

TRADE UNIONS IN THE DIGITAL AGE: COUNTRY FICHE ON SPANISH MANUFACTURING SECTOR

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1.

GOVERNMENTAL POLICIES FOR THE DIGITALISATION OF THE ECONOMY

Spain is one of the most decentralised countries in Europe. From an administrative point of view, it has a central government, 18 Autonomous Communities that are divided into provinces and 2 Autonomous Cities. Each Autonomous Community has its Statute of Autonomy, approved by organic law, which is the basic institutional norm of the Community, regulating essential aspects such as the organisation and operation of its Parliament and its Government. The powers that the Community assumes, its Administration, the hallmarks and differential facts such as language or civil law and relations with the State and with other Autonomous Communities. In terms of policies that affect the entire country, it is the central government that defines the ideas for actions to be subsequently applied at the level of the Autonomous Communities. Regarding digitisation, Spain has various governmental strategies, such as Connected Industry 4.0 [*Industria Conectada 4.0*], with its support programmes (e.g. *ACTIVA Industria 4.0*, *ACTIVA Financiación*, etc.), Recovery, Transformation and Resilience Plan for the Spanish Economy, and Spain Digital 2025 [*España Digital 2025*].

Connected Industry 4.0 [*Industria Conectada 4.0*]. The initiative was launched in 2015 and its objective is to promote and implement digital technologies in industry in order to increase the competitiveness of Spanish industry in a global market with the development of an Industry 4.0 model. It revolves around four main lines of action:

- Line 1. Guarantee the knowledge and competences of industry 4.0:
 - Awareness and communication: guarantee knowledge about industry 4.0 and its enablers and benefits.
 - Academic and work training: ensure the availability of competences for industry 4.0.
- Line 2. Foster multidisciplinary collaboration:
 - Foster collaboration by promoting environments and platforms adapted to industry with a focus on 4.0 technology.
- Line 3. Promote the development of available enablers:
 - Boost the development of digital enablers: promote R&D&I in I4.0 technologies.
 - Provide support to technological companies: boost company development among technological suppliers.
- Line 4. Promote adequate measures to implement industry 4.0:

- Support the adoption of I4.0 by industry: foster and facilitate the implementation of industry 4.0.
- Standardised regulatory framework: guarantee adequate conditions for its implementation and stimulate investment.
- I4.0 projects: promote solutions and specific projects.

ACTIVE Industry 4.0 [*ACTIVA Industria 4.0*]. It was launched in 2017, in collaboration with all the regional authorities (Autonomous Communities) of Spain. It is a specialised and personalised consultancy programme carried out by certified consultants with experience in the implementation of Industry 4.0 projects, which will permit more than 350 companies to receive analyses of and plans for their digital transformation.

ACTIVE Financing [*ACTIVA Financiación*]. Its objective is the support of R&D&I projects related to Industry 4.0. This is a programme of preferential loans with EURIBOR interest rates, allocated for the implementation of digital solutions in Spanish industry, which would finance the implantation of key enabling technologies.

Recovery, Transformation and Resilience Plan for the Spanish Economy. The most important digitalisation strategy has been initiated with the recovery, transformation and resilience plan passed in October 2020 by the Spanish government. This plan is founded on four key pillars, one of which refers to the digitalisation of Spain and intends to transform the Spanish digital

model, making a social evolutionary leap through the means of digitalisation. Initially, the plan will be implemented in areas of automation (a highly digitalised sector) and garment manufacturing, and not in the metal sector. Therefore, even though the strategy is aimed towards the entire industrial network and will thus include the metal sector, at the time of writing this report, it could not be assumed that this strategy would be extrapolated to the metal sector. From this we can conclude that the degree of implementation of the plan is very basic. The strategy will first be implemented in medium-sized companies, which have significant pulling-power capacity (which is the capacity of attracting talent, investment, and digital infrastructures) over other companies that have relations with them as suppliers or subsidiaries. The strategy is focused on concrete areas (training, investment, infrastructures).

Spain Digital 2025 [*España Digital 2025*]. It emphasises on the implementation during 2020-2022 of a set of structural reforms that would mobilise a significant volume of public and private investment. Spain Digital 2025 focuses its objectives on promoting the country's digital transformation as one of the fundamental levers to relaunch economic growth, reduce inequality, increase productivity and take advantage of all the opportunities offered by new technologies, with respect to constitutional and European values, and the protection of individual and collective rights. Likewise, it aims to contribute to closing the different digital gaps that have widened in recent years, whether for socioeconomic, gender,

generational, territorial, or environmental reasons, and that have become apparent during the pandemic. It is one of the actions that is aligned with the Sustainable Development Goals (ODS) and the United Nations 2030 Agenda. Spain Digital 2025 contemplates the development of sectoral plans (e.g., Plan for Connectivity, Plan for Attracting Cross-Border Digital Infrastructures, Strategy for the Promotion of 5G Technology, National Plan for Digital Competences, Plan for the Promotion of the Digitisation of SMEs, Tractor Project Development Plans, etc.). In these sectoral plans, the initiative and co-leadership will correspond to the Ministry of Economic Affairs and Digital Transformation, in cooperation with the different co-responsible agents: competent ministries, different levels of the Administration, business associations, unions, and other economic and social agents.

At the regional level, the development of various industrial plans is worth mentioning.

- The Basque government passed the Industrial Plan 2017-2020 on 18 July 2020, which contemplates arriving to 25% of the industrial weight of the Basque GDP, with an annually increasing budget. In the case of R&D, this could reach 5%.
- The Industrial Strategy of Andalucía 2020 proposes reaching 18% of the weight of industry and advanced services of the Andaluz GVA in 2020. This is accompanied by a Community Pact with the most important business organisations and trade unions in

Andalucía, which includes concrete objectives in different indicators.

- The Castilla y León regional administration has a history of social dialogue with the trade unions UGT and CCOO and with the business organisation CECAL in industrial matters. A III Agreement for Industrial Competitiveness and Innovation in Castilla y León 2014-2020 resulted in industrial growth high above the national average in 2016. An agreement has been signed among five of the political parties represented in the regional parliament which recognises the Directive Plan of Industrial Promotion 2017-2020 as the referential instrument for industrial strategy. This Directive Plan includes the commitment that public spending in R&D&I reaches 3% of non-financial public spending in regional ministry budgets in 2019, and the goal that manufacturing activity reaches 20% of the GDP of Castilla y León in 2020.

Main achievements get by the plans and the gaps to be overcome

Since 2013, Spain is making relevant efforts for its digitalisation. According to the Digital Economy and Society Index (DESI) report 2020, Spain ranks 11 out of 28 EU Member States, in terms of progress in broadband connectivity, digital skills, use of the Internet, digitization of businesses, digital public services, emerging technologies, cyber security, the ICT sector and R&D. The table 1 shows the Spain index in comparison to the European Union level.

Table 1. Spain Score for the Digital Economy and society Index

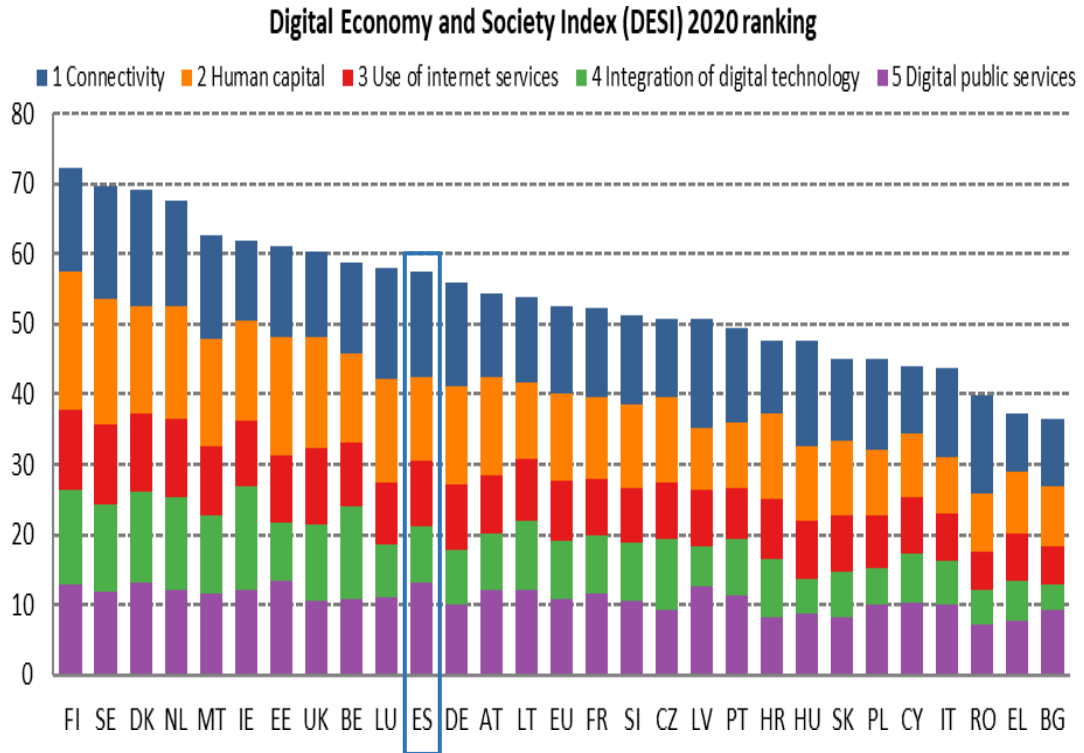
	Spain (ES)		EU
	rank	score	score
DESI 2020	11	57.5	52.6
DESI 2019	10	53.6	49.4
DESI 2018	10	50.2	46.5

Source: European Commission, 2020. Digital Economy and Society Index (DESI) 2020: Spain. Brussels: European Commission

Spain ranks 2nd in the EU on digital public services due mainly to its well-timed implementation of a digital-by-default strategy throughout its central public administration and its level of connectivity. However, the country is below the EU average on human capital since the population still lacks basic digital skills; besides, it is estimated that 8% of Spanish people have never used the Internet. Spain ranks 13th on

integration of digital technologies. During 2020, the Government states that one of its priority is the Digital Transformation of the country. The Government efforts are focused on improving the digitisation process, artificial intelligence in industry, telecommunications and digital infrastructure, and enhancing the national strategy for digital skills.

Figure 1. Ranking of Spain in the Digital Economy and Society Index (DESI)



Source: European Commission, 2020. Digital Economy and Society Index (DESI) 2020: Spain. Brussels: European Commission

2.

GENERAL INDICATORS FOR THE MANUFACTURING SECTOR

The contribution of manufacturing to Spanish economy. In Spain, the direct contribution of the manufacturing sector to GDP in 2020 stands at around 13%, representing around 12% of full-time equivalent employment. Furthermore, its carry-over effect on the rest of the economy must be taken into account, as it is the sector that requires the most intermediate consumption per unit of production and generates notable indirect effects in other sectors. Considering this indirect and induced effect of industrial activity, different studies estimate its contribution to GDP at around 43%, and 30% in the case of employment.

Manufacturing accounts for 11% of the job population and has created 43% of the new jobs in Spain. Manufacturing is the main contributor to the positive commercial balance of the country with an average 4,8% growth since the year 2000. The challenge for the Spanish economy is not just that of increasing the relative contribution of exports to the gross added value (GAV) but also to retain and attract international investments into Spanish territory. In terms of productivity, Spain is in the average of EU with 53 million € of GAV generated per manufacturing worker

employed. However, Spanish industry is characterised by longer depreciation periods for manufacturing equipment, which could limit the early adoption of Industry 4.0 solutions (Lazaro, 2017).

The performance of different manufacturing sectors. Considering the different branches of the manufacturing industry in Spain, a predominant weight is observed in the food, beverage and tobacco industry, whose GAV represents 20.3% of the total manufacturing GAV, followed by the metal industry, except machinery and equipment (14.3%), transport vehicles (11.2%) and chemical industry (8.7%) (Table 2). In relation to the European Union average, the Spanish manufacturing industry shows greater specialisation in five activities: food, beverages and tobacco industry; textile, clothing, leather and footwear industry; petroleum refining, chemical and metal industries, except machinery and equipment. For its part, the manufacturing industry would be more specialised in the manufacture of computer, electronic and optical products, machinery and equipment, material and equipment and transport vehicles.

Table 2. Gross Added Value (GAV) of the manufacturing industry by activities and productive specialization index.

	Technology intensity	Value in 2017 (Mill. € current)	Cumulative variation rate, in real terms			Distribution		IPE Spain*
			2000-2007	2008-2013	2014-2017	Spain	EU 28	
Manufacturing industry	-	149.778	17,7%	-3,8%	11,2%	100,0%	100,0%	1,0
Food, beverages and tobacco	Medium low	30.342	9,2%	0,8%	5,7%	20,3%	12,9%	1,6
Textile, clothing, leather and footwear	Medium low	5.823	-15,0%	-14,3%	-1,2%	3,9%	3,2%	1,2
Wood and cork, paper and publishing	Medium low	8.779	7,0%	-8,7%	2,3%	5,9%	5,6%	1,0
Refining	Medium low	3.982	-18,3%	-23,7%	76,5%	2,7%	1,7%	1,6
Chemistry	Medium high	13.083	1,7%	1,2%	0,9%	8,7%	7,5%	1,2
Pharmacy	high	6.946	61,0%	8,0%	43,0%	4,6%	5,1%	0,9
Rubber and plastics and other non-metallic mineral products	Medium	12.130	17,2%	-11,0%	6,1%	8,1%	8,0%	1,0
Metal except machinery and equipment	Medium	21.484	14,5%	-5,9%	8,6%	14,3%	12,6%	1,1
Manufacture of computer, electronic and optical products	High	3.104	64,4%	1,3%	141,3%	2,1%	5,1%	0,4
Machinery and equipment	Medium high	15.557	16,0%	-8,3%	-5,6%	10,4%	16,0%	0,6
Transport vehicles	Medium high	16.793	30,4%	6,4%	14,5%	11,2%	14,2%	0,8
Other industries (furniture, jewelry and toys) and repairs	Medium low	11.755	15,5%	-8,5%	-0,3%	7,8%	8,2%	1,0

* Index of productive specialization (IPE)

Source: Consejo Económico y Social (CES) España, 2019. Informe Sobre la Industria en España: Propuestas para su desarrollo (page. 15). Madrid: CES

Latest developments in manufacturing. The Spanish manufacturing industry has suffered a significant loss of weight in the overall economic activity, which would be explained mainly by the outsourcing of the economies, the integration of production in global value chains, relocations or, more recently, the effects of the economic crisis.

The evolution of the Spanish manufacturing industry has been marked in recent years, in the first place, by the economic crisis, whose harsh effects in terms of GAV, employment and quotas exports began to revert as of 2014. Subsequently, as of 2018, a significant slowdown in manufacturing activity occurred again, which would continue throughout 2019, and which would be explained mainly by the deterioration of the international context in the face of growing tensions trade, mainly between the United States and China, and the uncertainty generated around Brexit.

Manufacturing industry in different areas of Spain. As shown in Table 3, the axis made up of Catalonia, the Valencian Community and the Region of Murcia, constitutes one of the main industrial areas in Spain, with a predominance of SMEs, but also large transnational companies, especially around Barcelona and its metropolitan area. The industrial activity is highly diversified and ranges from innovative and high-tech industries to more traditional ones, with special relevance to the food, beverage and tobacco industry; textiles, clothing, leather and footwear; coke, refined and chemical plants, as well as rubber, plastic and other non-metallic minerals. In Madrid, on the other hand, the high technology sectors, such as computer, electronic, optical and electrical products, in addition to other activities such as the manufacture of furniture, jewellery, toys and repairs, wood and cork or transport material.

Table 3. Index of specialization in manufacturing sector by region or autonomous community in Spain

	Food, beverages and tobacco	Textile, clothing, leather and footwear	Wood, cork, paper and publishing	Coke, refining, chemical and pharmaceutical products	Rubber, plastic and other non-metallic products	Metal, except machinery and equipment	Computer, electronic, optical and electrical products	Machinery and equipment	Transport material	Furniture, jewelry, toys and repairs
Andalusia	1.4	0.4	0.5	1.6	0.7	1.2	0.9	0.3	0.3	0.9
Aragon	0.8	0.3	1.6	0.5	0.7	0.7	2.1	1.4	1.7	1.2
Asturias	0.6	*	0.9	0.4	0.9	3.9	0.4	0.8	0.2	1.2
Balearic Islands	1.4	*	1.1	0.1	1.8	*	0.1	0.4	0.0	5.1
Canary Islands	2.5	*	1.7	0.1	1.4	*	0.1	0.0	0.0	3.1
Cantabria	0.8	0.8	0.6	0.7	1.3	2.2	1.3	0.9	0.7	0.6
Castilla & Leon	1.2	0.1	0.9	0.3	1.3	0.7	0.8	1.0	1.9	0.4
Castilla La Mancha	1.9	0.9	0.7	1.3	0.9	0.5	1.1	0.4	0.4	0.7
Catalonia	1.0	1.4	1.0	1.4	0.8	0.7	1.0	1.1	0.9	0.9
Valencia	0.8	2.6	1.2	0.8	2.0	0.6	0.7	0.7	1.2	1.0
Extremadura	2.4	*	1.0	0.3	1.0	1.4	0.1	0.7	0.0	0.6
Galicia	1.1	2.1	1.1	0.6	0.7	1.0	0.5	0.7	1.4	1.1
Madrid	0.5	0.5	1.6	1.0	0.7	0.6	1.7	0.9	1.4	2.7
Murcia	1.3	0.7	0.5	2.4	0.8	0.6	0.5	0.4	0.1	1.1
Navarra	0.9	0.3	1.3	0.2	0.9	1.1	1.3	1.9	1.9	0.4
Basque Country	0.4	0.1	0.7	0.8	1.8	1.0	1.3	2.3	1.0	0.7
La Rioja	1.4	4.3	1.4	0.2	1.4	0.8	0.2	0.8	0.3	0.7

Notes:

* Data protected by statistical secrecy.

- Data from autonomous cities of Ceuta and Melilla have not been included.

- The specialization index (IE) refers to the share of each of the industrial branches in a given region, in relation to the weight of said branch to national scale. It has been calculated with the sales figure, for each of the Autonomous Communities and branches of activity, as follows: $IE_i = (CV_i^{ccaa} / CV_t^{ccaa}) / (CV_i^{Esp} / CV_t^{Esp})$; where i are the branches and t the total of the manufacturing industry. An $IE > 1$ indicates greater relative specialization in this branch of activity.

Source: Consejo Económico y Social (CES) España, 2019). Informe Sobre la Industria en España: Propuestas para su desarrollo (page 30). Madrid: CES.[Economic and Social Council (CES) Spain, 2019. Report on the Industry in Spain: Proposals for its development (page 30). Madrid: CES.]

Spanish manufacturing industry from a European perspective. In relation to the main neighbouring countries, Spain maintains an intermediate position, below the average of the European Union, where it reaches a percentage of 14.5 percent of GDP and, especially, of Germany, with about 21 percent, although it exceeds the industrial participation of economies such as France or the United Kingdom.

Over the last decades, taking the year 2000 as a reference, it is observed that of all the European countries considered, only Germany maintains the weight of its manufacturing industry, while in the EU as a whole it falls by just over two points percentage between 2000 and 2018. In the case of Spain, its share fell 3.6 points, compared to the more than four points that fell in the United Kingdom and France. On the other hand, it should be noted that since the economic recovery began in 2014, the weight of the industry in Spain has barely increased, standing in 2018 only three tenths above its share in 2009, due to the greater impact of the crisis in Spain. In contrast, in the EU average it has risen 1.2 percentage points since 2014 and 3 points in Germany. In any case, the slower progress of industry in Spain, in relative terms, would have been due in part to the notable growth of GDP in the current period of economic reactivation. Importantly, the growth of industrial exports, as a way out during the crisis to the deterioration of domestic demand, which together with the subsequent reactivation of domestic demand as of 2014, allowed the industrial GVA to be in 2018 at levels similar to those of the surrounding

countries (with the exception of Germany), reaching a level 11% higher than that existing in 2000.

Main priorities and issues at stake

The main achievements of digitalisation. In Spain, the metallurgical sector (particularly the automotive and aeronautic industries) and energy generating industries are the two sectors that are in the vanguard of technological advances in the digitalisation of production processes. Companies in these sectors are considering their needs in new competences related with the reusability of new technologies and also in abilities related to artificial intelligence, electronics, connected factories, software design, digital content design, etc. Manual processes have been improved thanks to digitalisation, making workers' tasks easier. For the metallurgical sector, digitalisation continues to result in important advances, with improvements in systems of production, safety and customer service. The main areas related to work that will be affected by digitalisation are job creation (new sectors, new products, new services, etc.), job change (automation, smart factories, smart human-machine interfaces, new ways of managing, etc.), job conversion and destruction (conversion, job loss, robotisation, etc.), and ways of working (shifts, teleworking, digital platforms, crowdsourcing, etc.). Companies are discovering that potential and concrete benefits exist in terms of improved

production, more competitive sales, better working conditions, enhanced workplace design, etc. In many sectors, such as the metallurgical industry, 5G networks are expected to facilitate communication from machine to machine and machine to person, as well as increasing safety and advancing automatic driving.

The potential job losses. In Spain, as in other industrialised countries, it is estimated that the advances in digitalisation applied to robotics imply a growing substitution of the underqualified (and sometimes qualified) workforce for robots or smart machines. Consequently, this process could bring about a significant rise in unemployment, greater inequality, labour market instability and greater poverty. For this reason, in trade unions as well as in the political and business domains, some of the issues on the bargaining table are teleworking, the implantation of smart factories, the reduction of working hours, the substitution of the workforce for robots, a universal guaranteed income, etc. In this regard, basic unconditional income could help to mitigate the negative effects of digitalisation on the social fabric and the labour market, preventing the unemployment arising from this transformation. All stakeholders should ensure that digitalisation does not become a “social bomb”; that is, an instrument of marginalisation among some types of workers.

Workers’ data protection. Data protection is an important aspect of the digitalisation process in companies. The

processes of data usage should be transparent and in accordance with existing laws. Data protection and confidentiality should be guaranteed in such a way that users (workers and companies, among others) are able to ensure the protection and privacy of information while carrying out their jobs. The protection of workers’ information should be a top priority through efficient application of the existing regulations on data protection. As in the majority of industrialised countries, in Spain, laws are not yet prepared for the changes digitalisation and new business models are bringing about (the regulations in this area should be more concrete and give proper coverage to the situations that are arising).

Worker skills gaps. There is also concern in Spain about the gap between new job offers (related to digitalisation) and the qualifications young people obtain in schools and universities. There is a misalignment between the acceleration of technological implantation and educational programmes. The outlook for Spain points to a lack of professionals. The world of work is digitalising, and education should adapt to this reality by including the use of applied technologies and technological competences to their training and education.

Barriers to digitalisation. The possibility of obtaining resources to foster and implement digitalisation in Spain are centred on state subsidies from various ministries, such as those of Economy and the Treasury and Industry and Competitiveness, as well as through

financing by regional governments of R&D&I projects. Accelerating investment in innovation and future technologies should be a top priority in order to avoid problems and facilitate technological development in Spain. Some main barriers to addressing digitalisation in Spain can be observed: resistance to change (both internally in companies and in political discussion), lack of competences, lack of physical digital tools in companies (videoconferences take place on different free platforms, and workers do not always have the adequate professional technology to carry out their jobs; professional circuits with a minimal digital infrastructure should be made available to businesses by public administrations through collaborative agreements with technological companies.), legal uncertainty, the economic or financial cost of implementing digitalisation (Spain's investment in R&D is still only 1.2% of the gross domestic product), etc.

Equal opportunities. Concerning the incorporation of women in organisations which are beginning to digitalise, it has been indicated that the adaptation and training of women have been considered in business equality plans from the very first moment. Consequently, the entrance of new technologies as an axis in the labour market should not impose another obstacle for women and their future job prospects. At the same time, through collective bargaining, measures to promote work-life balance after job digitalisation need to be addressed. It is suggested that Spanish legislation needs to go further to guarantee all these future

goals. In this context, it can be highlighted that digitalisation and new technologies, far from “punishing” the most vulnerable parts of the population due to age or knowledge, should permit all workers to have all the means available to advance in their jobs, and their fundamental rights and freedoms should never be taken away.

3.

FUNDAMENTALS OF INDUSTRIAL RELATIONS IN SPAIN

In Spain, the democratic period began in 1977, when unions and employers' organisations were authorised by Law. Trade unions are ruled by Spanish Law 11/1985 on Trade unions freedom. Depending on the employment size, there will be: (a) 250-750 employees: one trade union delegate; (b) 751-2,000 employees: two trade union delegates; (c) 2,001-5,000 employees: three trade union delegates; (d) More than 5,001 employees: four trade union delegates.

Union density in Spain is around 20%. However, union density is higher in the public sector than in the private sector, and in large companies than in small- and medium-sized companies. It is also higher among men than among women, and among older workers than among younger workers.

There are **two dominant union confederations** in Spain, the Trade Union Confederation of Workers' Commissions (Confederación Sindical de Comisiones Obreras, CCOO) and the General Workers' Confederation (Unión General de Trabajadores, UGT), although there are other important groupings at regional level and in the public sector. By membership, the largest trade union confederations are

UGT (around 930,000 members) and CCOO (around 910,000 members).

The **main employer confederations** are CEOE and CEPYME (the latter represents mainly small- and medium-sized companies). Only around 26% of firms declare themselves to be associated with an employers' organisation. Larger firms are more likely to be associated than smaller firms; 67% of companies employing at least 500 employees are associated.

Collective bargaining coverage in Spain is about 70%. Collective bargaining is a constitutional right of employers and employee representatives. It takes place mainly at sectoral level, either nationally or regionally. Over 90% of the employees covered by a collective agreement are covered by a sectoral one rather than by an agreement negotiated at company level. Around 82% of the companies are bound by a sectoral collective agreement rather than by a company-level collective agreement.

The challenge of digitalisation. Collective bargaining is necessary to adequately handle the new context and challenges of digitalisation, which in practice leave workers quite unprotected.

To date, no type of metal sector collective bargaining text analysis has been done so as to infer the existence of specific clauses related to Industry 4.0. However, the need to negotiate standard clauses that fit with the digital transformation caused by Industry 4.0 is becoming more and more apparent such as, for example, the need to include clauses that refer to workers' training in order to adapt to the changes digitisation has made to jobs. The immediate effect of digitisation is a sudden change in jobs and a need for workers to adapt to the new digital circumstances being implemented in various positions. It is changing the scenario, the professional profiles and the skills needed. The minimum common denominator of the new panorama is the transformation into a highly qualified model, in which training plays a key role.

Objective dismissal is regulated in Spain in article 52 of the Workers' Statute. And this idea of objective dismissal includes different causes which are covered by this type of dismissal with two major groups of causes, some related to the worker and others regarding the company's needs. Based on this description of objective dismissal, at least one cause can be found that directly connects to adaptation to Industry 4.0 and that is the one in article 52.b on the lack of a worker's adaptation to technical needs. Indeed, in Spain, any worker who is not able to adapt to modifications due to digitisation implemented in their job can be dismissed as it is a cause specifically outlined in the Workers' Statute. The immediate effect of

digitisation is a sudden change in jobs and a need for workers to adapt to the new digital circumstances being implemented in various positions. According to the Workers' Statute, this training shall be paid for by the company without prejudice to the possibility of receiving training credits for this purpose. The time spent on training is always considered actual work provided". Spanish legislators have been protecting this circumstance (the right to training to adapt to one's job) as they consider this training to be mandatory in order for a person to do their job properly.

Social dialogue between trade unions and employers maintained its vitality as initiatives on Digitalisation are discussed in working groups on Employment and Collective Bargaining. The main instruments for coordinating collective bargaining in Spain are the AENCs (peak bipartite cross-sectoral agreements on employment and collective bargaining). These agreements provide general guidelines regarding wage increases, training and contain recommendations on other issues, such as the articulation between levels in the collective bargaining structure, effective employee protection and internal flexibility.

Main priorities and issues at stake

Collective bargaining evolution in the light of digitalisation. As in neighbouring countries, Spain is beginning to create a new model or

framework of labour relations due to digitalisation. This new model requires adaptation in the face of new technologies, new employment challenges and the conversion of the workforce, which requires specialisation in order to meet the challenge of automated production processes. New jobs exist in digitalisation. Training plays a fundamental role both in the case of new jobs and in professional conversion since workers need to acquire the competences necessary to do these jobs.

One of the priorities is the implementation of initiatives to include digitisation in sectoral or intersectoral collective agreements. Without the agreements upheld by the collective agreements, the digitization process in Spain could not reach an optimal level.

The unions must make a great effort to enrich the contents of the Collective Agreements such as: promoting continuous training throughout working life or strengthen the right of workers' representatives to be informed and consulted, especially in relation to the entire digitisation process, including the entire outsourcing chain. In addition to training, other priorities for digitalisation and industrial relations in Spain should be focused on improving social dialogue, collective bargaining, both nationally and internationally, and the rights of information, consultation and participation of workers. The goal is for the digital transformation to be managed fairly.

Moreover, despite the increased interest in digitalisation, many companies in Spain still do not prioritise some issues such as cybersecurity, information protection, or disruptive technology. Culture changes are needed in order to pay more attention to the risks associated with the digital transformation in business.

Spain is advancing in terms of digitalisation in manufacturing sector, in public services and e-government and the integration of digital technology in business activities in general. However, one of the biggest challenges remains reaching SMEs and support their digitisation development. Some regional and national initiatives are taking place progressively.

4. APPROACHES AND PRACTICES OF NATIONAL TRADE UNIONS FOR DIGITALISATION IN THE MANUFACTURING SECTOR

General perception and attitudes of national trade unions

Perception of the impact of digitalisation on work. Interviews with trade unions representing the metal, transport, electronics and steel industry were conducted with interviewees from UGT trade union (Table 4). Concerning how digitalisation will affect the world of work, according to interviews with members of the trade union UGT-FICA, a great change will take place and uncertainty will appear in the amount,

and especially the quality of employment. Nevertheless, changing the Spanish social and productive model remains a priority, for which profound changes must be made and specific training and qualifications received in order to meet the challenge of automated production processes. Those interviewed believe that all areas (and specifically, communication, production, information and offices) will be affected by digitalisation. The companies where the interviewed workers' representatives operate have already been working with digitalisation for a number of years (10 years, 6 to 8 years, 3 years).

Table 4. Overview of interviewed participants

Participant	Organization	Province	Topic
Edmundo Otero	Airbus UGT-FICA	Andalucía	Digitalization policy in aviation sector
Laura Nieto Sanchez	Secretariat Capital goods UGT-FICA	País Valenciano	Digitalization policy in Valence Region
Juanma Gomez Rey	Regional automobile sector manager (UGT-FICA)	Madrid	Digitalization policy in Madrid region
Manuel Gomez Barranco	Regional automobile sector manager (UGT-FICA)	Andalucia	Digitalization policy in Andalucia region

Yolanda Funes	Regional automobile sector manager (UGT-FICA)	Cataluña	Digitalization policy in Catalan region
Lorena Urquiz Gasset	Regional automobile sector manager (UGT-FICA)	Aragon	Digitalization policy Aragon region
Juan Carlos Escos	Regional automobile sector manager (UGT-FICA)	Valencia	Social dialogue in manufacturing concerning digitalization
Jose Manuel Conde Lopez (Tximi)	Secretariat Capital goods UGT-FICA	Euskadi	Digitalization policy Basque region
Raul Garcinuño Jimenez	Transport, Electronics and ICT Material Sector UGT-FICA	National	Approach, actions and initiatives of UGT-FICA
Jose M ^a Piñero	Steel Industry UGT-FICA	National	Approach, actions and initiatives of UGT-FICA

Trade union approach towards digitalisation.

The attitude of trade union organisations towards digitalisation is proactive, according to the interviews. Trade unions consider it is necessary to guarantee a future of work based on the values of social justice, full employment, the quality of job, with rights and decent wages and adequate social protection. Union actions are needed to promote specific standards that regulate the new business models, the new realities of work, the consequences of the automation and the massive use of Information and Communication Technologies (ICT) in the workplace.

Unions are focusing their efforts to enrich the contents of the collective agreements which include some aspects such as the advancement of continuous training throughout the entire working life or strengthening the right of workers'

representatives to be informed and consulted, especially in relation to all the digitisation process, including the entire outsourcing chain. The enrichment of collective agreement contents will entail three guiding axes to face the inclusion of technological devices in workplaces:

- Communication, between the company and workers and their representatives, indicating that the intention of the company is not to substitute workers for machines, as well as the actions to be followed in matters of Data Protection.
- Training, as a fundamental part for adequate digitalisation process, use of technology and employability.
- Action plan for the implementation of technology, which allows, if appropriate, the creation of complementary jobs before the incorporation of new technologies.

The enrichment of collective agreements contents implies the need to develop successful strategies that align the talent of people with the digital needs of companies, regardless of the economic sector where their activity resides. Likewise, these agreements will be communicated to the workers so that they become a facilitating element for the development of technology and the improvement of productivity, within a framework of fluid social dialogue and search for the maximum possible consensus. The main Spanish trade unions (UGT and CCOO) are taking initiatives to involve the rest of social partners and stakeholders in order to facilitate the implementation of technologies in any production centre and in any area or sector of the economy covered by collective agreements.

Workers' acceptance of digitalisation.

In general, workers' attitudes towards digitalisation are positive, open, receptive, active and proactive. In Spain, many companies in the metallurgical sector have been training their employees, analysing, studying and implementing digitalisation for 3 up to 10 years. In general, companies are implementing digitalisation processes, launching projects and organising information in this respect. This positive attitude is due, among other things, to the work that trade unions are carrying out in areas of information, consciousness-raising, training and support to workers in the process of incorporating technologies in their jobs. Trade unions' lack of adaptation to digitalisation is concerning. A model change inside unions is necessary for them to be able to

continue reaching their members, delegates and leaders, among others. It is becoming more and more difficult for unions to reach workers through the traditional resources that they have always counted on. New resources and methods are needed, and digitalisation must enter in this area in order to foment communication among workers, delegates and members. The key to worker acceptance of digitalisation processes lies in the continuous cooperation between employers and trade unions. The collaboration between these stakeholders should regard both internal (anticipated reactions to challenges, information, consciousness-raising, training, digital adaptation, etc.) and external challenges (technological advances, restructuring, legal reforms, labour relations, maintaining employment, the fight against job insecurity, etc.).

Practices of national trade unions

Research activities. Research and development activities at the union level focus, among other things, on the transformation of the work environment, with important implications for the evolution of tasks in production processes, supply and demand and the structure of employment, and significantly modifying the knowledge and skills required. The relationship between technological innovation and employment is quite complex, because its effects seem positive when they affect the production of innovative goods. But when technology improves processes,

the impact on employment tends to be negative, since it allows the same quantity to be produced with less work.

In the case of the metal sector, the impact of technological advances (i.e. artificial intelligence, automation and robotics especially) in the creation of new jobs is also being studied, but it is also clear that people who are going to lose their jobs in this transition, they may be the least prepared to take advantage of new opportunities. The skills of today will not match the jobs of tomorrow and new skills acquired can quickly become out of date. However, the central objective of this new technological revolution should be to promote a substantial improvement in employment and the quality of life of the population as a whole.

Unions pay special attention to the role of women in technological environments. The under-representation of women in jobs related to new technologies, or even their direct exclusion, is a negative aspect that is of particular concern to our Union. In this sense, UGT, for example, prepared an exhaustive report under the title “Women and Technology 2018”: a document in which UGT diagnosed the reasons behind this under-representation, its consequences on gender equality in the present and in the future, and where a series of proposals are listed to reverse the current paradigm. The study confirms the enormous size of the digital gender gap that exists in Spain.

Collective bargaining. Trade union organisations are reinforcing collective

bargaining and are using it as the centre of gravity in the accommodation of their digital blueprints to labour structures. This includes digital disconnection, teleworking and regional training courses for members and delegates, among other things. It can be highlighted an agreement between UGT and Google to provide Digital Competences. In this context, UGT, aware of the important challenge they are facing to adapt to the digital era and adjust their structures to the new digital paradigms, are implementing a training and requalification strategy for workers. An agreement with Google was reached in this regard to provide digital competences. As part of this programme, an online course called “Digital Competences for Professionals” was developed, which was directed towards active workers (employed or unemployed) who need to learn the main digital tools they encounter in their daily work, such as social networks and online work platforms. In addition, in the second stage of the programme, a training structure was prepared which was able to reach 200 trade union members, who later transmitted what they had learned to different parts of the organisation. UGT FICA highlights the need to carry out this type of training oriented towards adapting workers’ capabilities in real situations during their working days. It is important for these aspects to be tangible in the real world and that they move beyond being merely theoretical, since the digital gap in Spain is a reality that is becoming more of a concern. This gap is provoking social polarisation among workers in Spain.

Lobbying and multi-stakeholder programmes. Trade union organisations have served as consultants to politicians and companies in the process of designing laws and policies related to digitalisation at the national and local level in order to facilitate a smooth transition. It is necessary for this not merely to serve as a collaboration but also as initiative in light of the changes that digitalisation implies in a new legal framework (digital rights, etc.). This is the reason why trade union organisations participate in negotiating tables. In this regard, some pressure on public authorities has been applied, such as through the joint negotiating of sectorial agreements and protest marches and demonstrations. The work that is being carried out to produce a State Pact for Industry deserves to be mentioned. This agreement would incorporate digitalisation as one of its principal pillars. The country's main industrial trade unions have requested a State Pact that, to date, has not been signed. A declaration to this purpose was publicly presented with the name "Industrial Legislation" [*La legislatura de la Industria – Declaración de los Agentes Sociales instando al desarrollo de un Pacto de Estado por la Industria*], and signed in 2016 by the major representatives of UGT-FICA Industrial Federation, Construction and Agro-food, CCOO Industrial Federation, CCOO Construction and Services Federation, CCOO Citizens' Services Federation, as well as the business organisations that make up the Alliance for the Competitiveness of Spanish Industry (the promoter of this initiative), which represents the Automobile (Anfac),

Petroleum Refining and Sales (AOP), Chemical and Pharmaceutical (Feique), Paper (Aspapel), Cement (Oficemen), Food and Beverage (FIAB) and Steel (Unesid) sectors, which together generate 50% of the industrial GDP and account for more than 4 million jobs in Spain. The declaration has also been signed by the Metal sector (Confemetal), the Automobile Parts Manufacturing sector (Sernauto), the Textile sector (CIE), the Fashion sector (Moda España), and the Footwear industry (FICE). The document includes nine policies to foster industrial competitiveness, one of which is related to R&D Policy and Technological and Digital Development, which would represent a significant social advance in the industrial area. To begin the work that could lead to the signing of a State Pact for Industry, it is necessary to establish and agree on the keys to industrial development in the near future, challenges that feature the digital factor and the great transformation that Industry 4.0 is undergoing in Spain. At the same time, work is being done to draw up a new law for industry, adapted to the important changes that the fourth industrial revolution is provoking, as well as strategic plans and strategies.

Training activities. For workers and unions, training is one of the necessary tools to meet the challenge posed by digitisation. The unions organise different types of training for their members and officers oriented towards union action, acquisition of technological and managerial skills, continuous training in a specific area (education, health, finance, etc.).

However, in Spain, there are still gaps in training both at the level of companies, trade unions and society in general. The lack or scarce academic training continues to be an important precursor of digital exclusion: people with primary education have a digital gap of 47% compared to graduates. Spanish companies and trade union organisations are not doing their best for aligning the training of workers with the needs of the labour market.

To stimulate training, the unions propose to articulate a national plan for Technological Inclusion that places the Digital gap, and the Universal Communications Service, in the political, legislative and regulatory debate, in order to get Spain out of digital ostracism by:

- establishing a public entity that coordinates the transversality of ICT throughout the government, with responsibility for new technologies, digital training and inclusion.
- creating of an Observatory of the Digital Divide, with the participation of all the actors involved.
- establishing of online training plans, in person and based on active practices for groups outside the world digital.
- establishing sufficient budgetary resources to elaborate training plans in companies, in educational centers and in training centers for the unemployed.
- building a society based on equal opportunities, which has as an essential pillar of personal and work balance, banishing, in short, any

gender stereotype of a professional or family type.

Communication strategies.

Communication is fundamental strategy for any union organisation. Communication in the union has two aspects, a first internal aspect that is aimed at transferring the relevant information for the organisation at the level of internal structures and a broader aspect that seeks to transfer the group of workers, whether they are members or not, the proposals of the union, bringing to the field of public opinion issues of interest to workers in our country.

Along these lines, for example, UGT FICA has carried out many campaigns such as: the *let's save the industry* campaign, underlining the difficult situation that the industry is going through in Spain; it demands from the Government a stable, coherent industrial policy which should be designed in the long term and with the capacity to generate a change in the economic model in Spain in favour of the industry. One of the elements of this campaign was the press conference held by UGT-FICA in favor of the industry, available [here](#).

In general terms, the trade unions consider that part of their strategy is to know the opinion of the workers, whether they are affiliated or not, on the issues related to the industry; in this sense they have opened a series of communication channels that allow to get feedback from workers. Another of the strengths of the union strategy is the need to coordinate the different actions that make up the communication strategy. In this sense, the union has its

own website, intranet, social networks, etc. in the sense described more precisely below. Currently, work is being done on strengthening the union's communication channels and looking for spaces to open up new channels of communication and participation and to adapt to new technologies. Digitisation is giving the union new opportunities of communication. The unions are aware that the change brought about by digitisation will mean an opportunity to reach better and many more people.

Next steps. The next steps that trade union organisations will take in this area are centred on ensuring the rights of workers using all types of new technologies from administrations,

governments and authorities. These are the areas to work on:

- developing a legal framework which precisely specifies the areas that require better regulation, such as teleworking, digital disconnection and work-life balance, among others. Due to a lack of concreteness and lax regulations, the current laws in these matters are interpreted in an inexact way, making the social and digital model changes that we need difficult to achieve;
- paying attention to changes and trying to anticipate them;
- implementing agreements on a national level;
- developing a new, more adequate structure for SMEs.

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