovation among clusters through funding.
Support for Connected Industry 4.0 Initiative	Loans to promote digital transformation of enterprises.
Support for Research and Development Projects in manufacturing.	Loans for funding R&D projects in manufacturing sector.
Business Angel Network.	It aims to promote the creation of business angels' network.
Business Growth Program.	Mentoring strategy for business

Some of the strategies implemented at regional level to support SMEs development are:

Organisation	Name of the Initiative	Type
Energy Agency	Sustainable SME (Pyme sostenible)	Funding to promote SME sustainability
Extenda – Andalusian Agency for Foreign Promotion	International Active (Programa Activa Internacional)	Support on business internationalisation
IDEA - Innovation and Development Agency of Andalusia (IDEA)	Entrepreneurial Andalusia (Andalusia Emprende)	Entrepreneurship support and financing.
Andalusia Government	Interreg Sudoe	Financing for competitiveness and internationalisation
Andalusia Government and Vodafone	Minerva	Acceleration Programme for Startups or SMEs in ICT
Andalusia Government, Department of Employment, Enterprise, and Commerce	Action Plan for Digitalisation	Training and financing to digitalisation of SMEs.
Andalusia Government and Telefonica	Andalusia Open Future	Acceleration, training, mentoring and funding for ICT start-ups.

Source: Government of Spain, Ministry of industry, Commerce and Tourism, 2021

## GO INTERNATIONAL



In coordination with the Chamber of Commerce, the Government of Andalusia created Extenda, the Andalusian Agency for Foreign Promotion. The agency is responsible for the promotion, training, and provision of export services. Until 2019 a total of 3891 Andalusian companies have used its services, 34% of them belonging to the province of Seville and 14% to the province of Malaga (Extenda, 2019).

The agri-food sector is the most active in internationalisation, followed by consumer goods companies, industry, and services (Extenda, 2019).



## KNOWLEDGE MANAGEMENT

Every SME in the region has the possibility to be supported by the numerous scientific resources of the region. These consist of ten public universities, more than 30,000 researchers and 2,291 research groups (Junta de Andalusia, 2020b), 18 research centres, six advanced technology centres and ten technological innovation centres (Junta de Andalusia, 2021a).

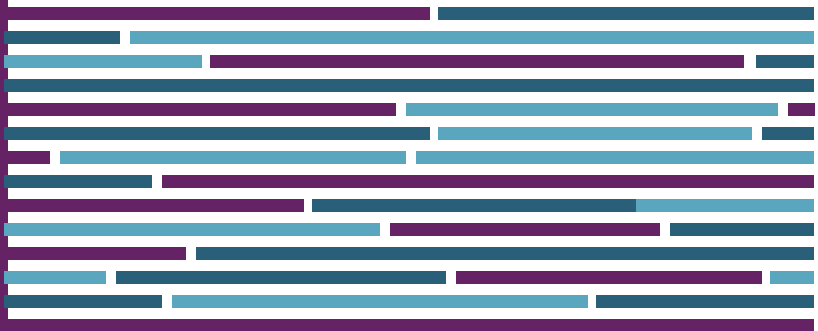
### HEI ROLE

In Andalusia, 34.5% of the population aged 30-34 has completed tertiary education in 2019. This index was below the national (44.7%) and the European Union (41.6%) average (European Commission/RIM Plus, 2021).

Andalusia hosts eleven universities, ten public and one private.

Within the region, 173 educational programmes are offered in the fields of engineering and ICT. These programs are taught at the Universities of Almeria, Cadiz, Cordoba, Granada, Huelva, Jaen, Malaga, Pablo Olavide and Seville (Distrito Unico Andaluz, 2021).

The net enrolment rate in higher education among 18-24-year-olds for the 2018-2019 academic year was 28.1%, below the national average (32.4%). Like the Spanish national dynamics, most students are enrolled in social sciences and humanities. (MINCINN, 2020).



## CHALLENGES/ BARRIERS

In 2019, 47.3% of companies in Spain reported encountering different barriers to growth. Among the main ones were the economic situation, bureaucracy, and lack of financing (Camara de Comercio, 2019).

Among the sectors, the economic situation is the main barrier to growth for construction companies (86%), while the lack of training and skills is a major barrier for 20% of industrial companies (Camara de Comercio, 2019).

Concerning size, for firms with between 50 and 249 employees, lack of financing and low-skilled human resources are the main factors impeding growth (Camara de Comercio, 2019).

Similarly, the report SMEs, start-ups, scale-ups and entrepreneurship of the European Commission (2020) identifies regulatory obstacles or

administrative burden as the main problem for companies in Spain.

Among other relevant data mentioned in the above-mentioned study is that 74% of SMEs, start-ups, scale-ups and entrepreneurs only operate in Spain, which contrasts with studies (Pinilla & Rialp, 2018) that define internationalisation as one of the main drivers for the growth of SMEs.

As part of these drivers, companies in Spain identify administrative simplification, incentives (for innovation, internationalisation, etc.), improved access to finance and the promotion of cooperation or alliances with SMEs (Camara de Comercio, 2019).



## KEY SUCCESS FACTORS FOR GROWTH

At the national level, the strategic analysis for SMEs development presented by the Foundation for Strategic Analysis and SMEs Development, identified the following elements that differentiate a competitive SME from a non-competitive (FAEDPYME, 2018):

- **Size.** Medium enterprises are more competitive than small enterprises.
- **Education level of CEOs.** The performance of SMEs increases about the CEO education level.
- **Internationalisation.** Sales based on the international market increase SME success and revenue.
- **Planning.** A planning strategy for sales increase the productivity of SMEs.
- **Business environment.** A positive environment plays a significant role in human resources performance.
- **Digitalisation.** The use of digital tools to administrate the enterprise, the digital skills of employees and the digital strategies to improve the user experience are invaluable.



## ANDALUSIAN SME CLUSTER COUNCIL

After making a search of the entities and persons that could be part of the Andalusian SME Cluster Council, we found out that there were one cluster already created in the region with objectives and activities very similar to ours. This cluster was created on the frame work of a European project called (<https://www.corporaciontecnologica.com/es/area-internacional/proyectos-europeos/intecmed/>), belonging to the call ENI CBC MED. With the aim of not creating

new structures with similar functions, we approached them to ask for collaboration. Below are the minutes of the two meetings we had in this sense. The first meeting took place with the INTECMED coordinators in order to explore the collaboration options. The second one was organized with the INTECMED alliance to introduce the SME Cluster Growth project and the future collaboration.

# 1<sup>st</sup> CLUSTER COUNCIL MEETING

## SPAIN, 9<sup>TH</sup> SEPTEMBER 2021

### PARTICIPANTS

Firstname	Surname	Position
Anne Dominique	Furphy	International Business Developer, Chamber of Commerce of Seville
Pablo	Morales	European Projects Coordinator, Chamber of Commerce of Seville
María García	Alegre	Innovation Consultant, Technological Corporation of Andalusia (CTA)
Rafael	Ventura	Vice-President for Social Innovation and Entrepreneurship, University of Malaga
Clara	Plata	Project Manager, University of Malaga

### AGENDA

1. Presentation of the SME Cluster Growth project.
2. Analysis of the opportunities for collaboration with the INTECMED Alliance project

### CONTENT OF THE DISCUSSIONS

1. The SME Cluster Growth project was introduced to the attendants, paying special attention to the creation of the Cluster Growth Councils.
2. The Chamber of Commerce of Seville (<https://camaradesevilla.com/>) and CTA (<https://www.corporaciontecnologica.com/es/>) are coordinating at regional level a project called Alliance INTECMED (<https://www.corporaciontecnologica.com/es/area-internacional/proyectos-europeos/intecmed/>), belonging to the call ENI CBC MED. This project has the objective of building an alliance at regional level to promote the creation of an innovation ecosystem in Andalusia that will be connected to other regions in the Mediterranean area (Greece, Tunisia and Egypt).
3. The goal of the meeting is to analyse the similarities among both projects (SME Cluster Growth and INTECMED) to explore synergies and possible collaborations.
4. A council has been already created in the framework of the INTECMED project including the actors required for the SME Clusters, and the goals of both projects are similar and compatible. As a conclusion, we take the decision of supporting each other and develop a joint cluster and action plan.
5. On September 28th a meeting will take place where the SME Cluster Growth project will be introduced to the members of the Alliance and the next steps will be set for the cluster.



## 2<sup>nd</sup> CLUSTER COUNCIL MEETING

### SPAIN, 28<sup>TH</sup> SEPTEMBER 2021

#### PARTICIPANTS

Firstname	Surname	Position
Anne Dominique	Furphy	International Business Developer, Chamber of Commerce of Seville (CCS)
María García	Alegre	Innovation Consultant, Technological Corporation of Andalusia (CTA)
Rafael	Ventura	Vice-President for Social Innovation and Entrepreneurship, University of Malaga (UMA)
Clara	Plata	Project Manager, University of Malaga (UMA)
Reyes	Sánchez	TTO Director, University of Huelva (UHU)
Carlos	Cano	Entrepreneurship Director, University of Huelva (UHU)
Fernanda	Ventura	Chamber of Commerce of Seville (CCS)
Mar	Fuentes	Entrepreneurship Director, University of Granada (UGR)
Sara	Alonso Quirante	TTO University of Granada (UGR)
Silvia	Blasco	Technological Corporation of Andalusia (CTA)
Alicia	Cañadas	Director of the Technology Park of Almeria (PITA)

#### AGENDA

- 1. 10:00 – 10:10** Presentation round
- 2. 10:10 – 10:40** INTECMED news and details about a business ideas call developed in the framework of INTECMED (María García Alegre (CTA) and Anne Furphy (CCS))
- 3. 10:40 – 11:00** Dissemination activities for the business ideas call (María García Alegre (CTA) and Anne Furphy (CCS))
- 4. 11:00 – 11:20** Coordination with the SME Cluster Growth project (Creation of the Andalusian SME Cluster Growth Cluster) (Rafael Ventura Fernández, UMA)
- 5. 11:20 – 11:30** Q&A

## CONTENT OF THE DISCUSSIONS

After introducing all the attendants, an update of the INTECMED project was made. A call titled “Incubators for innovation and technological transfer in the Mediterranean” has been launched with the aim of creating an acceleration and mentoring program for spin offs in Andalusia. Coordinators asked the attendants to disseminate the results of the project in events organized by them.

After this update of the INTECMED project, the SME Cluster Growth project was introduced. Its activities were found as complementary with those developed within INTECMED, and attendants agree on working together to reach the goals of both projects.

We will explore when dates are on place if the training course and mentoring delivered through INTECMED and SME Cluster Growth can support each other at any point. A new meeting will be set once both of the projects have moved forward in this sense.



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# ANNEX 1

Andalousian Clusters and Technology Parks Database

Name	Sector(s)	Members		
		SME'S	Large Firms	Research Organisations
<b>Andalucia Aerospace</b>	<ul style="list-style-type: none"> <li>• Aerospace Vehicles and Defence</li> <li>• Digital Industries, Mobility Technologies</li> <li>• Aeronautical technology / Avionics, Aircraft</li> <li>• Aeronautics, Space</li> </ul>	29	6	
<b>Andalousian Cluster of Renewable Energy and Energy Efficiency</b>	<ul style="list-style-type: none"> <li>• Electric Power Generation and Transmission</li> <li>• Blue Growth Industries, Environmental Industries</li> <li>• Solar/Thermal energy, Solid biomass</li> <li>• Energy distribution, Power generation / renewable sources</li> </ul>	45	15	16
<b>Andalousian Plastic Cluster - Andaltec</b>	<ul style="list-style-type: none"> <li>• Automotive, Paper and Packaging</li> <li>• Advanced Packaging, Creative Industries</li> <li>• 3D printing, Composite materials</li> <li>• Advanced manufacturing systems, Advanced materials</li> </ul>	16	5	6
<b>Asociación Cluster Granada Plaza Tecnológica y Biotecnológica, On Granada Tech City</b>	<ul style="list-style-type: none"> <li>• Biopharmaceuticals, Information Technology and Analytical Instruments</li> <li>• Biochemistry / Biophysics, Health information management</li> <li>• e-Health (e.g., healthy ageing), ICT trust, cyber security &amp; network security</li> </ul>	646	19	45

Source: European Cluster Collaboration Platform (2021).

Name	Sector(s)	Members		
		SME'S	Large Firms	Research Organisations
<b>Cluster Marítimo Marino de Andalucía</b>	<ul style="list-style-type: none"> <li>• Transportation and storage</li> </ul>	40		10
<b>COEXPHAL, Asociación Organizaciones de Productores de Frutas y Hortalizas de Almería</b>	<ul style="list-style-type: none"> <li>• Agricultural Inputs and Services</li> <li>• Blue Growth Industries, Digital Industries</li> <li>• Agriculture Machinery / Technology, Crop Production</li> <li>• Crop &amp; animal production, hunting &amp; related service activities</li> </ul>	67	21	3
<b>CTA Aerospace and Production Processes</b>	<ul style="list-style-type: none"> <li>• Business Services</li> <li>• Automation, Robotics Control Systems, Aeronautical technology / Avionics</li> <li>• Aeronautics, Advanced manufacturing systems</li> </ul>	7	13	9
<b>CTA Agrifood</b>	<ul style="list-style-type: none"> <li>• Business Services</li> <li>• Precision agriculture, Food Additives/Ingredients/Functional Food</li> <li>• Crop &amp; animal production, hunting &amp; related service activities, Food, beverage &amp; tobacco products</li> </ul>	5	8	9
<b>CTA Biotech</b>	<ul style="list-style-type: none"> <li>• Business Services</li> <li>• Synthetic Biology, Biobased Materials</li> <li>• Industrial biotechnology, Biotechnology</li> </ul>	5	1	9
<b>CTA Construction and Civil Engineering</b>	<ul style="list-style-type: none"> <li>• Business Services</li> <li>• Construction engineering (design, simulation), Construction maintenance and monitoring methods &amp; equipment</li> <li>• Civil engineering, Specialised construction activities</li> </ul>	3	7	9

Source: European Cluster Collaboration Platform (2021).

Name	Sector(s)	Members		
		SME'S	Large Firms	Research Organisations
<b>CTA Energy and Environment</b>	<ul style="list-style-type: none"> <li>• Business Services</li> <li>• Clean Production / Green Technologies, Desalination</li> <li>• Energy distribution, Power generation / renewable sources</li> </ul>	4	8	9
<b>CTA ICT</b>	<ul style="list-style-type: none"> <li>• Business Services</li> <li>• Artificial Intelligence (AI), Internet of Things</li> <li>• ICT trust, cyber security &amp; network security, Intelligent inter-modal &amp; sustainable urban areas (e.g., smart cities)</li> </ul>	28	13	9
<b>Granada Health Technology Park (PTS)</b>	<ul style="list-style-type: none"> <li>• Biopharmaceuticals, Business Services</li> <li>• Biopharmaceuticals, Medical Devices</li> <li>• Cellular and Molecular Biology, Bioinformatics</li> <li>• e-Health (e.g., healthy ageing), Biotechnology</li> </ul>	65	2	16
<b>Helice Cluster</b>	<ul style="list-style-type: none"> <li>• Aerospace Vehicles and Defence, Education and Knowledge Creation</li> <li>• Creative Industries, Digital Industries</li> <li>• Aeronautical technology / Avionics, Aircraft</li> <li>• Aeronautics, Remotely piloted aircrafts</li> </ul>	105	13	5

Source: European Cluster Collaboration Platform (2021).



Name	Sector(s)	Members		
		SME'S	Large Firms	Research Organisations
<b>Smart City Cluster</b>	<ul style="list-style-type: none"> <li>• Construction Products and Services, Information Technology and Analytical Instruments</li> <li>• Digital Industries, Experience Industries</li> <li>• Smart Appliances, Smart grids</li> <li>• Cleaner environment &amp; efficient energy networks (e.g., smart grids), Intelligent inter-modal &amp; sustainable urban areas (e.g. smart cities)</li> </ul>	75	19	14
<b>Málaga Tech Park: Parque Tecnológico de Andalucía</b>	<ul style="list-style-type: none"> <li>• Business Services, Information Technology and Analytical Instruments</li> <li>• Technology, Society and Employment</li> <li>• Aeronautics, Eco-innovations</li> </ul>	511	65	40
<b>Tecnova</b>	<ul style="list-style-type: none"> <li>• Agricultural Inputs and Services</li> <li>• Precision agriculture, Food Technology</li> <li>• Scientific research &amp; development, Sustainable agriculture</li> </ul>	39	7	2
<b>The Railway Innovation Hub Spain</b>	<ul style="list-style-type: none"> <li>• Information Technology and Analytical Instruments, Transportation and Logistics</li> <li>• Digital Industries, Mobility Technologies</li> <li>• Railway Transport, Railway Vehicles</li> <li>• High speed rail-road transportation systems, Rail transport &amp; related services</li> </ul>	28	47	5

Source: European Cluster Collaboration Platform (2021).