



European Union
European Regional
Development Fund

DigiBEST
Interreg Europe



DIGIBEST REGIONA

GRANADA PROVINCIAL COUNCIL

SPAIN

Version: Final

Date: 28/02/2021

DigiBEST

Structure of the Analysis

<i>Structure of the Analysis</i>	2
<i>1. Introduction to Province of Granada, Spain</i>	3
<i>2. Economic development, entrepreneurship and digitalization in the province of Granada</i>	7
2.1 Economic development and entrepreneurship	7
2.2. Digital economy and society	12
<i>3. Barrier and solution analysis of the digital transformation of SMEs</i>	14
<i>4. Main stakeholders</i>	20
<i>5. SWOT analysis</i>	22
<i>6. Policy on and support instruments for digitalization of SMEs</i>	24
6.1. Main features of the national, regional and local policies towards the digitalization of SMEs	24
6.2. Support instruments to promote SMEs digitalization	28
<i>7. Analysis and identification of good practices</i>	29
<i>8. Finding and conclusions of the Digital Assessment Survey</i>	34
<i>9. Conclusions and recommendations</i>	37
<i>Bibliography:</i>	39

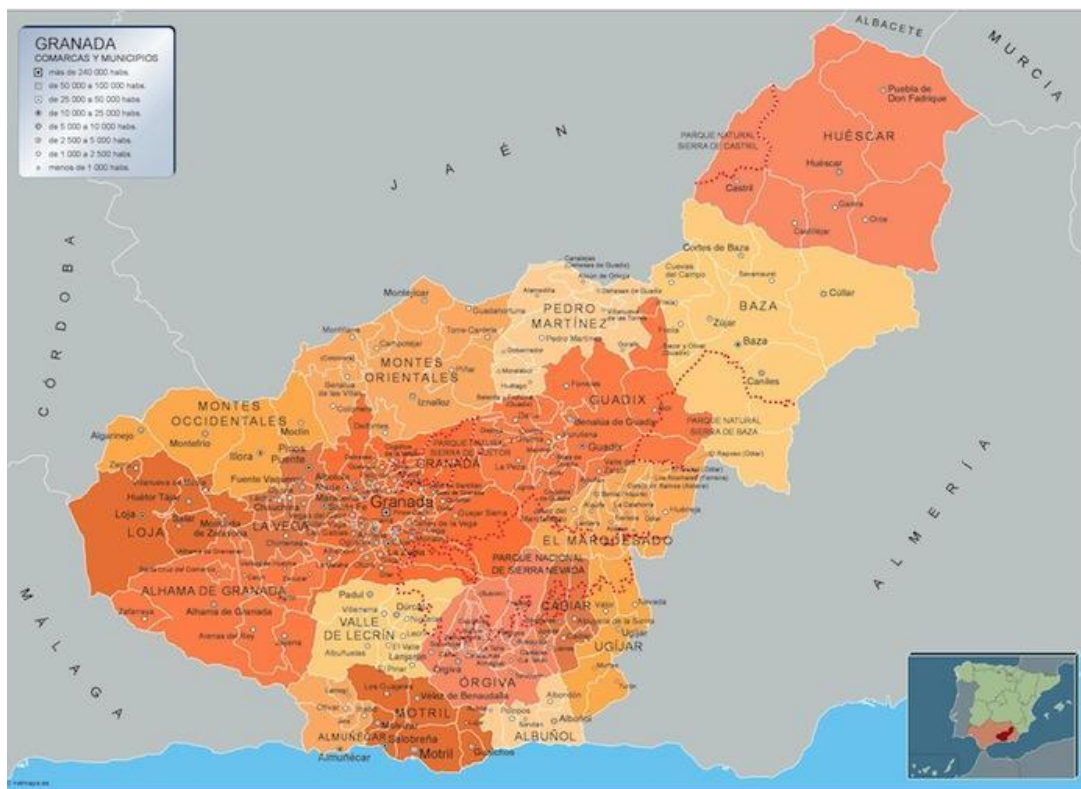
1. Introduction to Province of Granada, Spain

A history sights

The current location of the city of Granada dates back to 1013, founded on the remains of the Roman settlement of Illiberis, on the River Darro right bank, the current Albaicín neighbourhood, declared in 1994 as World Heritage Site. The Muslims, who arrived at the peninsula in 711, founded the first city called Medina Elvira, which was abandoned when the Caliphate of Córdoba ended and al-Andalus was divided into different kingdoms of Taifa, to transfer it to its current settlement. In 1492, the Christian kings Isabel I and Fernando II conquered the city, ending the Muslim era in the Iberian Peninsula and initiating a territorial, political and religious unity project that was the beginning of the current country of Spain. In Granada as well, took shape the trip that would take Christopher Columbus to discover the new world in 1492¹.

The fact that Granada was the main city of the last Muslim kingdom in Europe, and the symbolic value given to it after the capital was conquered by Christians, led to a process of Christianization in which the new nation's power structures were involved. It has allowed the city and the province to treasure an important cultural and ethnological heritage that today continues to attract thousands of people from all over the world to visit them.

Fig. 1. The province of Granada



Source:

<https://www.mapasmurales.es/municipios-granada/>

The province of Granada, as we know it today, was delimited in 1833 thanks to the territorial division of Spain designed by Javier Burgos during the reign of Queen María Cristina, which granted it an area of 12,531 km², with a current number of 174 municipalities.

¹ [https://en.wikipedia.org/wiki/Voyages_of_Christopher_Columbus#First_voyage_\(1492%E2%80%93931493\)](https://en.wikipedia.org/wiki/Voyages_of_Christopher_Columbus#First_voyage_(1492%E2%80%93931493))



Granada currently has **925.160 inhabitants**² (as of Jan 2020), of which 534 metropolitan area, while 232.462 live in the province's main town⁴.

The main population centres are Granada capital and its Metropolitan Area (55% of the territory), the Grenadian Coast (10.5%) with the municipalities of Motril and Almuñécar, second and third provincial population centers respectively after the capital, and the areas from the interior of Guadix, Baza and Loja⁵.

The territory is divided into 174 municipalities and 6 local autonomic entities. The province of Granada has always had a traditional regional division, in ten different areas that we enumerate from north to south: Huéscar, Baza, Guadix, Los Montes, Loja, Granada Meadow, Alhama, Valley of Lecrín, Alpujarra and Grenadian Coast. The Provincial Council facilitate the governance of all of them from its definitive establishment in 1836.

Four climatic zones can be distinguished within the province: Granada Meadow, fertile and green around the Genil river with warm summers and quite cold winters; the Altiplano and Hoya de Guadix with a semi-desert climate; the Alpujarra and the Marquesado, with a mountainous climate in the Sierra Nevada massif, and the tropical coast with mild temperatures throughout the year allowing the cultivation of custard apple and avocado.

Out of the productive sectors, the service sector (tertiary) is the one that employs the most people, followed by agriculture (primary), industry (secondary) and finally construction (secondary). Before the Covid-19 sanitary crisis, the unemployment rate in March 2020 was 3,9%⁶.

The tourist sector in Granada province represents 14% of the Gross Domestic Product (GDP), with an annual turnover of more than 2.200 million euros. 76% of non-agricultural companies in Granada province belong to the service sector. Retail trade (except vehicles) is the activity with the greatest weight in the service sector, and represents 18.5% of it⁷.

The Provincial Council of Granada

The Provincial Council of Granada is a supra-local and intermediate government body with the recognised constitutional right to manage specific interests of the province of Granada in full autonomy. The Granada Provincial Council as the administrative body with own competences is responsible of the planning, design and management of the provincial policies and strategies (including the Plan for the development of the local productive activity). The limited capacity of municipalities makes it very difficult to support SMEs located in their territories. For this reason, the Provincial Council provides assistance to municipalities to guarantee these competencies. Moreover, it directly supports SMEs located in any municipality of its province⁸.

² Año 2020 <https://www.ine.es/jaxiT3/Datos.htm?t=31304#!tabs-tabla>

³ From National Statistics Institute (INE), data from 2018. Retrieved from: https://es.wikipedia.org/wiki/%C3%81rea_metropolitana_de_Granada

⁴ Año 2019 <https://www.ine.es/jaxiT3/Datos.htm?t=2911#!tabs-tabla>

⁵ https://es.wikipedia.org/wiki/Provincia_de_Granada

⁶ <http://www.juntadeandalucia.es/servicioandaluzdeempleo/web/argos/web/es/ARGOS/index.html>

⁷

<https://www.granadaempresas.es/wp-content/uploads/2016/12/diagnostico-del-tejido-empresarial-de-la-provincia-de-granada-0.pdf>, page 12 and 36

⁸ <https://www.dipgra.es/contenidos/oficinaConcertacion//>



Since 1996, the Provincial Council of Granada develops and implements SMEs. Nowadays these strategies are included in the framework of the "Provincia" – a policy instrument focusing on the specific competences: assistance and cooperation for the local economic promotion and development of local production activity. The role of the Provincial Council in this programme is to provide a collaborative environment for public (municipalities) and private agents (OnGranada - Technological and Biotechnology Cluster in Andalusia and Chamber of Commerce of Granada) to promote digital transformation of SMEs.

The Provincial Council is the government for the province of Granada, which represents interests of local entities and ensures the comprehensive and adequate provision of public services according to the municipal competence throughout the province.

Transport infrastructure

Today, road infrastructures are still the main support for mobility in Andalusia, both for people and for goods. The current amount of road infrastructures in Andalusia is of 23.143 km; 10.561 km are owned by the Andalusian Government, while 3.451 km belongs to the State and the rest to the local administrations. Overall, and looking at the evolution in recent decades, it might be concluded that some indicators have been reached, in terms of density and quality, similar to those of the rest of Spain and the European Union. Anyway, that should not hide the existence of some areas that still have accessibility deficiencies.

The railway infrastructures in Andalusia, a state competency, continue to have a less important role than the roads in mobility. If we take into account the global figures, they only capture 13% of the total number of trips in public transport of people, and just 1% of goods.

Metropolitan subway lines concentrate a major part of the Andalusian Government's investments in infrastructure in the last decade, with lines currently in service in Seville, Malaga and Granada. It also should be noted that the drafting of the informative study for the expansion of the Granada metro is being tendered.

The mobility of goods shows totally different characteristics from the mobility of people. The demand for cargo transport in recent years, both nationally and regionally, shows a positive evolution in general terms, following the path of the economic recovery that started in 2013, but has not yet reached 2007 levels, except in the maritime shipment. This highlights the strength and potential of the Andalusian port system. The seven State ports of general interest in Andalusia represent around 30% of the volume moved at the State level⁹.

It has to be highlighted that the Andalusian Government has launched the Transport Infrastructure and Mobility Plan for Andalusia (PITMA)¹⁰, from 2021 to 2027. Adhering to the criteria established by the European Union for that period, this Plan promotes innovation and the reduction of emissions, enabling the road system, and being the road maintenance policy, one of the strengths of the Plan. In addition, it will focus on sustainable mobility (travel by foot, bicycle and public

⁹ Paragraph developed based on the information from:

https://www.juntadeandalucia.es/export/drupaljda/doc_resumen_diagnostico_pitma_21_27.pdf page 1-6

¹⁰

<https://www.interregeurope.eu/tram/news/news-article/9599/andalusia-mobility-plan-2021-2027-pitma/https://www.juntadeandalucia.es/temas/transporte/carreteras/red.html>

transport) and will contemplate measures aimed at fighting climate change, energy efficiency and reducing noise and air pollution.

Digital infrastructure

The State competency in telecommunications is exercised mainly by the Ministry of Economy and Competitiveness and the Ministry of Industry, Energy and Tourism through the Secretary of State for Telecommunications and Information Society. Local administrations do not have direct competencies in regulating the telecommunications sector. However, the local authorities, through the competencies they have in terms of urban, environmental and public health protection, directly condition the deployment of telecommunications infrastructures.¹¹

Table 01 Access technologies coverage in% of Andalusian households in Granada, 2013 (*no further data*)¹²

	Granada
Copper 1M	95%
Copper 6M	85%
Copper 10M	69%
Copper 30M	31%
Wire	28%
Fibra	0,25%
3G	96%
LTE	0%
WiMAX/LMDS	56%

Source: telecommunications infrastructure strategy of Andalusia 2020 (page 17)

In general, it can be concluded that the cities with the lowest population have lower coverage values for accessing technologies. In particular, ADSL 1Mbps and 3G accesses, which provide basic broadband services, have value of less than 90% in those villages with a population of less than 1.000 inhabitants.

Fibre and cable-based access technologies capable of delivering ultrafast (100Mbps) broadband services are only appreciably present in cities with more than 100,000 inhabitants. For wireless access, coverage in these centers is 94%.¹³ Granada is the Andalusian province with the most centres of population with connection through fibre.

Table 02 Broadband service coverage % in of Andalusian households in Granada, 2013 (*no further data*)¹⁴

	Granada
Basic BB 1M	98,5%
BB 6M	94,0%
BB 10M	74,9%
Speed BB 30M	50,2%

¹¹ https://www.juntadeandalucia.es/export/drupaljda/ESITA_2020.pdf pag 41

¹² https://www.juntadeandalucia.es/export/drupaljda/ESITA_2020.pdf pag 17

¹³ https://www.juntadeandalucia.es/export/drupaljda/ESITA_2020.pdf pag 17

¹⁴ https://www.juntadeandalucia.es/export/drupaljda/ESITA_2020.pdf pag 23



The policy tool “Granada Empresas”

The Provincial Council of Granada has been elaborating the **Plan for the development of the local productive activity** (PDLPA) for more than ten years in a process of collaboration with stakeholders. The PDLPA is fully consolidated with other policy documents and is an important instrument of the Provincial Council of Granada to improve the demand for technical and technological assistance for the creation and consolidation of SMEs. Work packages of the PDLPA include:

- a) Support the SME’s innovation and competitiveness (including digital transformation).
- b) Design, construction and management of local SME incubators.
- c) Support for the association representatives of local strategic sectors.

In the Province of Granada, Information and Communication Technologies (ICT) have proven to be a useful and efficient tool for economic growth, creating employment and improving the quality of life for society. However, in order to continue maximizing the advantages offered by ICT and to promote the Knowledge Society, the PDLPA must renew and adapt its strategy to new upcoming challenges. Some of these immediate challenges include, foremost, the contribution of ICT to economic recovery and job creation. In this sense, ICT, as a transversal strategic element, must impregnate each productive sector of the provincial economy.

Likewise, “Granada es Provincia” is the tool by which the Provincial County Council of Granada implements municipal programmes and strategic actions defined in the framework of the provincial competences. For example, new programmes could be developed in cooperation with municipalities for the promotion of measures to assist SME through innovation, “smart” concepts and digital transformation.

2. Economic development, entrepreneurship and digitalization in the province of Granada

2.1 Economic development and entrepreneurship

30 out of the 200 poorest municipalities of Spain are located in the Granada province and there exists a big different between them and the richest metropolitan municipalities. For instance, the city of Granada has an annual income 28.534 € per person, ranking 260th within the Spain’s average rate, and 13th in Andalusia, meanwhile, the poorest municipality in the province is Algarinejo, with an annual average income of 12.778 € per person¹⁵.

¹⁵

<https://www.elindependientedegranada.es/economia/granada-tiene-30-pueblos-200-mas-pobres-espana-ninguno-200-mas-ricos>

The municipalities of Granada province overcome the crisis of 2008 in work of the municipalities of the country. Taking that the average income of the 3.770 € less than the average income of the rest of Spain, four years later it was still 4.401€ below the average income per person in the country.

The Granada's province economy is dominated by SMEs with over 99,94 % of firms having less than 250 employees – there are 58.385 businesses classified as SMEs (out of the total number - 58.415). 32.542 of them are self-employed and the rest 25.843 businesses considered as SMEs in Granada have employees. This places it well below the Spanish and EU average. Even more significant is the number of "microSMEs" in the province of Granada (either sole proprietorships or with less than 10 people employed), since they represent 56.472 business located in the province, the 96,6 % of the total number of companies in Granada (dates from 2017)¹⁶.

While the province experienced a high rate of new start-ups and a significant increase in jobs during the period of economic growth from the mid-1990s up until the economic downturn of 2008, a shortage of medium sized firms (50-500 employees) demonstrates a problem where the local businesses can hardly contribute more significantly to job creation and regional growth. Regarding the total of the Andalusian business sector, Granada businesses only account for 11.6% of the whole sector¹⁷.

Table 03. General information 2014-2019, Granada Province

Indicators	2014	2015	2016	2017	2018	2019
Size of territory <i>square kilometres</i>	12.531					
Population <i>Thousands, 2018 (INE)</i>	919 455	917 297	915 392	912 938	912 075	914 678
Real GDP per capita <i>EUR</i> <i>¹GDP per capita is a measure of region's or country's economic output that accounts for its number of people. It divides the country's gross domestic product by its total population and is a good measurement of a standard of living.</i>	16.888	17.619	18.060	18.526	19.190 ¹⁸	
Real GDP growth <i>% change</i> <i>²Constant price estimates. In theory, the price and quantity components of a value may be identified and base periods prices are substituted for those of the current period. Methods are used in practice to calculate variables at constant prices. Another method, commonly referred to as price</i>	-0,214%	+4,166%	+2,388%	+2,551%	+3,736% ¹⁹	

¹⁶ <http://www.ipyme.org/publicaciones/estadisticas-pyme-2017.pdf> page 24

¹⁷ 2020 Digital Business Plan. PAED page 8, datas from June 2015

¹⁸ <http://www.juntadeandalucia.es/institutodeestadisticaycartografia/28Febrero/tema.htm?t=economia&i=02180#indice>

¹⁹ <http://www.juntadeandalucia.es/institutodeestadisticaycartografia/28Febrero/tema.htm?t=economia&i=02175#indice>



<i>deflation, involves dividing price indexes into the observed values to obtain volume estimates. The price indexes used are constructed from prices of the major items of each value. Please make sure these series are in line with "GDP at constant prices".</i>						
Population of active enterprises (from 1 to 9 employees) ²⁰ <i>number</i>	24.703	-	25.197	25.475		
Population of active enterprises (10 employees and more) ²¹ <i>number</i>	1.608	-	1.840	1.969		
Net business population growth ²² %	1,08	-	-	1,36		
Unemployment rate <i>% of labour force</i> ³ <i>Percentage of the civilian labour force which is unemployed. The government defines unemployed as people who are jobless, looking for jobs, and available for work. Unemployed persons comprise persons aged 15 to 64 who were: without work during the reference week, i.e. neither had a job nor were at work (for one hour or more) in paid employment or self-employment; currently available for work, i.e. were available for paid employment or self-employment before the end of the two weeks following the reference week; actively seeking work, i.e. had taken specific steps in the four weeks period ending with the reference week to seek paid employment or self-employment or who found a job to start later, i.e. within a period of at most three months.</i>	33,82	29,70	29,07	24,95	22,17 ²³	20,96 ²⁴

Table 03 shows general information about the Province of Granada.

Business internationalisation is at an incipient stage but on the rise. It is estimated that only 1.4 % of firms are involved in export markets, compared to the national average of 4%. Therefore, the focus on policies' improvement for SMEs competitiveness by promoting digital transformation is very much required and corresponds to the needs of SMEs, as well as promotion of increased

²⁰ Please, use: https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=bd_size_r3&lang=en

²¹ Please, use: https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=bd_size_r3&lang=en

²² Please, use: https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=bd_size_r3&lang=en

²³ https://www.juntadeandalucia.es/institutodeestadisticaycartografia/badea/operaciones/consulta/anual/14774?CodOper=b3_65&codConsulta=14774

²⁴ https://www.juntadeandalucia.es/institutodeestadisticaycartografia/badea/operaciones/consulta/anual/14774?CodOper=b3_65&codConsulta=14774



economic competitiveness, growth and employment. The digital economy is 10% of the GDP of the province of Granada (higher than national average of 5.4%). Granada is advanced in ICT, biotechnology and health industries. The Granada ICT industry represents more than 400 companies with more than 6,000 jobs and more than 7% of the province's GDP turnover. The ICT industry, BIO and eHealth sectors of Granada are the leading sectors on the Spanish markets with fast growing international exports, which receive national and international awards and recognitions. Although the private sector of Granada is quite digitally advanced there are still structural problems²⁵.

The sustained appearance of new companies, which largely explains the job creation that has occurred in Granada until 2018, has allowed that the province recovers part of the productive framework that it lost during the six most difficult years of the economic recession (2008-2013). However, there is still space for improvement. Despite the fact that Granada has already registered four consecutive years of business growth -which moderated after 2018-, it still accounts for 3.154 fewer businesses than in 2008 with 62.269 active companies.

From 2014 to 2018, the highest level of growth in the number of businesses have occurred in the segments of between 10 and 200 workers and Granada today has 25,5% more businesses between 10 and 19 workers than in 2014, although the number of self-employed has also increased by 12,76%

Granada's good position (it has 64,84 businesses per thousand inhabitants in 2018, compared to 59,17 in 2014) does not hide the distance with the rest of Spain. The national average businesses density is 71,47 companies per thousand inhabitants. The gap becomes larger when compared to Barcelona (83,61) or Madrid (81,95).²⁶

Due to the sanitary crisis of Covid-19, it is really interesting to note the incidence of this exceptional situation in the turnover of each sector. If we look the diagrams above, it is possible to see how the Covid-19 has impacted in the employment in each sector.

The charts provide an overview from May 2018 to March 2020 when the pandemic broke out in Europe, and the population lockdown started. That meant the closure of most of the businesses, and the change of employees to unemployed or a standby situation while the crisis was hitting the countries. So, it can be seen that from February to March 2020, the employment descended sharply in most of the economic sectors, in a significant way in hospitality and ICT, meanwhile the commerce sector withstood the situation a little better, due to supermarkets, bakeries and other businesses were considered essential people's daily lives.

²⁵ From Granada DigiBest Application Form, page 23

²⁶ <https://www.ideal.es/granada/granada-recuperado-ultimos-20190107213844-ntvo.html>



Fig 1. Employment index by sectors:
Andalusian General index from 2018 to 2020



Fig 3. Business figures index by sector:
Andalusian commerce from 2018 to 2020

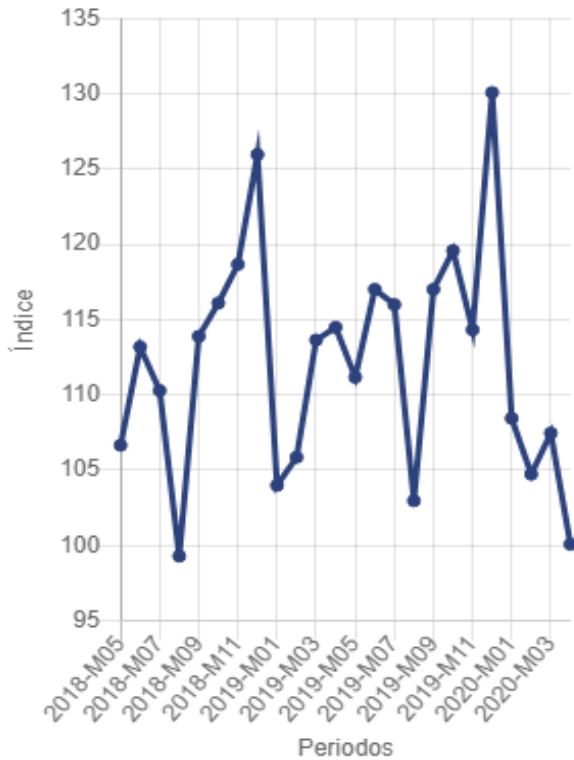
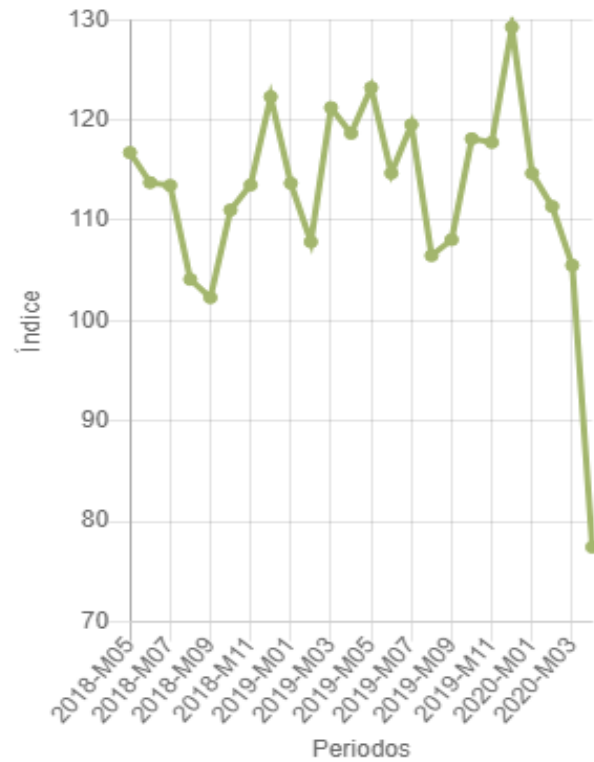


Fig 2. Business figures index by sector: Andalusian
hospitality business from 2018 to 2020



Fig 4. Business figures index by sector:
Andalusian ICTs from 2018 to 2020



Source: <http://www.juntadeandalucia.es/institutodeestadisticaycartografia/salud/index.htm>

2.2. Digital economy and society

The tables below show Desi Index and Eurostat numbers on the state of digitalisation and digital competence in Andalusia. Spain is among the most digital countries in Europe. Spain scores badly in speed broadband connectivity, but much better on internet use, business digitisation and digital public services. Spain is under average on digital skills²⁷.

Table 04. DESI index and DESI areas in Spain²⁸, 2014-2019

Indicators	2014	2015	2016	2017	2018	2019
DESI Index		41,36	43,91	46,12	50,24	53,53
DESI: connectivity		33,56	37,58	42,54	45,96	55,36
DESI: human capital/digital skills		43,20	45,50	42,20	44,90	44,50
DESI: use of internet services by citizens		44,78	46,40	49,00	52,10	55,10
DESI: integration of digital technology by business		29,30	30,90	35,40	41,20	41,30
DESI: digital public services		64,10	66,60	69,70	76,60	80,90
DESI: research and development ICT						

Source: <https://ec.europa.eu/digital-single-market/en/desi>

Note: it has to be noticed that the DESI index is calculated for business with more than 10 employees, which means that the majority of business in Granada remain outside of this index.

The Table 05 below reflects the statistical data available on the general regional digital economy and society available from the Eurostat database.

Table 05. General regional digital economy and society statistics, 2014-2019

Indicators	2014	2015	2016	2017	2018	2019
Households that have internet access at home (Andalucía) ²⁹						
<i>% of households with at least one member aged 16 to 74</i>	73	76	81	82	84	90
<i>The access of households to internet is measured as percentage of households where any member of the household has the possibility to access the internet from home.</i>						

²⁷ 2020 Digital Business Plan. (PAED) page 11

<https://www.juntadeandalucia.es/export/drupaljda/Memoria%20Plan%20EmpresaDigital.pdf>

²⁸ National level data

²⁹ <https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tps00047&plugin=1>



Households that have broadband access by NUTS 2 regions ³⁰ <i>% of households with at least one member aged 16 to 74</i> <i>The availability of broadband is measured by the percentage of households that are connectable to an exchange that has been converted to support xDSL-technology, to a cable network upgraded for internet traffic, or to other broadband technologies.</i>						
Individuals regularly using the internet by NUTS 2 regions ³¹ <i>% of individuals 16-74</i> <i>Regular users of the internet are persons who use the internet on average at least once a week, every day or almost every day.</i>	67	70	74	78	80	86
Individuals who have never used a computer by NUTS 2 regions ³² <i>% of individuals 16-74</i> <i>Persons who have never used a computer (at home, at work or any other place).</i>	26	25	-	23	-	-
Individuals who accessed the internet away from home or work ³³ <i>% of individuals</i>	60	64	70	76	79	85
Individuals who ordered goods or services over the internet for private use in the last year by NUTS 2 regions ³⁴ <i>% of individuals 16-74</i> <i>Persons who bought or ordered goods or services (i.e. food, groceries, household goods, films, music, books, magazines, newspapers, clothes, sports goods, computer software or hardware, electronic equipment, shares, financial services, insurances, travel or holiday accommodation, tickets, lotteries or betting and other) over the internet during the last year.</i>	31	35	37	45	49	53
Individuals, who used the internet. ³⁵ <i>% of individuals</i> <i>Frequency of internet access: once a week (including every day).</i>	67	70	74	78	80	86
Individuals who used the internet, frequency of use and activities ³⁶ <i>% of individuals</i> <i>Internet use: selling goods or services.</i>	10	8	12	11	10	14

³⁰ <https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tgs00047&plugin=1>

³¹ <https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tgs00050&plugin=1>

³² <https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tgs00051&plugin=1>

³³ https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=isoc_r_iumd_i&lang=en

³⁴ <https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tgs00052&plugin=1>

³⁵ https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=isoc_r_iuse_i&lang=en

³⁶ <https://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do>

Individuals who used the internet, frequency of use and activities ³⁷ % of individuals <i>Internet use: civic or political participation.</i>	-	-	-	20		
Individuals who used the internet, frequency of use and activities ³⁸ % of individuals <i>Internet use: Internet banking.</i>	32	31	37	39	43	51
Individuals who used the internet for interaction with public authorities ³⁹ % of individuals <i>Internet use: interaction with public authorities (last 12 months).</i>	43	46	46	50	55	57
Individuals who used the internet for interaction with public authorities ⁴⁰ % of individuals <i>Internet use: submitting completed forms (last 12 months).</i>	26	27	30	33	42	48
Individuals who used the internet, frequency of use and activities ⁴¹ % of individuals <i>Internet use: participating in social networks (creating user profile, posting messages or other contributions to Facebook, Twitter, etc.), percentage of individuals.</i>						

Source: Eurostat database: <https://ec.europa.eu/eurostat/help/first-visit/database>

3. Barrier and solution analysis of the digital transformation of SMEs

We do not have data just for Granada, so we are going to use data **from Andalusia for this analysis.**

In Andalusia, the size of the business is directly proportional to the degree of digitization of it. Sectors such as commerce and the hotel industry are more digitized than agriculture, fishing or transport.

The digitalization is not one of the biggest concerns of the Andalusian business. Although the concerns ranking has a slight difference from the national average, the market development, profitability, new customers gaining, and products demand, are the main concerns both in Andalusia and in others Autonomous Spanish regions.⁴²

³⁷ <https://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do>

³⁸ <https://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do>

³⁹ https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=isoc_r_gov_i&lang=en

⁴⁰ https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=isoc_r_gov_i&lang=en

⁴¹ <https://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do>

⁴² III Study about the state of digitalization in Spanish Businesses and Public Administrations-2019 Vodafone Businesses Observatory, pag 10

The Andalusia businesses consider that digitalization is useful, especially for improving business relations, and to optimize all business procedures. Therefore, the digitalization of business processes, connectivity and security are the most requested, along with digital marketing, implemented in Andalusia in a greater extent than the rest of Spain. This does not avoid that other more advanced services (robotics, e-Commerce, 3D Technology and artificial intelligence) are less implemented than in the other Spanish regions.

The WIFI connection, the fixed IP and the corporative e-mail are the most demanded elements to be involved with the digital transformation. Likewise, web design is the most important and widespread digital tool in Andalusia, and for that, local ICTs companies are generally hired⁴³. Furthermore, Andalusian businesses have full confidence in iCloud and management software through the Internet.

Next to the national average, four out of five Andalusian businesses have invested in digitalization in the last two years (2018-2019), but the percentage of them that have a Plan of digitalization is slightly lower compared to the Spanish average.

<u>Title of barrier</u>	<u>Brief barrier description</u> <i>(up to 25 words per each barrier)</i>	<u>Identified solutions, if any (up to 40 words per each solution)</u>	<u>Where to find it in a particular document or publication (e.g. page No., or Table No.)</u>
<u>Awareness Rising & Collaboration</u>			
Digitalization is not considered as one of the main concerns for the Andalusian business	Only the 6,7% of the Andalusian businesses are concerned about how to implement the digitalization in their companies (2019 Survey) ⁴⁴	Actions to promote the culture of digitalization and its advantages to save money, get new costumers, open new markets and improve the commercial relationship with their customers.	III Study about the state of digitalization in Spanish Businesses and Public Administrations-2019 Vodafone Businesses Observatory
Lack of digitalization strategies at the management levels	Businesses lack the development policies to improve the digital skills of employees and managers. Only 23% of the employees have mobile devices with internet access supplied by companies.	Workshops, meetings and reunions to increase awareness about the benefits of digitalization, both in the internal procedures and in connection with markets.	Strategy for promoting the ICT sector in Andalusia 2020. 2020 Digital Business Plan. (PAED 2020)

⁴³ III Study about the state of digitalization in Spanish Businesses and Public Administrations-2019 Vodafone Businesses Observatory.

⁴⁴ III Study about the state of digitalization in Spanish Businesses and Public Administrations-2019 Vodafone Businesses Observatory.



			<p>A er A Economic Plan 2014-2020, competitiveness strategies.</p>
SMEs are not aware about available digital technologies in the market	50% of Andalusian businesses are unaware of digital solutions for the automation of the processes.	<p>Facilitating communication channels between the ICTs and the SMEs. In the case of Granada, there is a significant presence of ICTs through the province, enabling the transversal economic growth of the entire productive sector in the province. Creating a common directory of ICT services available to all the SMEs.</p>	<p>III Study about the state of digitalization in Spanish Businesses and Public Administrations-2019 Vodafone Businesses Observatory. 2020 Digital Business Plan. (PAED 2020)</p>
Employees resistance to work with new digital procedures	Employees and managers who have to make decisions about digital procedures, do not have technical capacity.	The business have to implement a policy of digital skills development between the employees and company managers.	<p>III Study about the state of digitalization in Spanish Businesses and Public Administrations-2019 Vodafone Businesses Observatory. 2020 Digital Business Plan. (PAED 2020)</p>
Lack of qualified staff to implement the digital transformations in the businesses.	Businesses often hire specific ICTs companies to solve specific digital issues.	Digital qualification. Awareness of the importance of having employees with digital skills.	<p>III Study about the state of digitalization in Spanish Businesses and Public Administrations-2019 Vodafone Businesses Observatory.</p>
Enabling Corporate Environment & Capacity Building			
Lack of culture to take the risks. Family micro SMEs with no real intention of	Lack of vision in a medium-long term of commercial business possibilities.	Workshops, meetings and reunions to increase awareness of the benefits of digitization, both in internal procedures and to connect to markets.	



changing their procedures.	MicroSMEs are fearing to go beyond the limits they consider safe.	Increase business maturity through the exchange of experiences with other businesses that have completed its own digitalization process.	
Lack of capable managers and staff to undertake digital transformation initiatives	Lack of training and awareness in digital skills and their benefits.	Actions to increase awareness of the benefits of digitalization, both in internal procedures and in connection to markets	
Lack of proper management of the business's social networks	Lack of capability to continually update the social network.	Hire an employee or a company capable of updating the social network in a continuous way, through a stimulation of awareness of how the social networks facilitate the new costumers and markets access.	2020 Digital Business Plan. (PAED 2020)
Administrative & Technical & Legal			
Lack of compatibility between old and new system to be implemented in companies.	In Andalusia, all companies with more than 50 employees have a website (30% out of all medium sized firms and 82% out of all microSMEs do not have website). Only 18% out of these websites allow the receipt and monitoring of orders.	Redesign process of many of the administrative and control procedures of business through a stimulation of awareness of how the improvement of procedures saves time and money.	III Study about the state of digitalization in Spanish Businesses and Public Administrations-2019 Vodafone Businesses Observatory.
Limited access to basic infrastructures, broadband network and use of ERP tools (enterprises resources planification)	Above all, 10Mb networks are hired. Between 30-100 Mb in less quantity than in the rest of Spain, and more than 100 MB - very few.	To improve the wire digital network to encourage hiring. Make the contract cheaper with broadband and high-speed internet.	2020 Digital Business Plan. (PAED 2020)
Lack of automation in basic processes such as issuing invoices or e-commerce	E-commerce: only 30% of Andalusian companies use it to sell. Mostly used within the hotel industry, and the less – agriculture with a 11%	Facilitate the laws and the access system to e-commerce. A European framework where things were easier due to all the European businesses share the same legal rules.	2020 Digital Business Plan. (PAED 2020)



Financial & Economic			
Digitization costs considered as an expensive investment	The average expenditure on ICTs is 12,000 € in Andalusia, while the average in Spain is 30,000 € per company.	Awareness of the relationship between cost and benefits	III Study about the state of digitalization in Spanish Businesses and Public Administrations-2019 Vodafone Businesses Observatory.
Lack of awareness about the importance of investing in digitization, due to the size and nature of the Andalusian businesses	Andalusian businesses maintain a traditional way of working that works for them, which is why in many cases, digitalization is understood as an imposition rather than a need.		
Difficulty in accessing financing sources to undertake businesses digitization projects	Complexity of the procedure to obtain official subsidies or credit. There are no specific bank products to support for digitization.	Work with administrations and financial entities to facilitate access to subsidies or credit.	2020 Digital Business Plan. (PAED 2020)
Policy & Security			
Low level of implementation of digital security policies		Joint European fight against cybercrime. Cybersecurity has seen growth in revenue volume of 7% during 2019 and is expected to increase for 15% during 2020	2020 Digital Business Plan. (PAED 2020)
There is still no policy to unify the European digital market	According to the European Digital Agenda in 2015, the single European digital market should be formed, but is not	Invest in telecommunications infrastructure. Currently, cybersecurity related jobs are not covered. It is estimated that next year 1.8 million jobs related to this area will be vacant worldwide, 350,000 of them in Europe.	



Complexity of current Spanish and European regulations on security and electronic marketing		Many experts are already urging a revision of the NIS regulation (approved in 2016) that also introduces new tools such as the Internet of Things, little developed 7 years ago and vital today to ensure the security of all connections	20 B (F)
---	--	---	----------------



Consulted bibliography:

1. Strategy for promoting the ICT sector in Andalusia 2020.
2. 2020 Digital Business Plan. (PAED 2020)
3. Agenda for employment, Andalusian Economic Plan 2014-2020, competitiveness strategies.
4. III Study about the state of digitalization in Spanish Businesses and Public Administrations-2019 Vodafone Businesses Observatory.
5. Strategy for innovation in Andalusia RIS3ANDALUCIA
6. Diagnosis of the Grenadian business network. 2010
7. Bankia report Indicex 2017. The digitalization in Spanish SMEs. Andalusia

4. Main stakeholders

At the central government level, the entities responsible for the implementation are the Ministry of science and innovation and the Ministry of economic affairs and digital transformation. This one is responsible for the RED.ES program, a public entity linked to it through the Secretary of State for digitalization and artificial intelligence. It develops programs to promote the digital economy, innovation, entrepreneurship, training for young people and professionals and support for SMEs by promoting an efficient and intensive use of ICT.

At the regional level, digitization is led by the Office of economy, innovation, science and employment from Junta de Andalucía, responsible, among other initiatives, of the 2020 Digital Business Action Plan.

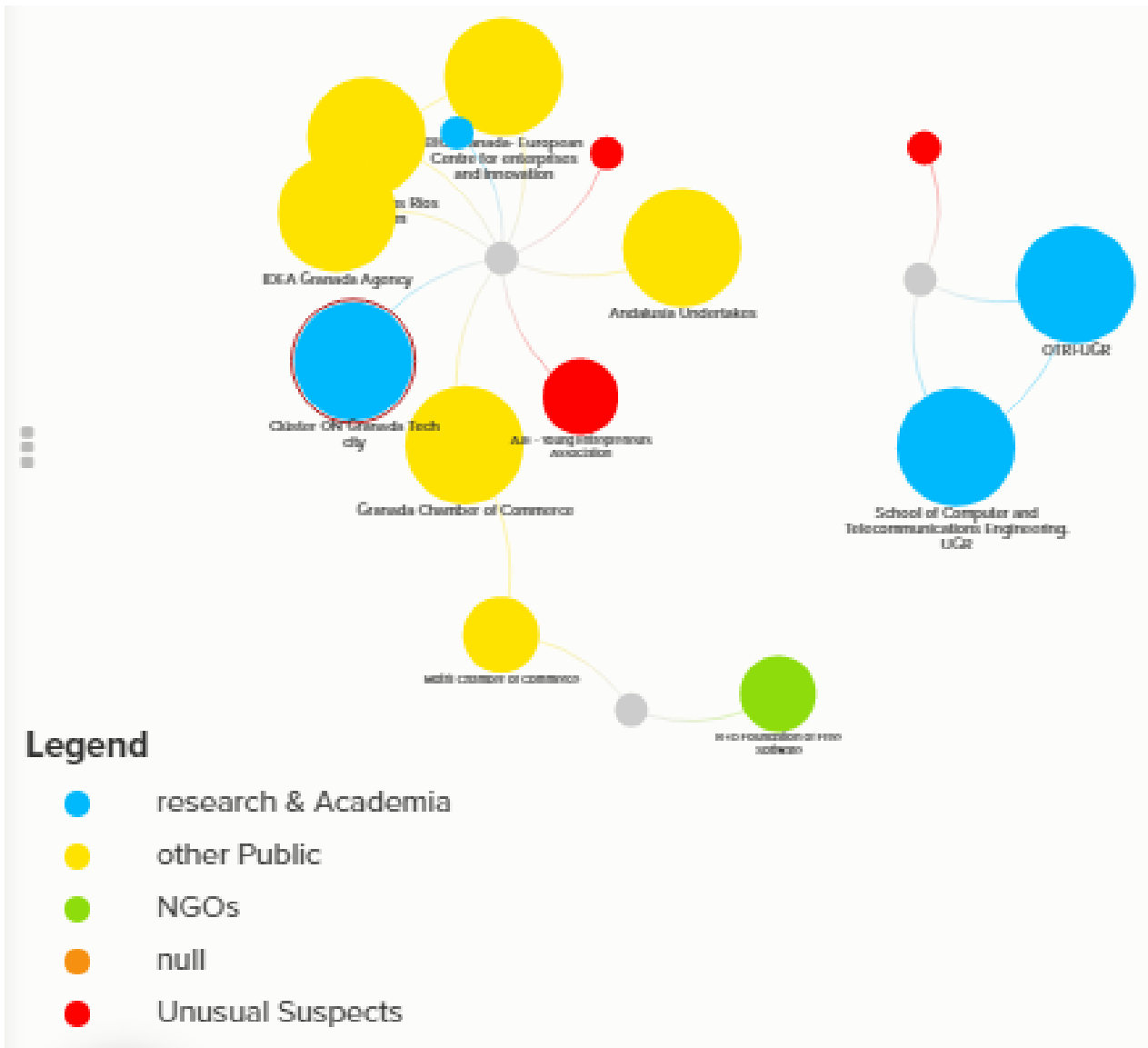
About to Stakeholders linked to the DigiBEST project in the province of Granada, we point out a first difference between those that are private or public entities. Among the former are the Granada and Motril chambers of commerce, and managers associations such as the Technological circle, Smart agri-food or On Granada.

In the public sphere we can distinguish entities committed to education, such as the University of Granada or the Fernando de los Ríos Consortium, going further to distinguish those that are provincial, such as the Provincial Council of Granada itself or are linked to the regional administration, such as the Agency IDEA or the initiative Andalucía Emprende.

	ENTITY	WEB	CONTACT	EMAIL	TELEPHONE NUMBER
1	Chamber of Commerce of Granada	https://www.camaragranada.org/	Roberto Álvarez / José Carlos López	tic@camaragranada.org ; roberto@solinsur.es ; jlopez@camaragranada.org	958 536152 ext1701
2	OTRI (Office of Researching Results Transfer) – University of Granada	https://otri.ugr.es/	Carlos Sampedro Matarín	csampe@ugr.es	958244336 656 26 04 92
3	Cluster of the Sustainable Construction of Andalusia	http://clustercsa.com/	Andrés Ferrer	info@clustercsa.com ; otd@clustercsa.com	627140178 (OTD) 665663912 (Andrés)
4	Cluster Technologic and Biotechnological ON Granada Tech city	https://www.ongranada.com/	Antonio Alcántara López (Gerente Granada ON/ Secretario Adjunto de la CGE)	antonio@ongranada.com ; maribel@ongranada.com fatima@ongranada.com	958535041 / 651071491
5	Foundation R+D for Free Software	https://www.fidesol.org/	Mabel López	info@fidesol.org ; milopez@fidesol.org	958750457/ 958750454
6	Consortium Fernando de los Ríos	https://www.consortiorefandodelosrios.es/	Alberto Corpas Novo / Gerardo Romero León	albertocorpas@guadalinfo.es ; geradoromero@guadalinfo.es	671564817/ 958897289 / 671 569 627 (Gerardo)
7	BIC Granada-European Center of Enterprises and Innovation	http://bicgranada.org/es/	Abraham Haek	ahaek@agenciaidea.es	958 002 500/ 668 820 230



8	IDEA Agency Granada	https://www.juntadeandalucia.es/organismos/economiaconocimientoempresasyuniversidad/idea.html	Valentín Pedrosa Rivas	vpedrosa@agenciai	
9	AJE – Young entrepreneurs association	http://www.ajeandalucia.org/granada/	Carlos Álvarez Navas-Parejo / Elisabeth / José Antonio	carlos@terceto.es ; gerencia@ajegranada.org ; j.martinez@jocon.es	634 585 750
10	Chamber of Commerce of Motril	https://camarademotril.es/	Adriana Paredes Escobedo	gerencia@camarademotril.es	958 82 11 60 / 958 60 91 36
11	Andalucía Emprende (Junta de Andalucía)	https://www.andaluciaemprende.es/	Inmaculada López Dionisio / María José Garrido Cano	ilopez@andaluciaemprende.es ; mjgarrido@andaluciaemprende.es	670948014 / 958 894 500
12	Smart Agrifood Startups	http://smartagrifood.org/	Juan Francisco Delgado	juanfradelgado@smartagrifood.org	671563293
13	ETS Computers and Telecoms Engineering	https://etsiit.ugr.es/	Pedro García Teodoro	etsiit-direccion@ugr.es	679740943
14	Technologic Circle of Granada	http://www.ctgranada.es/	David Arroyo / Ana Álvarez	darroyo@ctgranada.es ; darroyo@mensajerialowcost.es ; 'anaalvfrias@gmail.com'	629876286 (David) 670 895751 (Ana)



The KUMU map shows the important relationship that exists between the entities Granada (the Engineering School and the Office for the Transfer of Research Re exemplary engagement the DigiBEST project, (the OTRI contains a business's incubator).

Among the most committed, it is worth highlighting the Motril Chamber of Commerce, a public-private entity that manages, together with the Granada Chamber of Commerce, the TICCAMARAS program, recently validated as a good practice in the Policy Learning Platform.

Among the entities just engaged, it must be highlighted the Idea Agency (for Innovation and Development of Andalusia) and the BIC Granada (European Center for Business and Innovation), both institutions closely linked to each other, dependent on the Junta de Andalucía. We also highlight the OnGranada Tech City Cluster, a private association of businesses which objective is to support companies in the ICT sector through the association between them. The Fernando de los Ríos Consortium is at the same level of engagement, committed to the rural digitization of the province, a solution that has also reached many entrepreneurs to move forward the Covid-19 Crisis

5. SWOT analysis

The SWOT analysis is focused on the SMEs.

Internal Factors	
Strengths	Weaknesses
The University of Granada as a talent generator, training digital natives.	High level executives of companies lack a strategy to face the digitalization of their businesses.
Good professionals in the STEM sector, over European average.	Lack of business culture to understand the advantages of the digitalization of the companies.
The Andalusian ICT enterprises are the third in importance over the Spanish average.	The cost of digital transformation is understood as a waste of money rather than a benefit.
There are ICT business located in the region, that count with a good-qualified staff.	The enterprises are not used to reserve some money for digitalization in their annual budget.
Local, regional and national administrations know European digital transformation programs.	Lack of cooperation culture between the micro and SMEs. Few cooperatives to tackle the global market.
Awareness about digital transformation advantages.	Micro and SMEs often lack technological skills.
Digital natives have more abilities and easiness for integrating into the ICT labour market.	Internet use below the European average.
	Lack of information on how to access funding through the different projects and programs available.
	Lack of commercial vision of ICT business.
	Lack of flexibility of technology suppliers with the SMEs (offered products are not adapted to the needs of SMEs).



	Static websites without updating, without maintenance and with old design.
	Few businesses are using the e-commerce.
	Digital security and data protection policies do not have a great implementation in SMEs.

External Factors	
Opportunities	Threats
Almost everything is to be done to advance in SMEs digital transformation in the region.	Non-stable macroeconomic environment directly affects the weakness of some SMEs (Recession).
Granada as a city with a good life quality to stay.	Delay in the development of a unification policy of the European digital market.
Priority of the European strategic policies on the digital transformation of the SMEs.	Lack of coordination between administrations to offer services for the digitalization of the SMEs.
Great development of the Spanish Government electronic administration.	Complexity of the e-commerce and security regulations.
Strong networking between private and public agents involved in the digital transformation.	The best job conditions outside of Andalusia.
Competitiveness of the professionals of Granada comparing with the European average.	Inertia of some SMEs executives to change business management procedures (tendency to remain unchanged)
	Professional intrusion in the ICT sector (people without technical capacity to deal with ICT problems who are nevertheless involved in ICT sectors (Pirates))
	Difficulties in accessing financing, and the time-consuming to obtain the funds.



6. Policy on and support instruments for digitalization of

6.1. Main features of the national, regional and local policies towards the digitalization of SMEs

National level

ICT Strategy

https://administracionelectronica.gob.es/pae_Home/pae_Estrategias/Estrategia-TIC.html

https://www.mineco.gob.es/stfls/mineco/prensa/ficheros/noticias/2018/200723_np_agenda.pdf (the Digital Transformation Plan is also included in the “Digital Spain 2025” initiative)

The Digital Transformation Plan of the General Administration of the State and its Public Organizations, the so-called **ICT Strategy**, constitutes the global strategic framework to advance in the digital transformation of the Spanish Administration, establishing its guiding principles, objectives and actions to achieve it, as well as the gradual development milestones of the Digital Administration until 2025.

The **ICT Strategy** incorporates the OECD recommendations for the elaboration of digital administration strategies and it fosters itself in the close relationship with the acts, policies and services of the European Union, aligning itself with the digital agenda for Spain and the new strategy of the European Commission for the Digital Single Market. Likewise, it is a clear instrument for the application of the new laws 39/2015, of October 1, of the Common Administrative Procedure of the Public Administrations, and the 40/2015, of October 1, of the Legal Regime of the Public Sector.

The construction of the **ICT Strategy** has been enabled by the Information Technology and Communications Department (ITCD) since the end of 2014. Its launch has been a collaborative process in which have participated many of the different departments of the AGE, through its governance bodies, to reach a general consensus.

National Connected Industry 4.0 Strategy

<https://www.industriaconectada40.gob.es/programas-apoyo/Paginas/programas.aspx>

Aware of the importance and significance of digital transformation for Spanish industry, since 2015, the **Spanish General Secretariat for Industry and SMEs** develops the main contents of its **Connected Industry 4.0 Strategy**.

This strategy that comes of a participatory process, the public and private sectors have analysed not only the challenges of the industry in the face of this fourth industrial revolution, but also have advanced the contents of the strategy that must go along with the transformation of the industrial company towards digitization.

The Connected Industry 4.0 Strategy responds to a triple objective:

1. To increase industrial added value and qualified employment in the industrial sector.



2. To boost the future industrial model for the Spanish industry, in c industrial sectors of the Spanish economy, increasing its potential gr local offer of digital solutions.

3. To develop differential competitive levels in order to favour the Spanish industry, fostering its exports.

With those main objectives, is developed a Plan with four lines of action and 8 strategic areas, with their corresponding actions.

The four main lines are:

1. Awareness and training.
2. Collaborative environments and platforms.
3. Boost to digital enablers.
4. Support for digital evolution in the industry.

Strategy for the promotion of industry 4.0 in Spain

<https://doeet.es/wp-content/uploads/descargas/Catalogo-I40-CCAAAGE.pdf>

That document has been written up with the aim of identifying the initiatives that, in terms of promoting Industry 4.0, are being carried out in the Central and Autonomous Administration. In each Autonomic region, the initiatives have been analysed according to 4 key aspects:

- Awareness-raising, which includes all those actions aimed at the dissemination, training and awareness-raising of the business network, regarding to the benefits, characteristics and impacts that Industry 4.0 can have on the different economic sectors.
- Strategy, which analyses the existence of a frame of reference over time, under which are joint those actions focus on the promotion and effective implementation of Industry 4.0 solutions and tools in each region.
- Advice, which refers to the implementation of services or active support programs for the implementation of Industry 4.0 in sectors and businesses in the region.
- Financial support, which analyses the existence of a framework of financial supports and non-refundable grants to stimulate actions leading to the adoption of Industry 4.0 solutions.

Regional level

According to the **Strategy for the promotion of industry 4.0 in Spain**, in Andalusia this tool is focus on:

Awareness raising

- Conference on Digital Transformation in different productive sectors.
- Conference Enabling Technologies in Industry 4.0 focus on ICT sector
- Industry 4.0 awareness program focus on industrial companies (2018)
- Diagnosis of Industry 4.0 in Andalusia (2018)



Andalusia Industrial Strategy (AIS⁴⁵)

<https://estrategiaindustrialdeandalucia.org/wp-content/uploads/2017/01/6c111-3655d9e83.pdf>

and Promotion Strategy of the ICT sector (TIC 2020)

[https://www.tic2020.andaluciaesdigital.es/documents/20182/378204/TIC2020\(2\).pdf/77467c5f-51af-46b1-951f-998259f82f61](https://www.tic2020.andaluciaesdigital.es/documents/20182/378204/TIC2020(2).pdf/77467c5f-51af-46b1-951f-998259f82f61)

Working with different instruments like:

- **Industry 4.0 Working Group** for the development of identified opportunities within the scope of Industry 4.0.
- **Digital Business Action Plan.**

Focus on financial support through

- Incentive program for digital transformation in SMEs (€ 37 million): analysis and diagnosis and transformation services hiring in the following areas: electronic commerce, electronic marketing, digitalization of business processes, digital trustworthy. Grants of 50% / Max € 75,000
- R&D incentive program (84 million €). Experimental development and Process innovation and Organization projects. Collaboration projects and Singular projects. Units joint innovation: collaboration projects between businesses. Financing for participation in international R + D + I project. ANERANET (R&D project at Business 4.0 sector)

Focus on advising services through

- In development of the Connected Industry 4.0 Agreement with Andalusia:
- HADA, dissemination of the self-diagnosis tool.

Calling for Active Industrial 4.0 grants.

- Digital Company Program focusses on SMEs.
- Preparation of a map of Andalusian capabilities in BigData and IoT
- New Big Data and IoT solutions, focus on ICT sector.
- Digital Innovation Quotient. (IMPROVE Diagnostic and Benchmarking Program for Digital Innovation.)
- Brokerage Events, through the EEN network.
- Support for the search for international collaborative R&D project partners through the EEN

2020 Digital Business Plan. (PAED 2020)

<https://www.juntadeandalucia.es/organismos/economiaconocimientoempresasyuniversidad/areas/empresas-emprendedores/paginas/plan-accion-empresa-digital-2020.html>

Divided into three phases, with specific objectives:

⁴⁵ <https://www.juntadeandalucia.es/organismos/consejo/sesion/detalle/209332.html>



- 1st phase

To know the degree of digitization of Andalusian businesses and influence into their digital transformation

- 2nd phase

To identify the challenges facing by Andalusia, prompting the objectives to be achieved in 2020.

Define a PAED evaluation and monitoring plan.

- 3rd phase

Define and plan the necessary actions to achieve the specific objectives.

All the work develops at citizens and companies' disposal

Strategy for innovation in Andalusia RIS3ANDALUCIA

<https://www.juntadeandalucia.es/export/drupaljida/Documento-Ris3-version-final-8-27-02-15.pdf>

An advanced Andalusia, which decisively promotes new social and economic models based on research and innovation and with the support of the Andalusian Innovation System, a system already consolidated from the perspective of its human and material resources, made up of public organizations from research (Andalusian Universities, CSIC, IFAPA and the research system related to health, among others), private agents and innovative companies, which are shaped as the main generators of knowledge. A system that will have a wide range of science, technology and innovation agents that will guarantee that transfers are made to businesses.

It is also an advanced Andalusia that fosters the creation of new businesses based on knowledge and talent, which will be the basis of a new model of social and economic development for the region. These businesses will be the pillars of an avant-garde industry, which, incorporating enabling technologies, will develop innovative products and services, transforming those traditional production activities in which Andalusia is already a benchmark, such as agriculture or those that combine tradition and innovation such as crafts, making them more competitive and taking them to higher added value environments.

Main objectives:

- To make Andalusian public administrations highly innovative and that their services and relations with citizens were carried out by applying the best means, techniques and tools that the technological developments allow.
- To put R&D&I expenditure in relation to GDP at 2.2%
- To get the private sector to represent 50% of R&D&I spending.
- To increase the intensity of innovation in innovative businesses by 20%.
- To increase the number of people dedicated to research by 20%.
- To double the number of innovative businesses and the amount of spending dedicated by them to innovation.
- To achieve 100% fast broadband coverage and 50% of households with connections greater than 100 Mbps.
- To achieve that 40% of Andalusian businesses, join the digital market.



- To achieve that 85% of the population has incorporated the ha their personal and professional life.
- To achieve that 40% of citizens and 100% of businesses interact with the Administration through the Internet.

Local level

Program of **Assistance and Cooperation for Local Economic Promotion**

<https://www.dipgra.es/seccion/AsistenciaMunicipios/>

6.2. Support instruments to promote SMEs digitalization

The Policy instrument tackled within DigiBEST is the Program of **Assistance and Cooperation for Local Economic Promotion**, with the aim to shape the services that the Provincial Council of Granada offers in agreement to all local entities in the province. The main objective is to provide them with the necessary response capacity to meet the needs and demands of the entrepreneurial community and the productive network of its territory.

The program is divided into two subprograms,

1. **Promotion of local economic initiative.**
2. **Development of local productive activity.**

Of these two subprograms, the second is divided in turn into:

- 152B1 Assistance to municipal policies to support entrepreneurs and businesses.
- 152B2 Cooperation with local business centers.
- 152B3 Support to strategic sectors.

Of these three, it is possible to link with the strategy of the business's digitalization the first one, which lies in offering all local entities in the province the provision of free advice in the following issues:

- Local entrepreneurs who require technical assistance from the business idea analysis to the effective setting in the company.
- SMEs and local freelancers who require technical assistance to promote or consolidate a business already in operation, in which case the issue of the Businesses Digitization may play a relevant role.

This subprogram is based on the use of the “Granada Empresas” platform (<https://www.granadaempresas.es>) as an online access mechanism for contents of maximum business utility and work tools hosted in the cloud.

7. Analysis and identification of good practices

These good practices were selected for different reasons:

- They are initiatives promoted by the central or regional government, which provide funds to local and provincial entities to launch the governments initiatives and digitalization projects, thus reaching a bigger number of beneficiaries.
- They intend to cover the entire territory of the province, not only focusing on most populated areas, but into rural areas, that supposed a clear commitment with the rural develop.
- These are initiatives that require cooperation agreements with public and public-private entities.
- They are based on a clear commitment to entrepreneurs training and mentoring, for going along with business initiatives that are involved with digitization but that need consultancy services. That foster both the ICT business that provide support and the start-ups that need it.

[Table 11. Description of the Good Practice 01](#)

Good practice general information	
Title of the good practice	<u>“Digital Advisors” programme</u>
Category of the good practice	<i>Please choose one of the categories:</i> <ul style="list-style-type: none"> • <i>Enabling environment;</i>
Organisation in charge of the good practice	<i>RED.ES</i> <i>Red.es is a public corporate entity belonging to the Ministry of Energy, Tourism and the Digital Agenda, and which depends on the Secretary of State for Information Society and Digital Agenda.</i> https://red.es/redes/
Description	
Short summary of the practice	<i>Promotion of the digital transformation of SMEs through individualized advice by specialized agents (digital advisors).</i>
Resources needed	<i>The budget for this programme is EUR 5 million, it is financed by the ERDF and co-financed by the Operational Program for Smart Growth.</i> <i>Red.es allocates up to 80% of the costs of specialized advisory services, with a max amount of 5,000 EUR per SME. The SMEs must co-finance at least the remaining 20%</i>
Timescale (start/end date)	<i>November 2017 – ongoing</i>
Evidence of success (results achieved)	<i>267 Spanish SMEs are presently participating in the programme (133 are specifically from Andalusia). These SMEs are receiving financial support of up to 5.000 EUR for the contracting of advisory services in the digitalization of their business.</i> <i>Moreover, there are 79 enterprises registered as Digital Advisors.</i> <i>The Digital Economy and Society Index (elaborated by the European Commission) for 2018 report highlights the work carried out by the Red.es with programs such as Digital Advisors.</i>

Potential for learning or transfer	<p><i>The Spanish government (through the public) launched a grant programme to promote the digital transformation of SME. This good practice is easily transferable to any region or EU member state. The entity responsible of the programme, through a general invitation, prepares a list of providers of digital advice services: Registry of Advisors. For the incorporation to this Registry of Advisors, an application must be submitted.</i></p> <p><i>This programme is an efficient way to transfer funds to SMEs to initiate their digital transformation process. So, SMEs can obtain a specialized and personalized advice service that is specified in the realization of a Digitalization Plan for the incorporation of ICTs in SME processes.</i></p> <p><i>Any SME which wants to participate in the program must send all the required documentation in the call.</i></p>
---	---

Source: adjusted by the author using the Interreg Europe Good Practice template from the Interreg Europe website: <https://www.interregeurope.eu/policylearning/good-practices/>

Table 12. Description of the Good Practice 02

Good practice general information	
Title of the good practice	<i>Guadalinfo - a social network of inhabitants in Andalusia</i>
Category of the good practice	<p><i>Please choose one of the categories:</i></p> <ul style="list-style-type: none"> • <i>Enabling environment;</i>
Organisation in charge of the good practice	<p><i>Consortium Fernando de los Ríos</i></p> <p>https://www.consortiofernandodelosrios.es/</p>
Description	
Short summary of the practice	<i>Guadalinfo offers a free accessible public space in the internet which aims to generate projects and initiatives and stimulate the transformation of local areas</i>
Resources needed	<i>The budget for Guadalinfo is about EUR 19,3 million. Guadalinfo has about 800 centres rooted in Andalusia with 800 Local Innovation Agents.</i>
Timescale (start/end date)	<i>2001 – ongoing</i>
Evidence of success (results achieved)	<p><i>Guadalinfo developed 70.000 activities in 2017, 90.000 in 2018 and 100.000 in 2019. About 10.000 entrepreneurs and 5.000 SMEs participated in one or more activities related to digital transformation in 2019. Currently platform has more than 1 million users.</i></p> <p><i>The region has improved in IT literacy in the Guadalinfo towns, benefiting in particular people, entrepreneurs and SMEs in rural areas and those with traditionally more difficulties in accessing ICTs. 53% of the users, for example, are women.</i></p>



<p>Potential for learning or transfer</p>	<p><i>During the development years of the Guada Government of Andalusia received numerous interest from the other Spanish regions and countries due to the high transferability of the project at national and international level. In particular, there has already been an exchange of experience with Bolivia, Brazil and Romania as well as various relationships which have been developed with the other Spanish Autonomous Communities.</i></p> <p><i>In terms of good practice for developing the Information Society, Andalusia's Ministry of Innovation particularly points out its choice to pursue a strategy based on free software as a way of combating the limitations caused by property software. The advances achieved in providing citizens with training resources, providing SMES tools for digital transformation and the development of a model encouraging cooperation between local bodies can be considered a point of reference for other initiatives with the same aims. In fact, the lockdown due to Covid-19 crisis has shown how important are the initiatives of Guadalinfo, because thanks them, many businesses have maintained part of their activities during those months.</i></p>
--	--

Source: adjusted by the author using the Interreg Europe Good Practice template from the Interreg Europe website: <https://www.interregeurope.eu/policylearning/good-practices/>

Table 13. Description of the Good Practice 03

Good practice general information	
<p>Title of the good practice</p>	<p>Digital transformation offices (OTDs)</p>
<p>Category of the good practice</p>	<p><i>Please choose one of the categories:</i></p> <ul style="list-style-type: none"> • <i>Enabling environment;</i>
<p>Organisation in charge of the good practice</p>	<p><i>RED.ES</i></p> <p><i>Red.es is a public corporate entity belonging to the Ministry of Energy, Tourism and the Digital Agenda, and which depends on the Secretary of State for Information Society and Digital Agenda.</i></p> <p>https://red.es/redes/</p>
Description	
<p>Short summary of the practice</p>	<p><i>Creation and consolidation of Digital Transformation Offices to facilitate the digitalization process of the Spanish SMEs and promote digital entrepreneurship.</i></p>
<p>Resources needed</p>	<p><i>The total programme aid is EURO 5 million, divided into EUR 100 and 200 thousand per office to develop the action plan. It is co-financed by the managing entity (e.g. association or professional college) with a min of 20% of the eligible budget. The programme OTD is financed by the ERDF (EUR 5 million) and co-financed by the Operational Program for Smart Growth.</i></p>



Timescale (start/end date)	<i>March 2019 – March 2020</i>
Evidence of success (results achieved)	<p><i>Red.es has selected 28 entities in Spain (2 in Gr Sustainable Construction and Cluster of Technology and Biotechnology).</i></p> <p><i>From March 2019 to March 2020, both clusters have organised more than 240 events and activities focused on dissemination of the advantages of digitalization for SME's.</i></p> <p><i>The Digital Economy and Society Index (elaborated by the European Commission) for 2018 report highlights the work carries out by Red.es with programs such as Digital Transformation Offices.</i></p>
Potential for learning or transfer	<p><i>This good practice is easily transferable to any region or EU state member. The entity that transfers the funds must open a public call addressed to the sector associations and professional colleges.</i></p> <p><i>Professional associations and colleges attend this call by submitting an application that includes an Action Plan with the actions to be carried out. The eligible actions are:</i></p> <p><i>a) Dissemination actions: To communicate to a group of SMEs users the advantages or necessary methodologies for the implementation of technological solutions.</i></p> <p><i>It also contemplates the realization of actions promoting digital entrepreneurship.</i></p> <p><i>These actions can be developed in the form of conferences or seminars in order to spread the advantages of using technologies and encourage their adoption.</i></p> <p><i>b) Supporting actions: To provide a service of attention to SMEs to solve questions about solutions and / or methodologies to improve the management of the company through the use of ICT.</i></p>

Source: adjusted by the author using the Interreg Europe Good Practice template from the Interreg Europe website: <https://www.interregeurope.eu/policylearning/good-practices/>

Table 14. Description of the Good Practice 04

Good practice general information	
Title of the good practice	<u>TICCAMARAS</u>
Category of the good practice	<p><i>Please choose one of the categories:</i></p> <ul style="list-style-type: none"> <i>• Enabling environment;</i>
Organisation in charge of the good practice	<p><i>SPANISH CHAMBRE OF COMMERCE</i></p> <p><u>https://www.camara.es/</u></p>
Description	



Short summary of the practice	<i>Programme providing to local SMEs a serie activities and support to help their digitalizati applications of IT.</i>
Resources needed	<p><i>The 1st phase costs 1.200 euros per SME, and also TICCámaras helps with 4.900 euros more to implement the 2nd phase.</i></p> <p><i>For example, Chamber of Commerce of Motril advises about 12 SMEs per year. So, TICCAMARAS Motril needs 73.200 euros each year. In this case, the human resources required are just one person.</i></p> <p><i>In Spain, Chambers of Commerce advises more than 1.000 SMEs each year thanks to TICCAMARAS.</i></p>
Timescale (start/end date)	<i>March 2014 – March 2020 (annually renewed).</i>
Evidence of success (results achieved)	<p><i>Since 2014, 60 local businesses have participated in TICCAMARAS Motril and increased their productivity by using digital marketing, e-commerce and business management tools by using cloud technology.</i></p> <p><i>In addition, every year Chamber of Motril organizes seminars aimed at SMEs in order to explain the advantages of IT usage.</i></p> <p><i>Each year, TICCAMARAS in Spain has the following global results:</i></p> <ul style="list-style-type: none"> ● <i>More than 1.000 Diagnoses to SMEs</i> ● <i>More than 1.000 IT plans implemented in SMEs</i>
Potential for learning or transfer	<p><i>We consider this practice as potentially interesting for other European regions. A lot of SMEs do not invest in IT if they are not motivated. Thanks to TICCAMARAS many of them are starting their digital transformation and, as a result of this process, are increasing their competitiveness. The evaluation of TICCAMARAS shows that the amount of money received for each SME is enough for these companies (up to 4 900 euros). Moreover, this economic incentive requires an effort for SMEs, hiring IT services for 7.000 euros. In this way, TICCAMARAS is motivating a lot of SMEs to initiate their digitalization.</i></p> <p><i>We firmly believe that one of the key factors of TICCAMARAS is that once the SME is advised, they have to pay the IT investment, proving the expenses.</i></p> <p><i>This program was initially implemented by Chamber of Commerce of Spain and later it was spread through 36 local Chambers of Commerce around the country, such as Motril, Madrid, Valencia, Sevilla, Mallorca, etc.</i></p>

Source: adjusted by the author using the Interreg Europe Good Practice template from the Interreg Europe website: <https://www.interregeurope.eu/policylearning/good-practices/>



8. Finding and conclusions of the Digital Assessment Survey

The idea of this chapter is to present findings and conclusions from the Transformation Survey.

The 66,20% of Grenadian businesses that have completed the survey have 1 to 10 employees (in fact, more of them are self-employed), meanwhile the 25,35% of them have between 11 to 50 employees. Fifty companies participated in the survey finally.

The sectors that have participated in the survey are mainly food and beverage production (14,08%) followed by service companies (12,68%) and construction companies and legal and financial services for businesses, both with the same level of participation (8,86%)

When asked if they think that digitization will benefit their companies, there is a majority of 94,37% who think so.

- This may be due to a general belief collectively assumed

The expected benefits of digitization coincide with the main objectives of any business that are:

- New customers 14,34%
- Business visibility 13,98%
- Increase in sales volume 13,26%
- Improve customer experience 12,54%

However, it should be noted that responses such as opening up to international markets, or improving procedures, innovation or operation costs reduction barely reach 8% (all of those chapters). In other words, businesses continue to see digitization as something that makes them gain customers and visibility (which too), rather than as an opportunity for saving on procedures, business innovation to facilitate the management of it, and business internationalization.

About the connection the businesses use, most of them choose optical wire (47,00% more easily due it is the main market offer in a reasonable price), and it has to be noticed that there are a 15,66% of businesses that still use the mobile to connect them to internet. In general, it seems that most of the interviewed are agree with the type of access they use to go through internet, but near to a 33% of them will prefer to improve their usual way of browsing.

About technologies that each one has introduced in his business, there is a big variety of the responses, and that seems that there is not a clear strategy to affront digitalization in the companies. The most valued technology is the wireless one (32,00%), followed up by cloud computing and database (both in a 12,67%). We wonder if all the businesses that have answered the survey know the exact meaning of each term included in it. It must be highlighted that all the business interviewed have faced any action to introduce new technologies in their companies

About technological solutions for information and communication, the Grenadian businesses mainly use the data storage (30,43%), the SOE (18,84%) and the customers management (15,22%). Data storage has the advantage of being very intuitive and with an easy way to access for the companies. The implementation of the electronic invoices also has an important degree of acceptance into the businesses, a percentage of 14,49 %.



To the question about the possibility to introduce digital technologies answers are very different, but mainly are related with the use of the diversity lets a first conclusion about the business digitalization lack of knowing, due to each company understands its needs without referents or clear criteria.

Regarding the implementation in the next 3 years of information technology solutions and services, the business owners choose solutions that favor customer management (16,03%) and SEO (16,79%), together with the need for digital billing (19,08%). The importance of this last issue is undoubtedly due to the fact that, in the technological solutions already used, the readable billing by automated processing only represents 13,86%, so it is detected that managers need to solve this problem, and propose it as a priority to be implemented in the next 3 years.

Of all those who have responded so far, the 5% think that they will not implement IT solutions and services in the next 3 years. Especially because they think that they do not need them or have not showed interest in them, while the other reason highlighted is that they do not have employees who can manage them, so it is better to remain in their current situation.

There is unanimity regarding the usefulness of e-banking: 96,30% of respondents use it regularly.

However, regarding the use of public service portals or public tools available and free, 20,37% of respondents are unaware of them or do not feel trained to handle them.

73,58% of respondents use regularly e-commerce, among them only 18,33% have made order transactions through their own applications or websites. So e-commerce has been used more to acquire goods (which could reflect that electronic commerce is more developed outside the province of Granada than between companies in the territory). In other words, businesses buy more than they sell through this system. Acquisitions are made both nationally and internationally.

The remaining 21,95% do not use e-commerce at all, because they believe that there is no global strategy for e-commerce, lack of knowledge of foreign languages, or because businesses prefer to have direct contact (face to face) with their customers.

As a data to consider, only 30,65% of respondents have a business website, which greatly limits transactions through e-commerce. Business with social networks move at similar percentages: 28,23% of them use Facebook or LinkedIn. Own blogs or networks as Twitter are used by a total of 19,35% of the companies that have participated in the study. In conclusion, these types of tools are underused by the province business. They are not that popular because those who do not use them understand that they require a lot of dedication, and they are not that easy to use. And if we take into account that the majority of Granada business are self-employees, they may not have the time to manage and keep them updated.

Only 58,00% use digital security tools, and of this percentage, only a quarter have antivirus that is regularly updated. Just over 12,00% of respondents back up their documents, a similar percentage to those who have data protection on each of their devices.

Of the 40,00% who do not use digital security tools, slightly more than 70,00% are unaware or lack experience with them, so they prefer not to apply them.

53,06% of the businesses that have participated in the survey are aware that they lack a corporative strategy of digitalization. Only 14,29% of them have implemented it, comparing with the 22,45%



who tell they want to implement it in the next 3 years. Regarding business owners, 60,00% of them have workers who have basic digital knowledge, and only 24,49% of business owners have employees with an advanced level in handling digitization tools. It is interesting that 10,55% of Grenadian companies hire IT professionals, probably to manage the SEO and their websites and social networks.

Finally, to the question of what would be necessary to promote digital transformation in each business, the answers are very dissimilar, without a clear consensus between the different options proposed, which could show a certain lack of real awareness about the advantages of digitalization. It seems that the topics that stand out the most among business owners are the need for digitalization support programs for both employees and managers (24,00%), as well as training in general (20,00%). Individualized consultancies that could study the case of each business, recommending specific measures, and the use of manuals with requirements and practical examples on how digitalization can improve a company, barely reach the 16,00% share of adhesion by the businesses surveyed.

9. Conclusions and recommendations

SMEs in Andalusia and Granada have an important path to go through, especially micro-SMEs that are below the national average in almost all the digitization development indicators that have been analysed. So, it has to be recommended:

Awareness

Business managers have a low perception on how important the digitalization is. There is a huge lack of knowledge about how to handle the digital transformation process, both on the different digital solutions that can be found in the market and the benefits that they could bring to the business.

All this shows the need to start actions to raise awareness of the business managers, with the intention of transmitting what and why the digital transformation of their business is important.

A support and specialized mentoring from a strategic perspective, that ensures that the digital transformation process is performed in an orderly manner, adapted to its reality, including a re-foundation of the staff culture and organizational capabilities, so that the managers acquire the necessary skills to manage the new tools and procedures.

A place to start would be the increase of digital competence and knowledge about tech opportunities for each special line of business.

The Covid-19 crisis has demonstrated the need to go ahead with all the digitalization tools to preserve the economy and jobs in a global market and in a changing environment.

Coordination and cooperative experiences

There are some barriers for business digitalization, such as the digital solutions' prices or lack of resources that prevent business from initializing digital transformation processes. Therefore, it will be necessary to directly support the business, facilitating the access to needed resources to tackle all of those transformation procedures⁴⁶.

Becoming a part of a specialised ecosystem or a group could make possible for SMEs to hire one highly qualified person to work with several small businesses, which could meet the challenge of brain drain and high personnel costs for a person that is only needed part-time. Creating a cooperative system might facilitate costs sharing and find a unified marketing strategy.

A flexible system for project financing is needed for each digital transformation process. For micro and SMEs in the region of Granada, especially rural business, the access to funds is quite difficult, both from public and private resources. If the SMEs will unite in a joint structure, it may be easier to negotiate and to get some financial advantages.

A cooperation system between the different business incubators in the region (Granada Provincial Council, University of Granada), would be an easy way to start a digitalization strategy in SMEs from a first stage. In those businesses "in process", accepting the implementation of digital procedures would be an essential point to dwell a new company.

⁴⁶ 2020 Digital Business Plan. (PAED 2020), pag 22



Commercialisation and networking

Security and connectivity are the digital services that most concern con regional average is below the Spanish average in both cases. Both are possible prospective markets to invest in.

Businesses in Granada often hire external local suppliers to get minimum digitization standards. In addition,⁴⁷ ICT companies in Granada have a wide presence and implementation and, due to the training support of the University of Granada through its technical schools, for example, they offer a high level of quality in the services they provide.

But it looks like that the local ICT businesses do not have an easy connection with rural micro and SMEs, and at the same time, the rural businesses are not aware about the services that facilitate the digitalization that ICT companies offer. So, it is essential to create and nurture a regional network where all these businesses have the opportunity to meet each other.

The Andalusian Technology Park in Malaga has recently been included into the European Catalogue of Digital Innovation Hubs (DIH)⁴⁸, which considers an opportunity to develop the digitalization of the businesses hosted in neighbour regions, such as Granada.

⁴⁷ III Study about the state of digitalization in Spanish Businesses and Public Administrations-2019 Vodafone Businesses Observatory.

⁴⁸ Bankia Report for Andalusia Indicex 2017: The SMEs digitalization in Spain.



Bibliography:

1. Agenda for employment, Andalusian Economic Plan 2014-2020, competitiveness strategies.
<https://www.juntadeandalucia.es/servicios/publicaciones/detalle/77672.html>
2. Andalusian Digital Business Plan. (PAED 2020)
<https://www.juntadeandalucia.es/organismos/economiaconocimientoempresasyuniversidad/areas/empresas-emprendedores/paginas/plan-accion-empresa-digital-2020.html>
3. Bankia report Indicex 2017. The digitalization in Spanish SMEs. Andalusia
<https://www.bankia.com/recursos/doc/corporativo/20180103/2018-castellano/informe-bankia-indicex-andalucia-2017.pdf>
4. Diagnosis of the Grenadian business network. 2010
<https://www.granadaempresas.es/wp-content/uploads/2016/12/diagnostico-del-tejido-empresarial-de-la-provincia-de-granada-0.pdf>
5. Digital Agenda for Spain.
<https://sie.fer.es/recursos/richtmg/doc/18985/2013-02-19%20Anexo%20%20Presentaci%C3%B3n%20Consejo%20Ministros%2015%2002%20-%20Agenda%20Digital%20para%20Espa%C3%B1a.pdf>
6. Program of Assistance and Cooperation for Local Economic Promotion.
<https://www.dipgra.es/seccion/AsistenciaMunicipios/>
7. Granada Provincial Council, DigiBest Application Form.
8. Strategy for innovation in Andalusia RIS3ANDALUCIA
<https://www.juntadeandalucia.es/export/drupaljda/Documento-Ris3-version-final-8-27-02-15.pdf>
9. Strategy for promoting the ICT sector in Andalusia 2020.
[https://www.tic2020.andaluciaesdigital.es/documents/20182/378204/TIC2020\(2\).pdf/77467c5f-51af-46b1-951f-998259f82f61](https://www.tic2020.andaluciaesdigital.es/documents/20182/378204/TIC2020(2).pdf/77467c5f-51af-46b1-951f-998259f82f61)
10. III Study about the state of digitalization in Spanish Businesses and Public Administrations-2019 Vodafone Businesses Observatory.
<https://www.observatorio-empresas.vodafone.es/informes/informe2019/>
11. 2019 Labour Market in Granada Report. Data 2018. Observatory of occupations. Ministry of Labour, Migrations and Social Security. Government of Spain. Edition made by the Public State Employment Service. Condesa de Venadito, 9. 28027 - Madrid2020
https://www.sepe.es/SiteSepe/contenidos/que_es_el_sepe/publicaciones/pdf/pdf_mercado_trabajo/2019/Mercado-de-Trabajo-Provincial-2019/Mercado-de-Trabajo-2019-Granada--Datos-2018-.pdf
12. <http://www.juntadeandalucia.es/servicioandaluzdeempleo/web/argos/web/es/ARGOS/index.html>
13. https://www.juntadeandalucia.es/export/drupaljda/doc_resumen_diagnostico_pitma_21_27.pdf
14. <https://www.juntadeandalucia.es/temas/transporte/carreteras/red.html>



15. https://www.juntadeandalucia.es/export/drupaljda/ESITA_2020.pdf
16. <http://www.juntadeandalucia.es/institutodeestadisticaycartografia/28Febrero/tema.htm?t=economia&i=02180#indice>
17. https://www.juntadeandalucia.es/institutodeestadisticaycartografia/badea/operaciones/consulta/anual/14774?CodOper=b3_65&codConsulta=14774
18. <https://www.ideal.es/granada/granada-recuperado-ultimos-20190107213844-ntvo.html>
19. <http://www.juntadeandalucia.es/institutodeestadisticaycartografia/salud/index.htm>