

DUAL UNIVERSITY EDUCATION IN SPAIN. STATE OF AFFAIRS

A university vision



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DUAL UNIVERSITY EDUCATION IN SPAIN. STATE OF AFFAIRS.

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Authors: Vicent Climent-Ferrando (coord.), Jon Altuna, Josu Galarza, Iraia Urquia

Editorial coordination: Elisabeth Gil

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Table of contents

PROLOGUE	6
INTRODUCTION	8
01. WHAT IS DUAL EDUCATION?	12
Distinctive features.....	13
02. DUAL UNIVERSITY EDUCATION IN EUROPE	16
2.1. Different approaches to DUE in Europe.....	17
2.2. Lack of a regulatory framework	18
2.3. Quality assurance in dual university programmes	18
2.4. Company involvement in DUE	18
03. DUAL UNIVERSITY EDUCATION IN SPAIN	20
Background.....	21
04. REGULATORY FRAMEWORK	26
4.1. Europe	27
4.2. Spain	28
4.3. National regulations.....	29
4.3.1. The Dual Mention	29
4.4. AUTONOMOUS COMMUNITY REGULATIONS.....	30
4.5. QUALITY AGENCY PROTOCOLS.....	31
4.5.1. Context.....	31
4.5.2. Background.....	31
4.5.3. Specific quality agency protocols.....	33
05. OVERVIEW OF DUE IN THE SPANISH UNIVERSITIES: DEPLOYMENT AND EVOLUTION	34
5.1. Deployment of DUE in Spanish universities.....	35
5.1.1. Methodology.....	35
5.1.2. Level of dualisation of Spanish universities	37
5.1.3. Deployment of DUE by Autonomous Community.....	38
5.1.4. Deployment of DUE by areas of knowledge	42
5.1.5. Deployment of DUE by type of university.....	44
5.1.6. DUE model adopted	45

5.2. Strategies and approaches in the deployment of DUE	47
5.2.1. What are the reasons why universities are deploying DUE?	47
5.2.2. Approaches in the collaboration between stakeholders in the deployment of DUE	48
5.2.3. Strategies in the deployment of DUE.....	49
5.2.4. Internal organisation of universities in the deployment of DUE	49
5.2.5. Recognition of faculty.....	51
5.2.6. Dual education and employability: What data are available about the impact of DUE on graduates' employability?.....	51
5.3. Main learnings and trends observed	53
5.3.1. Regulatory analysis	53
5.3.2. Global governance of the system	54
5.3.3. The role of the quality agencies.....	55
5.3.4. Incentives and funding	56
06. FUTURE OUTLOOK.....	58
6.1. Where is Dual University Education in Spain headed?	59
6.2. Are we headed towards an uncoordinated and somewhat heterogeneous system?	59
6.3. Need for a sectoral approach.....	60
6.4. Dialogue and commitment between the stakeholders	61
07. CONCLUSIONS.....	62
08. DECALOGUE	68
BIBLIOGRAPHY	70
ANNEXES	76
ANNEX I: Situation and trends in DUE in Europe	77
ANNEX II: Autonomous Community regulations	81
ANNEX III: List of the participating universities.....	83
ANNEX IV: The situation of DUE by Autonomous Community ..	85

Prologue



Dual education is on the rise in Spain. After more than a decade of development in Vocational Education and Training, dual education is now beginning to break through in universities. Until fairly recently, dual university education was specific to the Basque university system, although it also enjoyed sporadic presence in other universities, such as the University of Lleida or the University of Almería. However, we have seen how the interest in this form of training has spread gradually to Spanish universities overall.

Many universities are now immersed in bringing dual education into their education offer. Either incipiently, in the form of pilot projects, or fully integrated into the university degrees they offer, the number of dual bachelor's and master's degrees is increasing constantly in our country.

This upsurge may be attributed to several factors. The first one lies in the need for greater dialogue between universities and the productive sector. However, there is a second, much more strategic and forward-looking factor related to the current demographic, economic and technological context of society. We are faced with a highly complex and ever-changing reality that obliges us to think about new professions, knowledge, expertise and technologies. In view of the magnitude of these changes, universities are becoming increasingly more aware of the need to be flexible and to adopt new dynamic and adaptable training approaches that are permanently attuned to reality. They have therefore begun to incorporate dual education as a form of training that can respond to these changes.

The main goal of the study you are reading, which is the result of the collaboration between the Association of Social Councils of Spanish Universities [Conferencia de Consejos Sociales de las Universidades Españolas], Mondragon University and the Fundación Bertelsmann, is to offer an overview of the state of affairs of Dual University Education in the Spanish university system. The report constitutes a detailed analysis of the degree of incorporation of dual education by universities, pinpoints issues and proposes a set of specific recommendations for the deployment of quality dual education in the Spanish university setting.

The depth and scope of the study data lead us to think that far from being a mere form of training, dual education is already on the path of no return in Spanish universities. The three institutions sponsoring this study trust that it will be useful to all the people and institutions interested, to universities that are beginning to find their feet in this form of training or to faculty, as well as to university quality agencies or state and Autonomous Community legislators.

CLARA BASSOLS
*Director of Fundación
Bertelsmann*

ANTONIO ABRIL
*President of the Association of Social
Councils of Spanish Universities*

JON ALTUNA
*Academic Vice-Dean
of Mondragon University*



Introduction

Spanish society is currently undergoing major structural changes. The transformations associated with globalisation and the growing interconnection of economies and production systems go hand in hand with rapid technological advance—a patent example being the advent of artificial intelligence—or demographic changes, in the form of an increasingly ageing population. The combination of all these factors—economic, political, demographic and technological—is spawning far-reaching societal transformations that impact all areas and domains of knowledge.

The university is not unaffected by such transformations. Of the many changes it has to contend with, two of the most pressing ones are:

- 1. Socio-demographic transformation.** In the last two decades, the number of students of traditional university age, i.e. between 18 and 24 years, has fallen by 23.7% in Spain, equivalent to more than one million young people. Moreover, statistical projections indicate that the number of students under the age of 23 years will diminish by 20% in the next 15 years. They are mainly undergraduate students, who account for approximately 80% of all university students.

Besides these data, it should be noted that the number of students in Vocational Education and Training, especially in Higher VET, has increased by more than 210,000 in less than ten years (from 349,444 students registered in Higher VET in 2013 to 565,851 students in the 2022-2023 academic year), which points to an ongoing increase in Higher VET programmes and the consolidation of Vocational Education and Training as a good training option.

- 2. Socio-economic transformation.** Increasingly more voices are calling out for greater dialogue between the university and the social and occupational setting to align the university education offer and productive sector needs more closely. Spain is still the country with the highest over-qualification rate in Europe: 35.9% of people in employment aged between 20 and 64 years with a higher education were performing low-skilled jobs, whereas the EU-27 figure was 22.2% in 2022. Our country continues to suffer from a mismatch between supply and demand.

This twofold demographic and socio-economic transformation highlights the importance of **re-thinking and accelerating changes in education systems**. All advanced societies must create a solid interconnection between their education system and the business world.

Dual education as a driver of change

Education transformation policies in our country have positioned dual education in a strategic place to bring the world of education closer to the world of business. Dual education combines theoretical knowledge and work-based practical learning in an alternance training scheme delivered between the school and the company.

Dual education burst onto the scene in Spain more than one decade ago, more specifically in the sphere of Vocational Education and Training. In 2012, the [Decree 1529/2012](#) laid the foun-

ditions for the development of dual VET in our country, and one decade later the [Organic Law 3/2022](#) extended dual education to all Vocational Education and Training.

After more than one decade of development, the data are unequivocal and clearly show the direct relationship between dual education, increased employability and greater satisfaction among dual students. Three examples will serve to illustrate this:

- Dual VET graduates enjoy better short- and medium-term occupational integration than those who hold a non-dual VET diploma, as shown by the *Dual Training in Spain: situation and prospects* (2023) report produced by the Economic and Social Council.¹
- Generally speaking, dual higher VET graduates are paid between 4% and 12% more than those that acquire a non-dual VET degree, according to the *Dual VET and occupational integration* (2023) report.²
- Nine out of ten students would recommend dual VET, according to the *Student-rated Assessment of Dual VET* (2023) report.³

Dual education is beginning to reach the university. Although it is still in a very early stage, more universities are increasingly embracing the process of adapting their degrees to dual education, realising the need to be more closely linked to the job world and to reduce the persistent mismatch between the degrees offered and the demand from the productive sector. They are also increasingly more aware that dual education may play a key role in meeting the demand for new and changing needs in terms of competencies, besides being a constant source of innovation and for updating knowledge.

The main objective of this study is to offer a detailed overview of the state of affairs of dual education in the Spanish University System. What universities are deploying dual education? In which bachelor's and master's degrees? In what areas of knowledge? What are the main challenges? Is there a specific regulatory framework for Dual University Education? What trends are observed in the dualisation of university degrees? How does the Spanish university system currently compare with other neighbouring countries?

To answer these questions, we have divided the study into **five blocks**, structured into **eight sections**:

The **first block**—which takes up the first three sections of the study—offers a definition of Dual University Education (DUE), analyses its main characteristics and details the differences between the curricular internships traditionally provided by Spanish universities and dual education.

This initial conceptual part is followed by a general recap on the development of DUE in Europe and in some EU countries. This European overview is followed by a more in-depth analysis of the beginnings and the evolution of DUE in Spain.

This section is particularly useful for contextualising the development of DUE in Europe, for analysing common trends and challenges and for learning the specificities of dual education in the Spanish university system.

1 Report available online: Informe 01/2023 sobre la Formación Dual en España: situación y perspectivas (ces.es).

2 For an analysis of this, read *La FP Dual y la inserción laboral*, by the Observatorio para la Formación Profesional de CaixaBank Dualiza (2023).

3 Report available online: Valoración de la calidad de la FP dual por parte del alumnado - Fundación Bertelsmann (fundacionbertelsmann.org)

The **second block** focuses exclusively on the **DUE regulatory framework** in Europe, Spain and the latter's Autonomous Communities. This block breaks down the content of the different regulations that make specific reference to the development of DUE. Moreover, it includes a specific section on university quality agencies and their key role in guaranteeing and evaluating DUE in Spanish universities.

The **third block**, entitled “An overview of DUE in Spanish universities”, provides an empirical analysis of the deployment of dual education in Spanish universities, both in bachelor's and master's degrees, describes the degrees currently being dualised and analyses the main trends in Spanish universities. At this point, several methodological considerations should be made:

- A. The information compiled in this study comes from the actual universities. It was gathered through the Association of Social Councils of Spanish Universities (CCS, using the Spanish acronym). At this moment in time, the CCS comprises 58 universities (48 public and 10 private).

Out of the 58 CCS universities, 54 answered the questionnaire. Therefore, the **response rate of CCS member universities was 93%**.

The answers provided by a further 6 private universities were added to those of the aforementioned 54. Therefore, the total sample for this study amounts to **60 universities (46 public and 14 private)**.

According to official data from the Ministry of Universities [*Estadística de Universidades, Centros y Titulaciones* (EUCT), Statistics of Universities, Centres and Degrees] of the Ministry of Universities], in the 2023-2024 academic year there were **91 active universities** in Spain, **50 public and 41 private**. Therefore, this study includes information from virtually all the public universities (46 of the 50 existing ones, **92% of the public universities**) and from 14 of the 41 private universities, equivalent to **34% of the private institutions**.

A second phase of the study, scheduled for 2025, will expand the sample of private universities to obtain the most comprehensive possible overview of DUE in the Spanish university system.

- B. The information used to produce the empirical part of the study comes both from these questionnaires—collected between October 2023 and May 2024—and two focus groups held in June and September 2023 with seven universities.

Due to the rapid development of DUE, it is likely that certain university degrees have been dualised between the data collection cut-off and the publication of the study are not reflected in the report. With a view to updating the data continuously, this study is accompanied by a web portal, www.formaciondualuniversitaria.org, which will periodically update both the data related to dual university degrees and to the legal framework applicable to DUE. The portal will also include relevant publications and studies in order to afford a better understanding of the development of DUE in Spain.

The **fourth block**, comprised of sections 6 and 7, provides an overview of the trends observed and the strategies employed by universities in the development of dual education and expounds the main conclusions.

Finally, the **fifth block** provides a set of concise recommendations—by way of a decalogue—intended for the main stakeholders involved in DUE (universities, public administrations, faculty, etc.) to offer practical tools that may help to deploy dual education in Spanish universities.

01

WHAT IS DUAL EDUCATION?

In the last decade, dual education as an education model has enjoyed a major upsurge in the area of Vocational Education and Training, and more recently it has sparked increasing interest among Spanish universities. At its core lies the consideration of academic and employment environments as equally valid and complementary learning scenarios. The proper integration of both settings enriches students' education and provides them with a more comprehensive and higher-quality experience. Moreover, from companies' standpoint, dual education reduces the gap in training needed by permitting a personalised training and integration of students into each company's culture and working procedures.

In dual education, students participate in collaborating entities and therefore have access to practical and meaningful learning opportunities, bolstering their employability at the same time. The direct connection between students and the business world provides the former with better qualifications and puts them in a position to cope with the challenges of social, technological and economic transformations, acting as drivers of change in their respective professions and walks of life.

These are the two main attributes of dual education in the university setting:

- The training offer (in other words, credits to be obtained in the dual system) has a minimum credit requirement for degrees to be recognised as dual and to obtain the corresponding mention or accreditation.
- The necessary cooperation takes place through a university-collaborating entity collaboration agreement that sets out the framework for the relationship and the commitment to be taken on by each party.
- Both parties, the university and the collaborating entities, must be properly organised to take on the different training, coordination and management functions related to the dual programmes. The academic tutors and collaborating entities play a prescriptive role and constitute a minimum organisational specification.
- In-company learning has an academic value that must be substantiated by students if they are to obtain the corresponding degree.
- There is a contract, and as a rule remuneration and safety and health coverage for students on an internship during their dual university education.

DISTINCTIVE FEATURES

There are other types of university education in which companies or other external entities participate, as is the case of internships, although a distinction must be made between the latter and dual education.

Unlike internships, Dual University Education (DUE) is characterised by:

- Greater integration of the training period in the company or with the company in the curriculum.
- Sequencing of training periods in the collaborating entity.
- Closer coordination between the university and the collaborating entity.
- Greater integration of tutoring by the academic institution and by the collaborating entity.
- Integration of the bachelor's or master's Degree Dissertation (TFG/TFM).

The following table provides a general summary of the differences between curricular internships and dual education in the university setting:

“The main difference between DUE and curricular internships is that in DUE the company or collaborating entity participates with the university in preparing part of the curriculum. Moreover, remuneration is mandatory and the students’ training period in the company/entity is longer in DUE than in internships”.

Table 1. Difference between DUE and internships

	DUAL EDUCATION	INTERNSHIP
INTEGRATION IN THE CURRICULUM	Between 20% and 40% of bachelor's degree credits and between 25% and 50% in master's degrees ⁴	A maximum of 25% of bachelor's degree credits and a maximum of 1/3 in master's degrees
SEQUENCING OF THE TRAINING PERIODS IN THE UNIVERSITY AND IN THE COLLABORATING ENTITY	Periodic sequencing in the entity, for example daily (part-time), two or three days a week every three months	As a rule, there is no sequencing
ADMINISTRATIVE FRAMEWORK	Contract of employment and remuneration ⁵ (in some cases an agreement with remuneration)	Agreement without remuneration (with Social Security contribution)
PEDAGOGICAL APPROACH	<ul style="list-style-type: none"> - Acquisition of knowledge and skills in the university and in the collaborating entity - Competency development in the collaborating entity 	Agreement without remuneration (with Social Security contribution)
COORDINATION	In design, management, development and evaluation	In development and evaluation
JOINT RESPONSIBILITY	The collaborating entity works with the university to define and design the curricular contents	Application of theoretical knowledge in a company, sporadically and outside a collaboration framework

4 Percentages required to be eligible for the so-called Dual Mention. Refer to section 4 of this report for further information about the Dual Mention.

5 The contract of employment and remuneration are mandatory to be eligible for the Dual Mention. Refer to section 4 of this report for further information about the Dual Mention.

02

DUAL UNIVERSITY EDUCATION IN EUROPE

This section provides an overview of how Dual University Education (DUE) has evolved in different countries. It also analyses the role of the EU in shaping DUE from a European perspective through university alliances.

Dual University Education has developed significantly in Europe in recent years, driving a change in the conception of Higher Education. The deployment of DUE in the European context is a relatively growing phenomenon, mirroring the need for education systems to adapt constantly to changing job market demands.

This phenomenon has not gone unnoticed in Europe, where DUE has been acknowledged as one of the strategic commitments that should help to create a European Higher Education Area. In 2022, the European Commission backed the creation of the [EU4DUAL](#) Alliance, consisting of nine universities and intended to foster, study and promote DUE through its Centre of Excellence. The EU4DUAL project is part of the [European Universities Alliances](#) initiative, to build a common European Higher Education Area (EHEA).

An analysis of the development of DUE in EU countries points to a broad range of approaches and degrees of implementation. This work does not purport to analyse in detail how DUE is being developed in the different European countries. That said, we feel that a general analysis of the trends observed should be provided. Moreover, Annex I contains a simplified overview of the different approaches taken in the nine countries of the EU4DUAL alliance (Germany, France, Spain, Austria, Finland, Poland, Hungary, Croatia and Malta).

These countries are representative of the different realities of the European Higher Education Area (EHEA) member nations. While some countries have made substantial progress with regulatory frameworks and have consolidated programmes, others continue to face challenges in the creation and acceptance of DUE in their education systems. One element they all share is the growing interest in developing DUE as a pedagogical system to bring the university setting closer to the job world. Therefore, the EU's strategic commitment to setting up platforms for good practices and cooperation between countries and universities in order to pool methodologies, good practices and recommendations and to build a common quality framework for the development of dual education in European universities is no coincidence.

An analysis of the aforementioned countries points to the following trends and challenges facing the development of DUE in Europe:

2.1. DIFFERENT APPROACHES TO DUE IN EUROPE

The variety of perspectives on DUE is mirrored in the different nomenclatures and approaches employed to refer to it. The most commonly used terms to talk about DUE in the different EU countries are *dual education* in Germany or Spain, *apprenticeship* in France and Ireland, *work-based learning* in Finland and the Netherlands, among others. Therefore, in this report we will be using the term *Dual University Education* and the acronym DUE.

European countries also take different approaches to DUE. In some countries, the apprentice is regarded mainly as a trainee worker at the university (countries such as Germany or Austria), as opposed to many other countries, where the concept of trainee student in the workplace predominates. The latter approach is the one used mainly in the different countries analysed.

2.2. LACK OR REGULATORY FRAMEWORK

The lack of a specific and defined regulatory framework in many countries is a reflection of the fact that the adoption of DUE is still in the early phase. That said, an increasingly greater number of countries are making headway in establishing specific official and regulatory definitions for DUE in an attempt to guarantee the quality and the validity of dual programmes. This is the situation in Spain, as we shall see in section 4 of this report, which deals with the regulatory aspect.

Developing a common European framework including consensus-based guidelines and standards could be conducive towards a more general understanding of DUE. In this regard, the work being carried out by the aforementioned EU4DUAL alliance is critical, since it has begun to produce proposals to develop certain minimal DUE quality standards in Europe in conjunction with other national and European associations.

In turn, this framework may contribute to the development of national regulations in countries which as yet lack a framework for DUE. It should be mentioned that the EU does not have regulatory powers in education and therefore a common regulatory framework for Europe cannot be established. It can only promote and foster this type of initiatives or come up with recommendations or good practices in this regard. The EU4DUAL alliance is a clear example of the EU's strategic commitment to Dual University Education.

2.3. QUALITY ASSURANCE IN DUAL UNIVERSITY PROGRAMMES

The quality management of DUE is not directly regulated state-wide in many countries. The evaluation of dual programmes is performed by regional and national quality and accreditation agencies, a discipline not yet fully recognised in academic programmes and normally associated with Vocational Education and Training.

As a rule, agency accreditation calls for a guarantee of the quality of dual education at the university, as well as coordination guidelines and tutoring and supervisory mechanisms with the collaborating entities. Although the [European Standards and Guidelines](#) (ESG) are applied, there are no specific rules that guarantee the quality of training in the workplace.

2.4. COMPANY INVOLVEMENT IN DUE

There is a clear need for companies to be more involved in both the management and the offer of places in DUE and an improved acquisition of new dual places is particularly important. Although there are policies and regulations for students and practical training in the workplace, it should be emphasised that the management of cooperation falls to the universities, more specifically to those in charge of dual programmes. Collaboration is managed by joint commissions, through which universities plan and oversee learning in the workplace.

Moreover, in the countries analysed, there is a consensus that it is difficult to have a greater number of places, which limits access to DUE. Furthermore, companies have to contend with red-tape obstacles in the management of contracts of employment, making it difficult to implement programmes efficiently. Active participation by companies and organisations in these areas would go a long way towards bolstering dual education programmes and their success.



03

DUAL UNIVERSITY EDUCATION IN SPAIN

This section traces the evolution of Dual University Education in Spain and analyses the three universities/centres that have become a reference in DUE development: Mondragon University, Instituto Máquina Herramienta (IMH) and University of Lleida.

As mentioned above, the term “dual education” has become the accepted and preferred way of describing a combination of theoretical learning and training in the workplace, taking over from other expressions such as work-study alternance or apprenticeship, which are more common in other countries.

The interpretation and precise application of this concept has spawned debate and divergences, since the implementation of Dual University Education can vary significantly between countries, education institutions and economic and social sectors.

In this regard, this report takes the [Royal Decree 822/2021](#) as its reference, a standard which regulates Dual University Education in Spain for the first time ever, and defines it as:

A common education project implemented jointly in the university and in a collaborating organisation, such as a company, a social or trade union organisation, an institution or an administration, under the university's supervision and educational leadership, and whose objective is to provide the students with adequate skills so as to improve their all-round education and their employability.

BACKGROUND

The year 2021 may be regarded as the year that the *official* regulatory development of DUE in Spain began. However, the dualisation of university education in some territories in Spain substantially predates this. Fundamentally, the dualisation of education in our country has traditionally unfolded in counties that need to attract talent to strategic domains, generally in industry. This gave rise to an innovative collaboration and academic offer that caters to the real needs of the business world.

One such case is the Basque Country, where dual education experiences have been developed in the university setting since the beginning of the nineteen-sixties. These experiences correspond to the need for people trained in certain engineering disciplines and in other degrees that were needed in counties with a high degree of economic and technological development in Gipuzkoa.

Besides the training aspect, the dual education experiences allowed apprentices to pay for their own university education thanks to the remuneration received for their in-company work. In this regard, it is important to emphasise that the remunerated dual activity became a key driver in allowing many young people from not so well-off families to go to university and join local companies.

It could be claimed that Dual University Education in Spain was officially initiated in 2021 thanks to the passing of Royal Decree 822/2021. However, DUE was already being developed in some territories such as Catalonia and especially the Basque country. It is worth mentioning the University of Lleida in Catalonia and the University of Mondragon in the Basque country, two leading institutions in the field of DUE.

In Catalonia, the initiative prompting the launch of dual education originated from the framework of research and from the motivation to drive innovation in teaching and education. In 2012, thanks to the doctoral thesis by [Jorgina Roure-Niubó \(2009-2011\)](#), the University of Lleida became a pioneering institution by launching a dual bachelor's degree in primary education. This experience gradually gained traction in other areas of knowledge such as industrial engineering, computer engineering or human resources, to name but some.

Realising the importance of Dual University Education, in 2014 the Catalan Association of Public Universities began to work jointly on the preparation of its own DUE development model. The Catalan DUE development model was contained in the 2015 report [Promotion and development of dual training in the Catalan university system](#), subsequently updated in 2021, available in [Catalan](#), [Spanish](#) and [English](#). These efforts ultimately yielded, in July 2023, the [Dual education in the Catalan university system](#) report, a compilation of the results and recommendations of the task force created specifically to promote dual education in universities in Catalonia.

In view of the regulatory vacuum existing before 2021, some universities have gradually developed and innovated their own DUE model and, in parallel, have adapted to the state-wide regulations subsequently enacted. Therefore, a small number of universities pioneered the development of DUE well before the regulatory development established in 2021 and beyond, as we shall see presently.

Different initiatives were born of the need for collaboration and communication between universities. One clear example of this are the DUALECA annual conferences organised by the School of Humanities and Sciences of Education of Mondragon University in collaboration with the University of Lleida and the University of Andorra for the purpose of building a community to share experiences and practices with a view to delivering a dual education model. The topics addressed in the different editions have ranged from organisational, legal and structural aspects in the organisation of dual degrees to the challenges and strengths of dual experiences and impact evaluation.

The lack of a specific regulation for dual education affected many key elements of its processes. Moreover, there was no official definition of dual education, and each university used their own name and denominations for their dual education processes, such as “formación en alternancia” [alternance training] or “alternancia estudio-trabajo” [study-work alternance].

Over the years, Spain's regulation of the administrative aspects of these activities has gradually been defined from a classic university perspective of the internship activity. The early regulations governing education cooperation programmes ([RD 1947/1981](#)) limited the duration of the in-company period spent by students to 50% of the academic year. Due to these measures, long-term alternance training pathways like those required in current DUE were not allowed. Mondragon University combined education cooperation agreements with contracts of employment to afford legal coverage to the duration of in-company training activities.

The academic recognition of university-company activities has also been gradually developed. Up until 2014, there were no formal mechanisms of academic recognition, and the universities gradually created internal recognition spaces in their curriculums. For example, the recognition of in-company activities was part of the curriculum subjects (curricular integration).

The experience gleaned by certain universities that pioneered DUE permitted its rapid adaptation to the current legislation set out in the Royal Decree 822/2021 and with a significant volume of positively-rated dual degrees. These pioneering universities particularly include Mondragon University, which currently offers as many as 22 degrees with the so-called Dual Mention (*Mención*

Dual, in Spanish), the official recognition of dual university degrees, which will be addressed in section four of the report), the *Instituto de Máquina Herramienta* [Machine-Tool Institute] (IMH), currently affiliated to the University of the Basque Country (UPV-EHU), with two bachelor's degrees, and the University of Lleida (UdL) with five degrees.

MONDRAGON UNIVERSITY (MU)

MU's path in Dual University Education dates back to 1966, with the creation of ALECOP, a cooperative comprised mostly of students from the same university who worked while they studied to pay for their education through their wages. This cooperative made it possible to provide legal coverage by means of a formula based on a collaborating partner in the training activities done by the students. Initially, most of the companies were located in the Alto Deba county. These experiences corresponded to the need for people trained in certain engineering disciplines and degrees that were sought after in counties with a high degree of economic and technological development in Gipuzkoa.

In 1968, the Escuela Politécnica de Mondragón began to teach Industrial Technical Engineering. As of then, year after year, this training model was gradually consolidated and spread, one in which students complement their university education with real experience in the workplace.

When the Bologna Process reforms took effect and the structure of bachelor's and master's degrees was configured, this heralded a move towards a model in which the development and evaluation of competencies in the workplace became part of the university curriculum.

The MU's dual education is the outcome of the path towards quality and excellence of dual education, based fundamentally on the learning provided through the collaboration between the university and different entities over all these years.

In 2017, MU became the Basque Country university with the greatest number of recognitions of the quality seal awarded by the Basque quality agency, UNIBASQ. Subsequently, when the RD 822/2021 was enacted, MU became consolidated as the university with the greatest number of official recognitions with Dual Mention in Spain.

As a result, since 2022, MU has led the "EU4DUAL European Dual University Alliance", the current benchmark European project promoted and funded by the European Commission in the European University Alliance programme.

INSTITUTO DE MÁQUINA HERRAMIENTA [MACHINE-TOOL INSTITUTE] (IMH)

In 1995, following a major task of strategic reflection at the IMH involving the participation of companies, experts and the region's representative institutions, as well as the IMH's personnel and management, the objective of "offering higher engineering studies adapted to companies' needs" was defined, and more particularly for the machine-tool sector.

The IMH's management sought a model outside the Spanish university system that would allow them to "improve existing internships". They thus decided to collaborate with the CESI (*Centre des études supérieures industrielles*) group in France. The CESI is an alternance training school with a network of centres all over the country and a proven track record. In 1996, the collaboration agreement between the IMH and CESI was signed, thereby creating the IMH's Dual Engineering School (alternance training scheme). This form of training was distinct in that it was accredited by the *Commission des titres d'Ingénieur* (CTI) of France. The Government of the Basque Country authorised and recognised the training provided by the IMH's Dual Engineering School through Decree 330/1999 and the Order of 19 March, 2003.

Subsequently, with the implementation of the Bologna Process in Spain, the IMH found itself in the situation of having a unique system with certain differences from the model adopted for the French higher education system. To address this situation, the IMH implemented a set of strategic measures that culminated in the affiliation of the IMH's School of Engineering to the University of the Basque Country in 2011.

In the 2012-2013 academic year, the IMH started the alternance-training degree in Process and Product Innovation Engineering, with the official authorisation of Spain and the recognition of the National Agency for Quality Assessment and Accreditation (ANECA). The creation and the development of the IMH's Dual Engineering School currently constitute, as we can see, an evolving dual education model within the Spanish university system through an alternance training scheme.

UNIVERSITY OF LLEIDA (UdL)

The University of Lleida (UdL) has played a groundbreaking role in the deployment of Dual University Education in Catalonia. In 2012, drawing on the advantages of integrating in-company work into education as expounded in the doctoral thesis defended by Jorgina Roure-Niubó (2009-2011), the University of Lleida, a pioneering institution in Catalonia, launched the first-ever dual bachelor's degree in Primary Education.

Since then, the dualisation of bachelor's and master's degrees at the UdL has never ceased to grow. Therefore, the master's degree in Operations and Distribution Management began in 2014; followed in 2015 by the master's degree in Human Resources Management and Competency Development; in 2016 by the master's degree in Industrial Engineering, with Dual Mention as of the 2024-2025 academic year; in 2017 by the degree in Technical Architecture and Building Construction, and finally, in 2020 by the bachelor's degree in Digital Interaction and Computing Techniques.

Therefore, since 2015 until 2024, approximately 280 students and some 50 companies and organisations have participated in the UdL's dual education system, which has become a benchmark in this area in the Catalan public university system.

04

REGULATORY FRAMEWORK

This section provides a detailed analysis of the regulatory framework of Dual University Education. It starts by analysing the EU support to DUE - in the form of guidelines and university alliances - and continues by focusing on the Spanish legislation recently approved by the Spanish authorities.

The existence of a regulatory framework for the development of DUE is essential if its effectiveness and consistency are to be guaranteed. This framework provides clear and specific guidelines that regulate the programme's key aspects, such as the curriculum structure, the roles and duties of the education institutions and collaborating entities, student screening criteria and learning assessment. Moreover, such a regulatory framework provides legal certainty to institutions and participants alike, thus fostering confidence in the system and facilitating its implementation and monitoring.

The European, national and Autonomous Community regulatory frameworks currently existing are summarised below:

4.1. EUROPE

Although the EU has played a key role in promoting European-wide education policies, it lacks legislative authority in matters of education. In this setting, the EU recommendations serve as guidelines, although they are not binding. This lack of direct powers is reflected in DUE, where regulation is left mainly in the hands of the Member States, who adapt them to each country's needs and specificities.

- Some of the EU's general initiatives (which are not exclusive to the university setting) geared towards promoting apprenticeships or work-based learning (WBL) as part of a broader framework to improve education, youth employment and social inclusion, are summarised below:
- The inclusion of WBL in key documents such as [A new start for Europe: my agenda for Jobs, Growth, Fairness and Democratic Change](#), the [youth employment package](#) and the [EU Youth Strategy](#) (2010-2018).
- Explicit mention of WBL in the [Youth Guarantee](#) (Council of the European Union, 2013), in which the Member States commit to offering opportunities in employment, continued education or apprenticeships for young people within a period of four months of becoming unemployed.
- The [2015 employment guidelines](#) (Council of the European Union, 2015), which identified the effectiveness and efficiency of education and training systems as essential in increasing workforce qualification and in adapting to changes in the job market.
- Adoption of a [recommendation by the Council of the European Union in 2018 on a European Framework for Quality and Effective Apprenticeships](#).

Finally, this approach was further bolstered by the cycle of post-2020 EU policies as reflected in the [European Skills Agenda for sustainable competitiveness, social fairness and resilience](#) (European Commission, 2020) and the [Proposal for a Council Recommendation on a Bridge to Jobs](#) (Council of the European Union 2020).

In education policies, it should be mentioned that the Bologna Process, a benchmark in this sphere, particularly in higher education in the EU, has made very few or no references at all to dual education in the successive ministerial communiqués ([Rome Ministerial Communiqué, 2020](#)), which leaves a regulatory vacuum in this specific area of higher education.

Moreover, the Directorate-General for Education and Culture of the European Union has backed several projects pursuing development and innovation in apprenticeships or work-based learning within the Erasmus+ programme. Here, particular mention may be made of the [CWIHE](#) (2014), [BEEHIVES](#) (2015), [HAPHE](#) (2016), [WBLIC](#) (2016) and [WEXHE](#) (2016) or [ApprenticeshipQ](#) (2017) projects, which enjoyed the participation of the three aforementioned groundbreaking institutions: MU, IMH and UdL.

These projects have made a significant contribution to the development of dual education, both as part of Vocational and Education and Training and University Higher Education, addressing issues such as the integration of learning in the workplace, the development of entrepreneurial skills, the harmonisation of education approaches and quality improvement through employer participation.

In conclusion, all of the foregoing underscores the need for greater coordination and dialogue among the Member States in order to tackle dual university education in the European setting. The EU would appear to be making a decided commitment to DUE. Its support to the creation of the EU4DUAL Alliance is probably an indicator of the strategic importance attached to DUE by the European Union.

“The European Union, through the funding of several projects linked to education, has gradually promoted dual education, initially in Vocational Education and Training and much later in the university setting through the EU4DUAL strategic university alliance”.

4.2. SPAIN

In Spain, university education is governed by a system that combines national and Autonomous Community regulations. At national level, the [Organic Law on the University System](#) (LOSU, using the Spanish acronyms) of 2023, and the [Royal Decree 822/2021](#), on the organisation of university education, establish the current general framework for the planning of university education. On the other hand, the Autonomous Communities enact their own regulations that develop the aforementioned national framework in their respective territories.

Both the LOSU and the Royal Decree 822/2021 refer explicitly to Dual University Education, which we shall analyse further below. It is important to emphasise that DUE is currently in an early stage and is evolving all the time, meaning that significant regulatory changes may be expected in the coming years.

Another crucial element in DUE is the role played by the quality agencies. These agencies are specialised organisations whose core mission is to guarantee and evaluate quality and excellence

in higher education. Their function straddles several areas, such as the evaluation of studies and universities, and they also play a key role in quality assurance and the ongoing improvement of DUE. Section 4.5 analyses the role played by the quality agencies in the deployment of DUE.

Collaboration between universities, companies and these quality agencies is essential to ensure that students receive a high-quality education that prepares them for the job world. These quality agencies have set up evaluation and accreditation protocols to guarantee dual education quality.

This report provides a detailed summary of how DUE is regulated in Spain, covering all the relevant national and Autonomous Community regulations and decrees. Moreover, the evaluation protocols used by quality agencies in Spain to evaluate and accredit DUE are analysed in depth.

4.3. NATIONAL REGULATIONS

DUE is regulated nationally by means of a general law and three developing decrees.

Generally speaking, the LOSU provides legal coverage to the concept of dual education. More specifically, its article 9 states that “[...] in exercising their autonomy, universities may develop specific teaching innovation strategies, such as official open-pathway degrees, Dual Mention degrees [...]”.

Furthermore, three regulations, two of them pertaining to education and the other one to employment, define the implementation guidelines:

- The [Royal Decree 822/2021](#), on the organisation of university education, may be regarded as a watershed in that it establishes a regulatory framework for DUE in bachelor’s and master’s degrees, because it defines dual education, introduces the Dual Mention as an instrument for its development and establishes implementation conditions.
- Annex 2.4 of the [Royal Decree 678/2023](#), of 18 July, regulating national accreditation for access to university faculty and the system governing official examinations for access to such positions, recognises tutors’ work in dual education: “[...] Tutoring activity will be acknowledged depending on its diversity and types of tutoring (intern students, dual students or alternance training students [...]”.
- Moreover, the [Royal Decree-Law 32/2021](#), on urgent measures for the labour reform, introduces the contractual framework for dual university education in the form of the alternance training contract (article 11.2 ET).

4.3.1. The Dual Mention

The Dual Mention [Mención Dual] is an official recognition of university bachelor’s and master’s degrees which, in fulfilment of a set of requirements, is established by article 22 of the Royal Decree 822/2021. It constitutes recognition of a degree awarded following an evaluation by a quality agency and which is reflected in the Ministry’s Registry of Universities, Centres and Degrees (RUCT, using the Spanish acronym). Fulfilment of the Dual Mention will be accredited in the student’s Diploma Supplement at the end of the course of studies.

The following conditions apply for the award of the Dual Mention recognition in official university education:

- A. The percentage of credits, as provided for in the curriculum, done in the collaborating entity (company, organisation, institution or administration) will be:
1. Between 20% and 40% of the credits in bachelor's degrees.
 2. Between 25% and 50% of the credits in master's degrees.
- These percentages should include the bachelor's or master's Degree Dissertation (TFG/TFM, using the Spanish acronyms).
- B. Alternance of the training activity developed on a dual basis at the university and the collaborating entity with paid employment through a dual university education contract.
- C. The definition of a training plan that includes the basic competencies and knowledge to be attained, in a coordinated fashion and as a complement to the competencies worked upon in the students' academic period at the university.

4.4. AUTONOMOUS COMMUNITY REGULATIONS

As mentioned above, it is important to stress that university policy powers are distributed between the central government and the Autonomous Communities. Whereas the central government lays down the regulatory frameworks and general criteria in matters of higher education, the Autonomous Communities have powers to regulate specific aspects related to the university in their own territories.

This means that university policies may vary across Spain's Autonomous Communities. This decentralised approach makes it possible to adapt policies more precisely to local needs and realities, promoting diversity and independence of the university institutions in each territory. Nevertheless, it can also create challenges in terms of national coordination and consistency, thus attesting to the importance of collaboration between the central government and the Autonomous Communities to ensure a consistent approach in the overall university system.

Annex II contains the Autonomous Community regulations pertaining to the planning of university education, as well as the inclusion or absence of specific references to DUE in these regulations. Generally speaking, two situations may be distinguished:

- When this report was produced (May 2024), there was no record of any specific Autonomous Community regulation governing dual university education. In most cases, the regulations in question predate the enactment of the Royal Decree 822/2021.
- The new university regulations now emerging in the Autonomous Communities address general aspects related to dual education in university education planning regulations. In all these cases, the references merely refer to the provisions of the Royal Decree 822/2021 on the Dual Mention.

“DUE is now beginning to be regulated at state level through a general law, the LOSU, and three specific decrees, two of them pertaining to education and the other to employment, which define the implementation guidelines”.

4.5. QUALITY AGENCY PROTOCOLS

4.5.1. Context

Quality agencies play a crucial role in university policy in Spain and in Europe. These agencies are independent organisations tasked with evaluating and guaranteeing higher education quality in terms of teaching processes, research, institutional management and services offered. Their main function is to promote constant improvement in the quality and transparency of education in the university system.

In Spain, both the National Agency for Quality Assessment and Accreditation (ANECA) and the Autonomous Community agencies are tasked with evaluating the quality of academic programmes, university institutions and quality assurance systems, and with issuing reports and certificates that endorse the accreditation of programmes and institutional evaluation.

To this end, the Spanish Network of University Quality Agencies (REACU) was created to promote cooperation and coordination between these entities at national and regional level. Its main objective is to foster excellence and ongoing improvement in higher education by defining and promoting shared quality standards and to facilitate the exchange of good practices and collaboration in evaluation and accreditation activities.

The national and Autonomous Community quality agencies work together with the European Quality Assurance Register for Higher Education (EQAR). The mission of this collaboration is to guarantee that quality standards and evaluation procedures are comparable and fulfil the Standards and Guidelines for Quality Assurance in the European Higher Education Area (EHEA).

4.5.2. Background

The background to the quality agencies' initiatives in Spain for the evaluation of dual education in university degrees dates back to the case of the Basque University System Quality Assurance Agency ([Unibasq](#)) developed a [Dual Seal](#) that has played a key role in the development of DUE in Basque universities.

This programme, undertaken in 2017, was intended to evaluate proposals for bachelor's and master's degrees submitted to obtain recognition for "dual education" or "university-entity alternance", in accordance with the applicable protocol produced by Unibasq. The Dual Seal distinction was established in a voluntary evaluation programme geared towards supporting Basque University System universities in the development and improvement of specific aspects of the dual education model.

This experience in the Basque country provides a valuable precedent for the design and implementation of similar initiatives in other territories in Spain, underscoring the importance of collaboration between universities, quality agencies, Autonomous governments and business confederations in promoting the excellence and relevance of dual education in the university setting.

REACU's protocol for the evaluation of the Dual Mention

When the Dual Mention took effect through the Royal Decree 822/2021, REACU responded to this new dimension in university education by producing a specific document: the [Assessment Protocol for the Inclusion of the Dual Mention](#), hereinafter referred to as the Protocol. This doc-

ument establishes the basic structure and provides general guidelines for the evaluation of the Dual Mention by the quality agencies. In this context, REACU plays a crucial role by providing guidelines and common criteria that enable quality agencies to harmonise their evaluation processes and to guarantee the quality of dual education in all the university institutions in Spain.

More specifically, the Protocol defines the following dimensions that must be taken into account in the evaluation of a dual bachelor's or master's degree:

- **Design of the common training project:** the objectives of the training project, the rationale of its academic, scientific, professional and social interest, number of places available, percentage of the constituent credits and subjects, topics and modules, and learning outcomes sought (in the form of the knowledge or content, competencies and skills to be acquired by the students).
- **Access criteria for students:** mechanisms that clearly inform students about routes of access, admission procedures and how to drop out of the training project, should it be the case.
- **Collaboration criteria with the entities:** establishment of an Education Collaboration Framework Agreement which includes the training project, the parties' obligations, tutoring and supervision mechanisms, evaluation systems and other conditions.
- **The entity's academic, support-to-teaching and tutoring personnel:** the faculty, support-to-teaching personnel and tutors of the entity that guarantee that the objectives are accomplished and that the training project's learning outcomes are acquired.
- **Resources for learning in the university and in the entity:** material resources, infrastructures and services required and available to guarantee the envisioned learning outcomes.

In summary, REACU's Evaluation Protocol for the Inclusion of the Dual Mention provides a complete framework for quality agencies to evaluate dual education programmes in Spanish universities. These guidelines straddle aspects crucial to the development of dual education programmes with a view to guaranteeing that students acquire the necessary knowledge, competencies and skills through their training programmes.

“The Assessment Protocol for the Inclusion of the Dual Mention produced by REACU in 2022 offers general guidelines on all the conditions that a bachelor's or master's degree must fulfil to be awarded the Dual Mention”.

4.5.3. Specific Quality Agency Protocols

Following the guidance provided by REACU, quality agencies are bringing criteria for the evaluation of the Dual Mention into their degree verification protocols and in some cases they are developing specific guides for the evaluation of Dual Mentions. Some examples of this are provided below:

- The Knowledge Agency of Andalusia includes the criteria for the evaluation of the Dual Mention during the verification process of new bachelor's and master's degrees in the [Guide to Support the Preparation of the Report on the Verification of Official University Degrees \(bachelor's and master's Degrees\)](#), approved in May 2022. This guide lays down specific evaluation criteria in each one of the sections of the verification report for any new degree that applies for the Dual Mention.
- In the Basque Country, the [Guide for the Verification-Authorisation, Monitoring, Modification and Accreditation of Official bachelor's and master's Degrees](#) of the Basque University System Quality Assurance Agency (Unibasq) establishes that applications for the Dual Mention of the RD 822/2021 must take into consideration the agreements and guidance established for Dual or Alternance University Education in the Basque University System as part of the 2nd Basque University-Company Strategy 2022-2026. The guide refers to Dual or Alternance University Education and to agreements and guidance stemming from the Dual Seals evaluation protocol approved by Unibasq in its Resolution of 20 October, 2020.
- The Agency for Quality Assurance in the Galician University System (ACSUG) produced the [Guide to Support the Assessment Prior to the Verification of Official University Degrees \(bachelor's and master's Degrees\)](#) in February 2022; it only refers to the sections of the reports in which additional information for the application for the Dual Mention should be included.
- The Agency for Quality Assurance in the University System of Catalonia (AQU Catalunya) has developed a specific guide with "[quality standards and criteria for the evaluation of bachelor's and master's degrees](#)". Its objective is to provide universities with guidance in the internal process of drafting, reviewing and amending Dual Mention proposals that they include in their verification reports for their bachelor's and master's degrees. This document is the guide used by the commissions tasked with evaluating the degree of accomplishment of the standards and the criteria to be met by the Dual Mentions.

05

OVERVIEW OF DUE IN THE SPANISH UNIVERSITIES: DEPLOYMENT AND EVOLUTION

This section provides a detailed overview of the degree of deployment of dual education in Spanish universities.

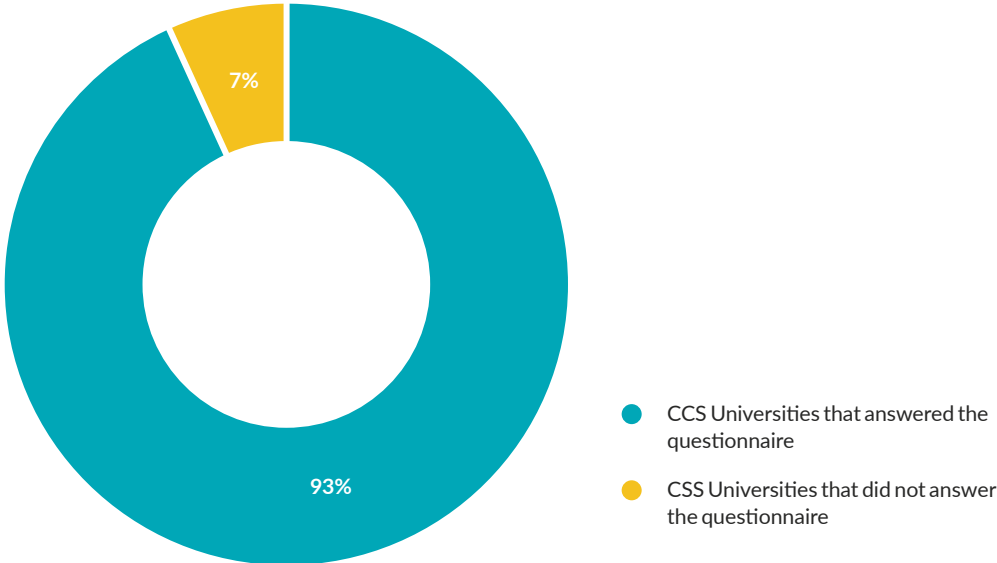
As was stated in the introduction, the data analysed in this report were compiled between October 2023 and May 2024 and therefore provide a static overview of the situation until then. In order to attest to the dynamism in the deployment of DUE in Spanish universities, the Fundación Bertelsmann has created a web portal, www.formaciondualuniversitaria.org, on which the data from the universities that bring in new dual degrees as well as the related legislation enacted will be constantly updated.

5.1. DEPLOYMENT OF DUE IN SPANISH UNIVERSITIES

5.1.1. Methodology

A quantitative and qualitative methodology was used to provide a detailed overview of the deployment of Dual University Education in our country. On the one hand, the quantitative part was obtained with the help of a detailed questionnaire addressing the degree of development of DUE that was distributed to all the universities that are part of the Association of Social Councils of Spanish Universities (CCS): **58 universities (48 public and 10 private)**. Fifty-four (54) of the 58 universities answered our questionnaire, which had a **response rate of 93%**.

Chart 1. Scope of the questionnaire sent to CCS member universities



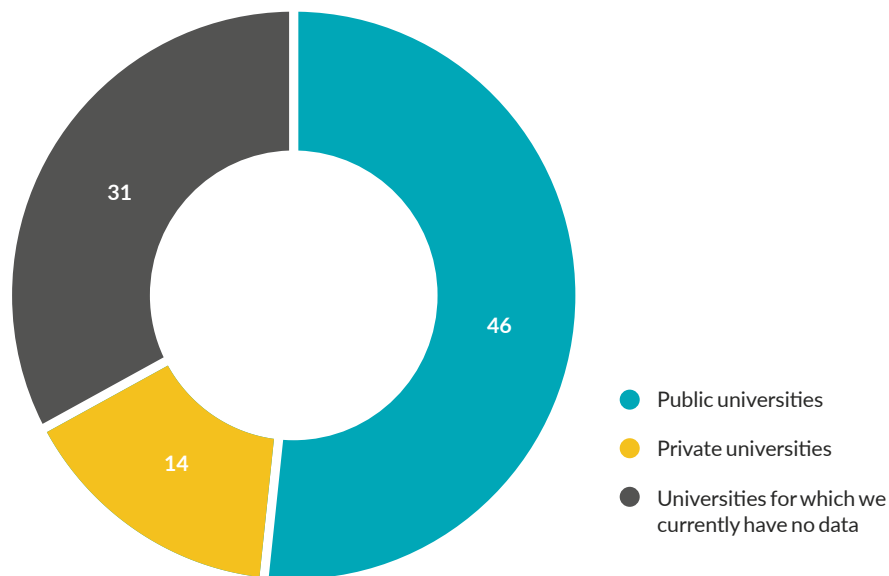
Besides these 54 institutions, a further 6 private universities provided answers. Therefore, the total study sample was **60 universities** (46 public and 14 private) out of the **total of 91 universities in Spain**, according to data from July 2024. Annex III contains a list of all the universities that answered the questionnaire.

Given the answers, the study may be said to provide a representative overview of the state of affairs of dual education in Spanish public universities, since it includes **virtually all the public universities (46 of 50)**.

The second edition of the study, scheduled for 2025, is intended to extend the sample of private universities in order to obtain a comprehensive overview of the deployment of dual education in the Spanish university system.

The following chart provides a comprehensive picture of the scope of this study in the Spanish university system.

Chart 2. Scope of the questionnaire in Spain



Moreover, the qualitative part was obtained through two focus groups held with seven Spanish universities, which provided further insight into the perceptions, strategies and intentions related to the development of DUE.

“This study constitutes a detailed overview of virtually all the Spanish public universities. 46 of the 50 public universities furnished their data (92%), whereas 14 of the 41 private universities (34%) did so”.

At this point, one terminological consideration should be made. This report makes a distinction between the term “Dual Mention” and “dual pathway”. The term “Dual Mention” applies to degrees that have currently obtained this specific distinction through a quality agency. On the other hand, “dual pathway”, in small letters, is taken to refer to degrees that include some kind of dual curricular organisation but which lack the recognised “Dual Mention” label.

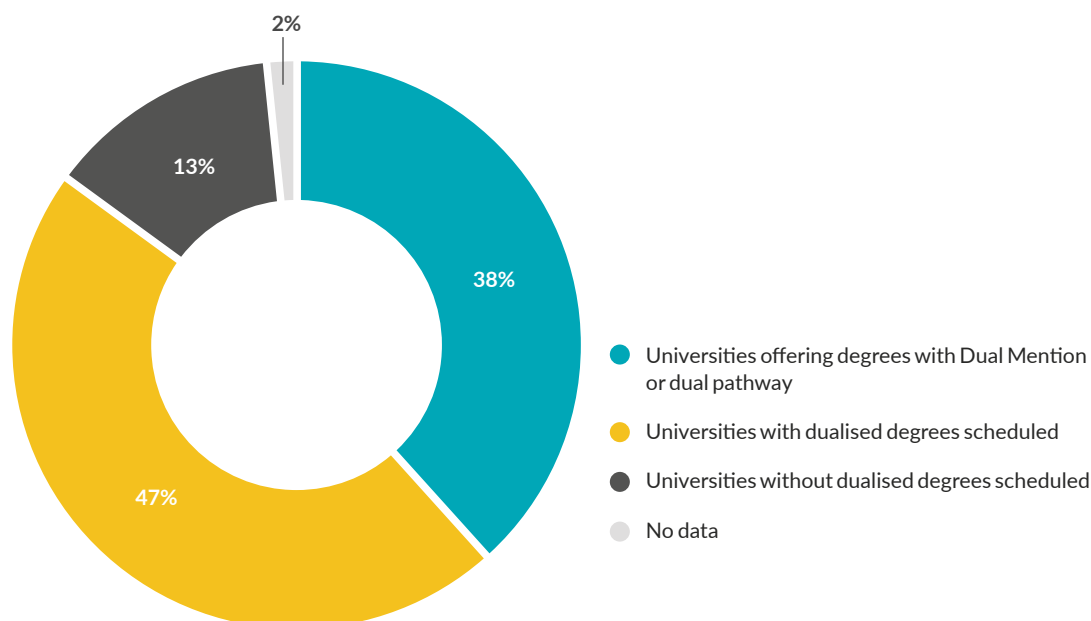
The term “dual pathway” is used to provide an extensive overview and to afford visibility to university initiatives that already include dual education or which are currently in the process of adaptation to the Dual Mention. These universities are defining their curriculum and are adapting it to obtain the Dual Mention. The “dual pathway” label also includes universities which already provide degrees with a dual arrangement but have chosen not to opt into the Dual Mention on account of the difficulties in fulfilling it entirely.

This distinction is valuable for identifying consolidated dual initiatives (with the Dual Mention) and burgeoning dual projects or those currently in the consolidation process (via dual pathways). Moreover, it is important to point out that the term “dualisation” is used generically to designate any type of degree that includes dual education, either the Dual Mention or the dual pathway (with no distinction made between these two terms).

5.1.2. Level of dualisation of Spanish universities

An initial analysis of the data shows that Spanish universities are highly interested in the development of dual education. **85% of universities either already have a dual degree in place or have evinced an interest in doing so.** More specifically, **37% already have a dualised degree (Dual Mention or dual pathway)**, whereas **48% have specific implementation plans. Only 13%** of the universities state that they have **no interest** in including dual education in their curriculums at this moment in time. It should be noted that four of the eight universities that show no interest are private. Chart 3 presents an overview of the state of affairs of DUE in 2024.

Chart 3. Situation of dualisation in universities 2024



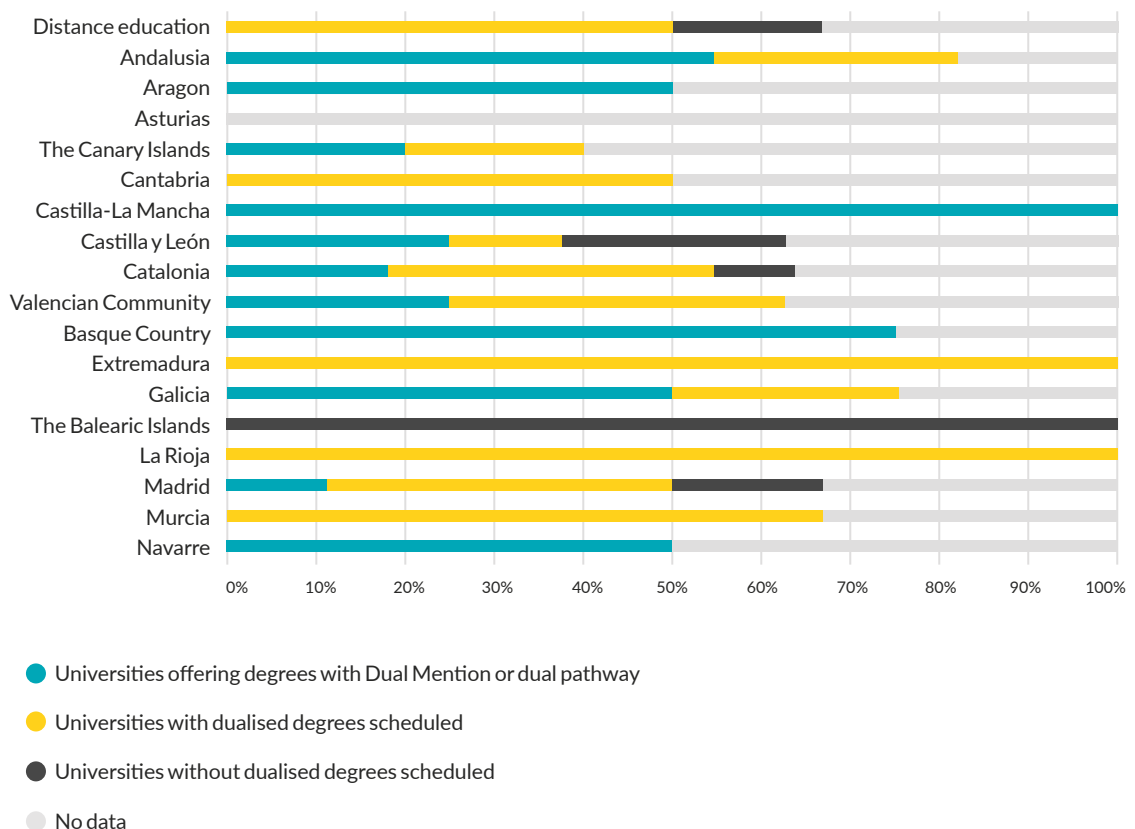
5.1.3. Deployment of DUE by Autonomous Community

Geographically, dual education—either with Dual Mention or dual pathway—is currently in place in no few Autonomous Communities, more specifically 11, and the universities in another four communities are interested in deploying it. Of them, the Basque Country warrants particular attention, as it is by far the Autonomous Community with the greatest number of dual degrees, or Castilla-La Mancha, whose only university, the University of Castilla-La Mancha, already offers some degrees with Dual Mention.

With regard to future forecasts, the Andalusian universities have also expressed an interest in dualising their study programmes, and more than half of the universities already have dualised degrees, whereas another significant percentage of universities intend to follow suit. Furthermore, and in this same line, the universities in Galicia and the Community of Valencia have evinced great interest in including dual education in their degrees.

On the other hand, the Autonomous Communities that still have no consolidated dual education but have expressed a great interest in developing it are Extremadura, Murcia and La Rioja.

Chart 4. Dual University Education by Autonomous Community 2024



The difference between studies with Dual Mention or dual pathway also provides a clue as to the degree of penetration of DUE and its consolidation in Spanish universities. Charts 5 and 6 illustrate the number of universities in each Autonomous Community with some type of dual degree, with Dual Mention (chart 5) or dual pathway (chart 6).

Chart 5. Number of universities with degrees with Dual Mention by Autonomous Community 2024

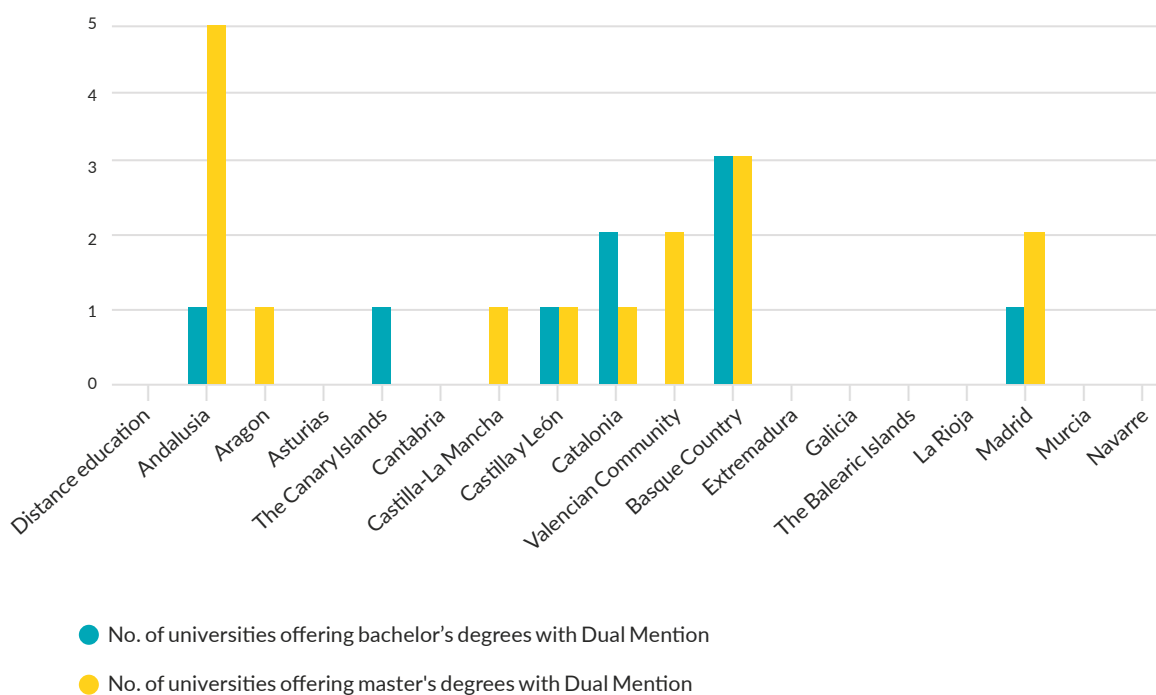
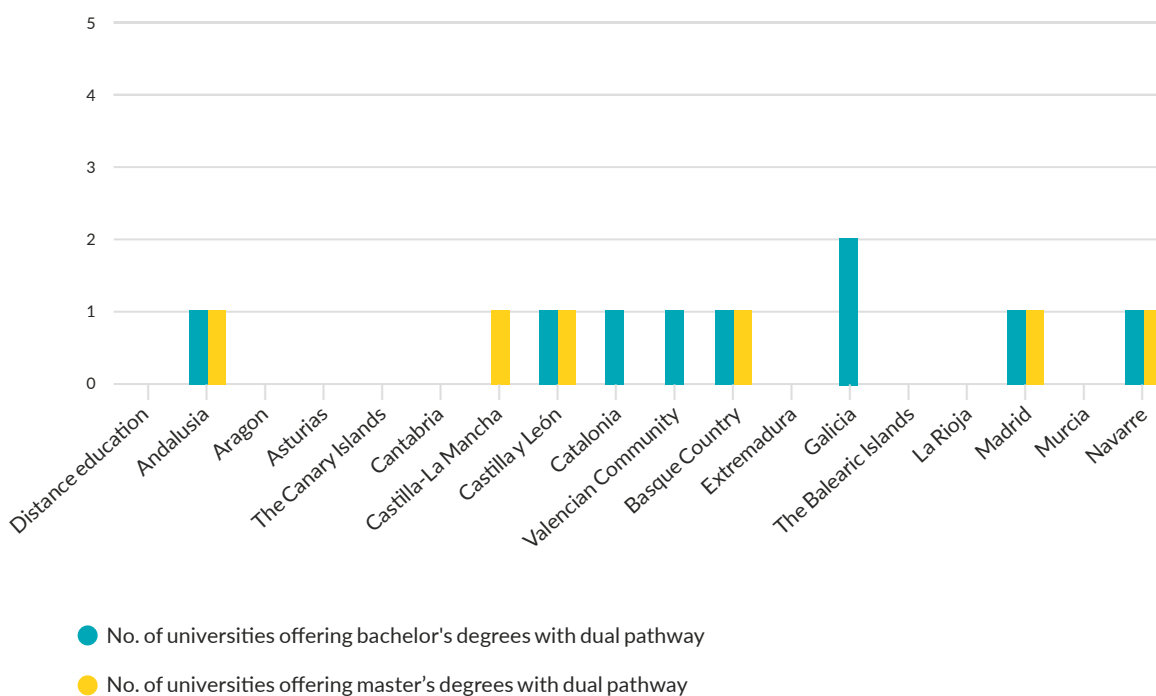


Chart 6. Number of universities with degrees with dual pathway by Autonomous Community 2024



As can be seen in chart 5, the Dual Mention is present in more than half of the Autonomous Communities, more specifically in nine. This is an indicator of how fast some universities have adapted their existing dual pathways to the Dual Mention requirements. As was already mentioned in section 4, it should be remembered that the Dual Mention “seal” was created for the first time ever in 2021 through the [Royal Decree 822/2021](#). Therefore, the Dual Mention seal has gained traction in more than half of the Autonomous Communities in a relatively short time span. Once again, in this regard the Basque Country is particularly noteworthy, although Andalusia also has a significant number of degrees with both Dual Mention and dual pathway .

The fact that there are universities with both Dual Mention and dual pathway degrees could be attributed to several factors. To begin with, because the introduction of the Dual Mention is relatively recent and some degrees that already include a dual pathway are in the process of obtaining the Dual Mention. This explains why the data are so dynamic.

Another reason could be that the Dual Mention may be awarded to studies in which students can have a remunerated contract. In the case of studies related to the public sector, in-company periods of dual programmes are very often done in public institutions where there is no possibility of a remunerated contract. Therefore, the possibility of obtaining the Dual Mention is excluded from most public area-related studies.

Charts 7 and 8 present a more quantitative overview of the number of dualised degrees in the different Autonomous Communities. Chart 7 depicts the number of dualised bachelor's degrees, with both Dual Mention and dual pathway. Chart 8 provides the same information for master's degrees.

Chart 7. Number of dualised bachelor’s degrees by Autonomous Community 2024

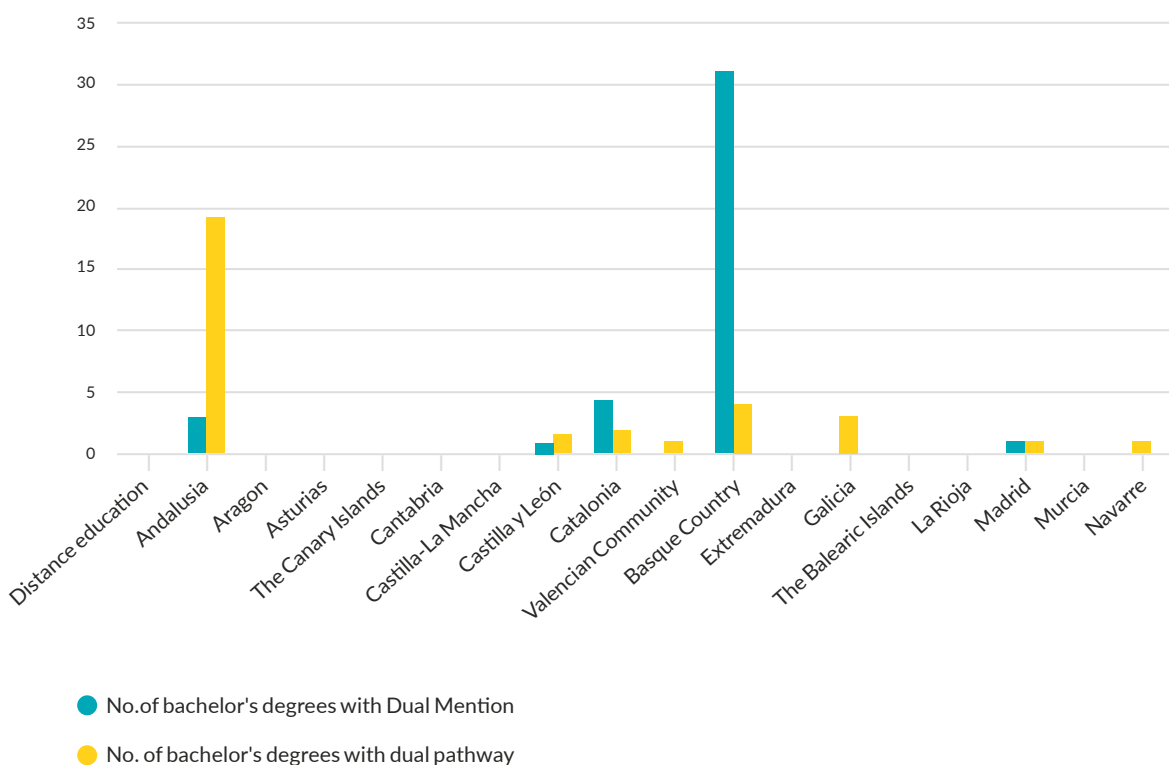
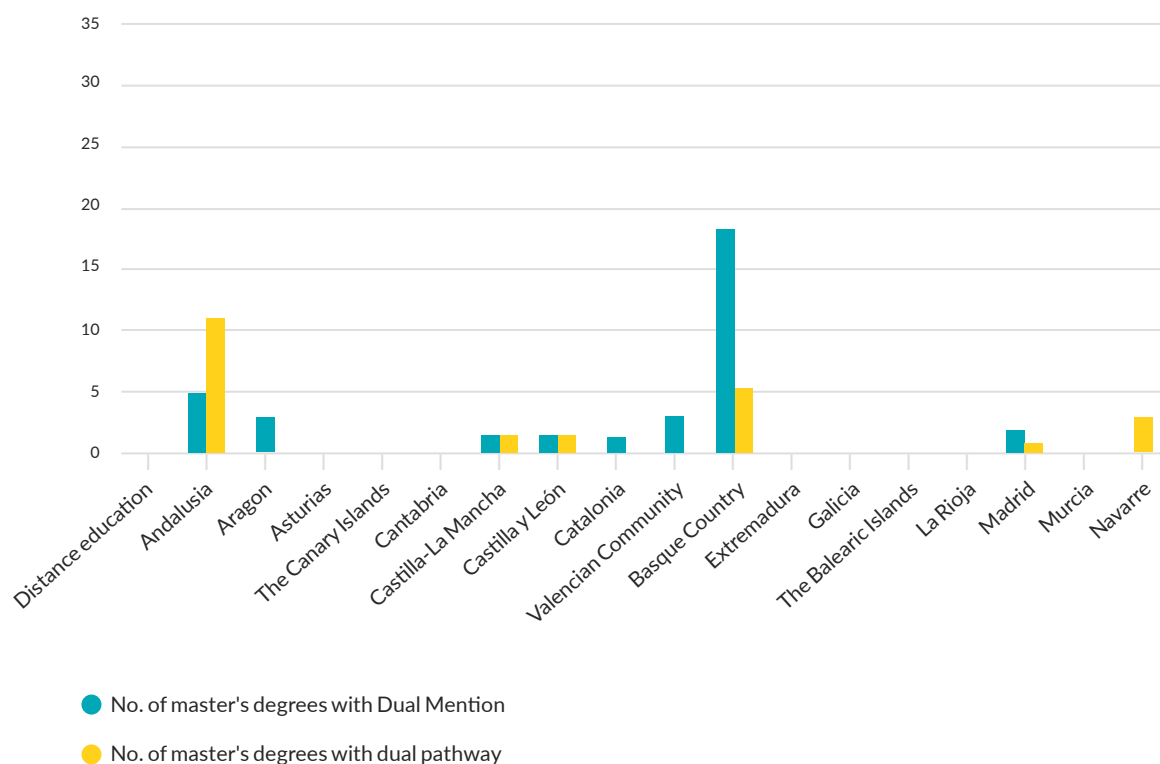


Chart 8. Number of dualised master's degrees by Autonomous Community 2024



Analysing both charts, it transpires that dualised bachelor's degrees outnumber dualised master's degrees in Spanish universities. More specifically, **72 bachelor's degrees have been dualised** (with both Dual Mention and dual pathway) compared to **51 dualised master's degrees**. A more detailed breakdown shows that **41 of the 72 dualised bachelor's degrees have the Dual Mention**, whereas **31 have the dual pathway**. In contrast, **28 of the 51 dualised master's degrees have the Dual Mention and 23 the dual pathway**.

This phenomenon could be related, among other reasons, to universities' use of dualisation as a strategy to attract students. The focus groups held have shown that one of the objectives of the deployment of DUE by the universities is to attract new students thanks to its advantages, such as an improvement in occupational integration or the use of an alternance training contract.

The Basque Country and Andalusia are at the forefront in terms of the number of dualised university degrees. In the **Basque Country** there is a clear commitment to the Dual Mention, with 30 bachelor's degrees and 17 master's degrees. In this regard, special mention must be made of Mondragon University, which is consolidating its position as the university with the highest number of degrees with Dual Mention in Spain. The strategic commitment to dualisation in the Basque Country in general and more particularly by the MU stems from a long-standing tradition and deep-rooted collaboration between the world of education and the business world. The results of this university's commitment to dualisation are clear and are attested to by the rate of occupational integration by dual graduates. By way of example, the employment rate in the Higher Technical School of Mondragon University, with dual degrees, amounts to 91%, according to data of the [Basque Employment Service \(LANBIDE\)](#).

In the case of Andalusia, the spike observed in the previous charts results mainly from the University of Almería's (UAL) strategic commitment to DUE. About one decade ago, the UAL designed a teaching innovation programme called *Talento D-UAL*. Thanks to this programme, the University of Almería has mainstreamed dual education experiences to virtually all its bachelor's degrees (19 bachelor's degrees with dual pathway), including those with a low occupational integration rate, and to part of its master's degrees (11 master's degrees with dual pathways and one with the Dual Mention).

The *Talento D-UAL* programme has been systematically evaluated since it began and has a mean occupational integration rate of around 85%. One of the key elements in the UAL's strategy is the link with the territory's productive and social sectors, bolstered by a specific plan for liaising with companies in which dual education programmes have become a priority objective for the university.

These data are reinforced by a third item, related to the University of Alcalá, which, while it currently has no dualised degrees (with Dual Mention or dual pathway), it does have experience as a pioneer in European collaboration in DUE. The University of Alcalá has a collaboration agreement with the German University of Baden-Württemberg (DHBW) and with the FEDA-EWA training school (based in Madrid) to offer permanent dual education courses, more specifically in Business Administration and Management (BAM) (Bachelor of Arts). The students take the subjects in Madrid (given by the faculty of the University of Alcalá) and in Germany, and obtain a Bachelor of Arts degree in BAM, awarded by the DHBW.

5.1.4. Deployment of DUE by areas of knowledge

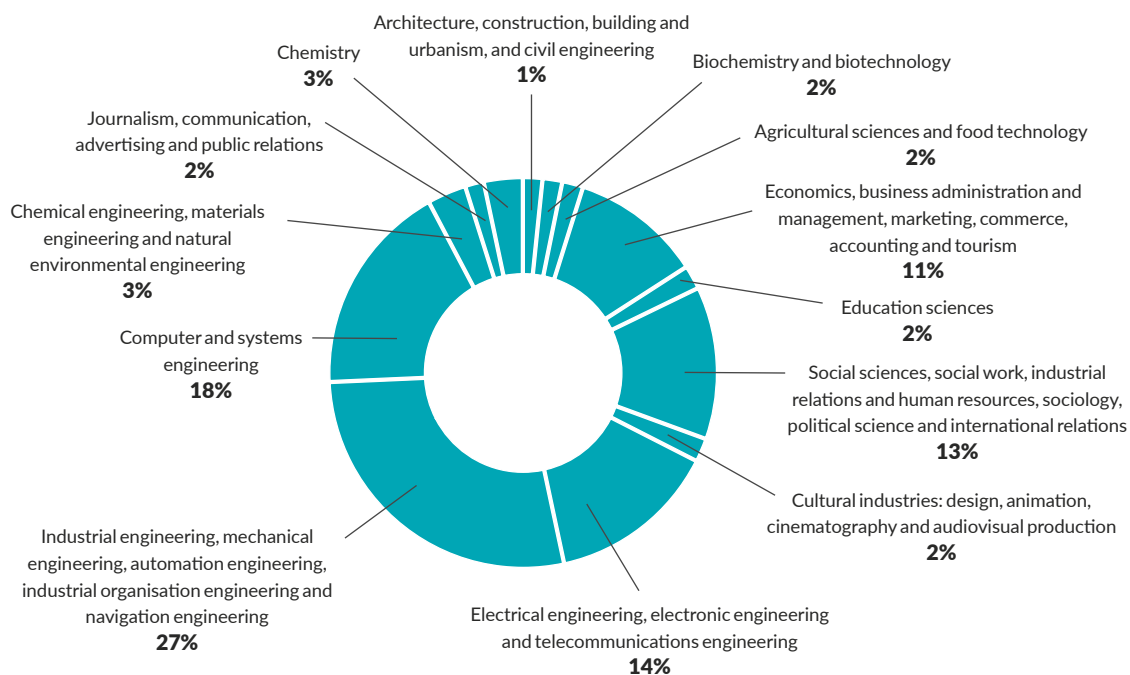
The following section provides an analysis of the development of DUE by areas of knowledge, both in degrees that already have the Dual Mention and in those which only have a dual pathway, following the terminology mentioned previously.

Focusing on fields of study, and examining degrees with the Dual Mention, chart 9 below shows that there is a greater degree of dualisation in engineering, which accounts for 64%. There is a particularly noteworthy trend towards the field of industrial engineering, mechanical engineering, automation engineering, industrial organisation engineering and navigation engineering (27%), followed by computer and systems engineering (18%) or electrical and electronic and telecommunications engineering (14%)

The difference between studies with Dual Mention or dual pathway also provides a clue as to the degree of penetration of DUE and its consolidation in Spanish universities. Charts 5 and 6 illustrate the number of universities in each Autonomous Community with some type of dual degree, with Dual Mention (chart 5) or dual pathway (chart 6).

“The need to forge ties with the productive sector underpins the experiences of groundbreaking private universities such as the Mondragon Unibertsitatea or the University of Almería, which have included DUE in their education offer”.

Chart 9. Degrees with Dual Mention distributed by area of knowledge 2024



This concentration of engineering degrees ties in with the high interest in the development of dual education in the industrial sector. Moreover, **the majority of these engineering degrees with Dual Mention are concentrated in the Basque Country (68% of engineering degrees)** since, in line with the comments of the previous sections, the Basque Country is the Autonomous Community with the greatest tradition in the implementation of dual university education.

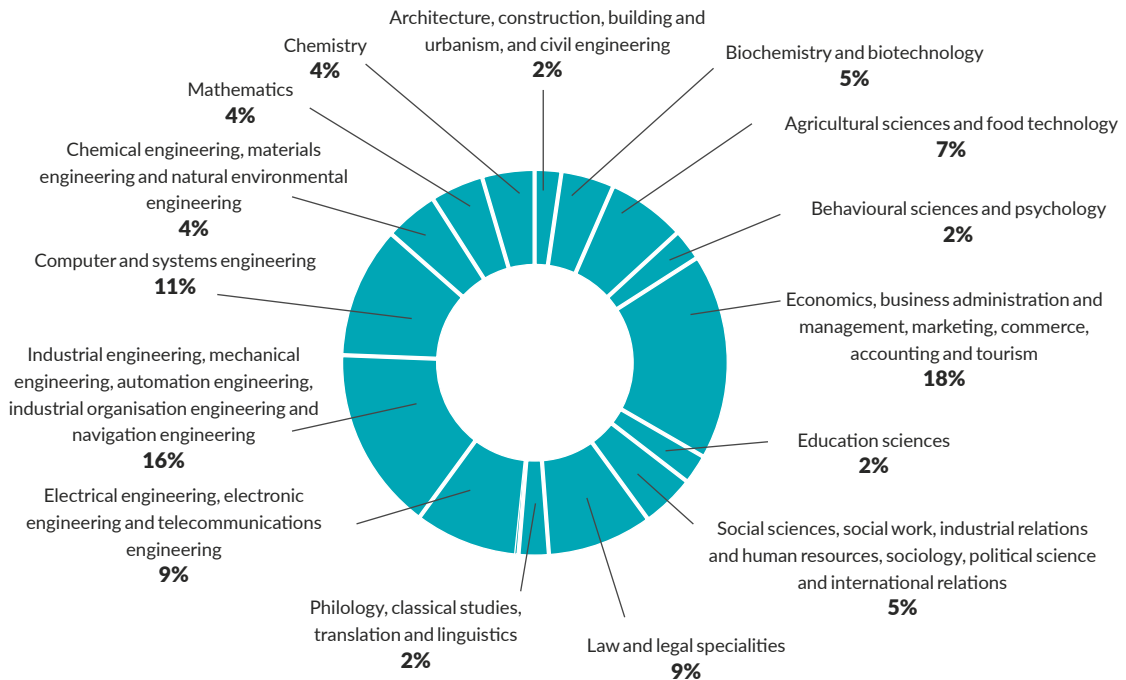
Other noteworthy knowledge areas that already have degrees with Dual Mention are economics and business management, sociology, journalism and communication, albeit to a lesser extent than the engineering degrees.

The analysis of the degrees with dual pathway (chart 10) shows that distribution is more homogeneous between the different branches of knowledge. **Degrees in engineering continue to command a majority—with 40%—**, although they are closely followed by degrees related to the social sciences, with 36%.

Another salient point is that the areas of economics, business administration and management, marketing, commerce, accounting and tourism have the greatest number of degrees with dual pathway (18%), followed by industrial engineering, mechanical engineering, automation engineering, industrial organisation engineering and navigation engineering (16%).

A more exhaustive analysis shows that in the area of economics, business administration and management, marketing, commerce, accounting and tourism, most of the degrees belong to the University of Almería, whereas industrial engineering, mechanical engineering, automation engineering, industrial organisation engineering and navigation engineering are distributed across universities of different Autonomous Communities.

Chart 10. Degrees with dual pathway distributed by area of knowledge 2024



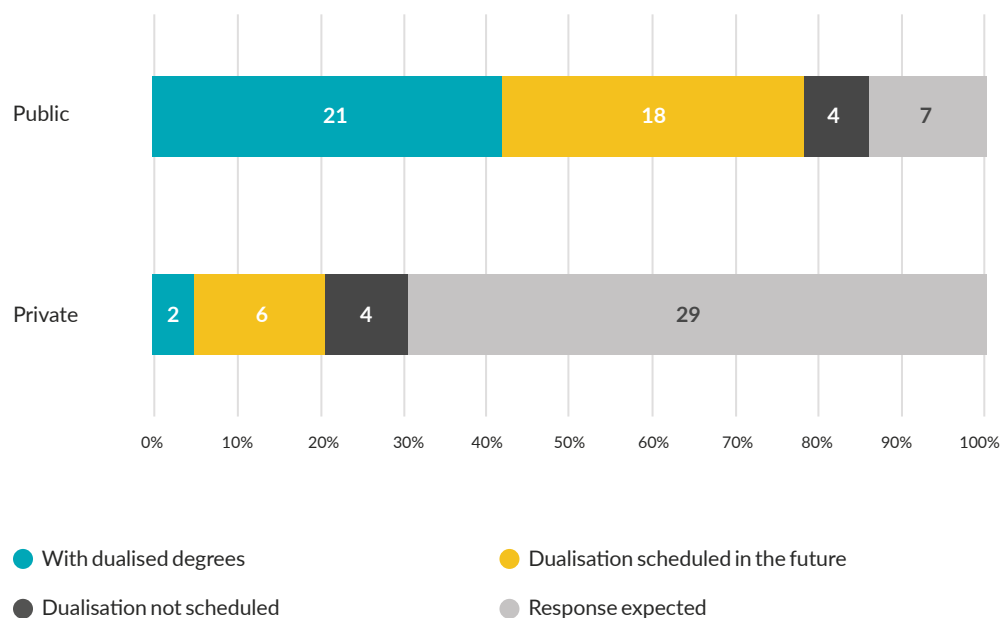
5.1.5. Deployment of DUE by type of university

This section will analyse the data according to the type of university, i.e. public or private. As mentioned above, the sample is comprised of 60 universities, 46 public and 14 private. Bearing in mind that there are 50 public and 39 private universities in Spain, we may safely say that the information about the degree of development of DUE in public universities is virtually complete (46 universities out of 50). On the other hand, the data for private universities are partial (14 of 39). The data from private universities will be completed in a subsequent phase of the study scheduled for 2025. However, we wanted to include them in this report with a view to pinpointing possible trends.

Chart 11 displays the degree of penetration of dual education in Spanish universities, public and private alike.

The adoption of dual education is spreading progressively all kinds of universities, large and small, more urban or located in less densely populated settings, all of which share the tendency of integrating dual education, either through specific initiatives or in some cases through more holistic programmes.

Chart 11. Percentage comparison of public and private universities and their dualisation forecasts 2024



The adoption of dual education is spreading progressively to all kinds of universities, large and small, more urban or located in less densely populated settings, all of which share the tendency of integrating dual education, either through specific initiatives or in some cases through more holistic programmes.

Some institutions, particularly some smaller universities, have become known by dint of their integrated programmes, such as the University of Almería’s *Talento D-UAL* programme, embodied in several bachelor’s and master’s degrees, whose objective is to connect the university to the territory’s productive sector.

Furthermore, some universities, such as Mondragon University or the University of the Basque Country, have achieved outstanding success due to their deep-rooted connection with industry in the territory over decades, including dual education in different disciplines, ranging from engineering through to the humanities and business sciences.

We may therefore assert that public and private universities alike are interested in DUE and that there are no noteworthy differences. Future work will concentrate on increasing the sample of private universities, which will be key in gauging, in greater detail, both the intensity and the areas of dualisation of the private universities.

5.1.6. DUE model adopted

The DUE model refers to the length of the students’ periods in the collaborating entity. Considering the degrees for which information is available, a slightly different implementation model can be seen in bachelor’s degrees compared to master’s degrees. Most of the bachelor’s degrees with Dual Mention (73%) use a model of between two and three years, indicating that undergraduates’ integration in companies is progressive.

Charts 12 and 13 display the DUE model adopted. Chart 12 shows that there is a predominance of dualisation of bachelor's degrees in two years (43%), which tend to be the third and fourth academic year, followed by dualisation in three years (30%).

Chart 12. Percentages of bachelor's degrees with Dual Mention by academic year

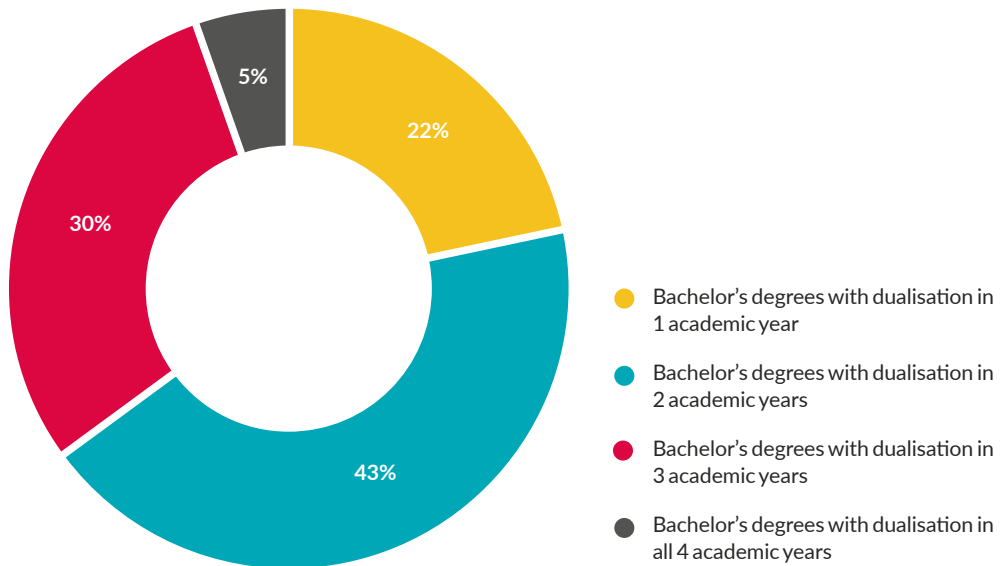
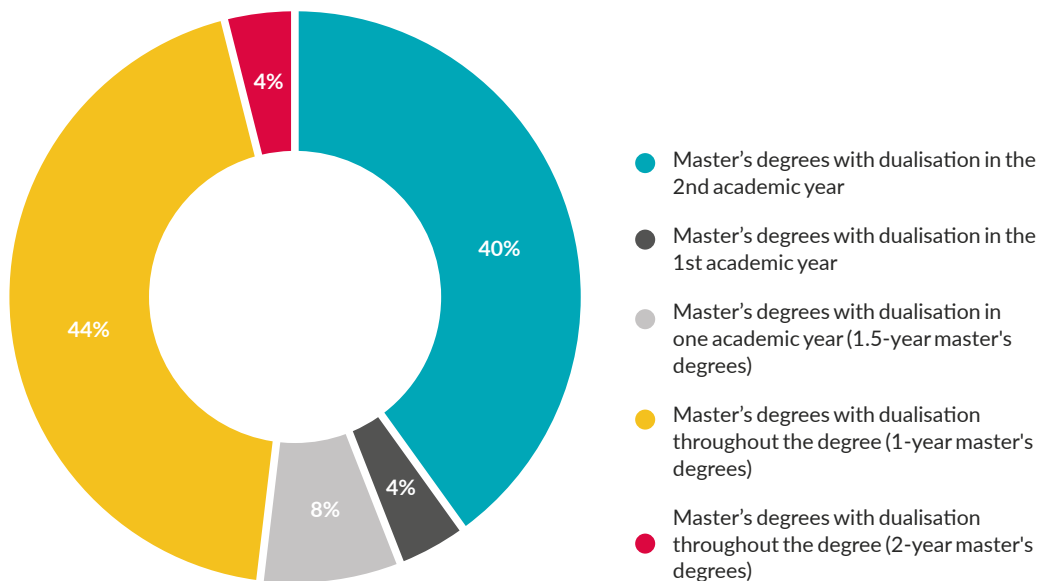


Chart 13. Percentages of master's degrees with Dual Mention by academic year



There is definitely a homogeneity in master's degrees (Chart 13), and in the vast majority of dualised degrees the pathway is only implemented in the last year or throughout the master's degree if the latter is one-year (84%).

5.2. STRATEGIES AND APPROACHES IN THE DEPLOYMENT OF DUE

The analysis of university dualisation in Spain reveals a variety of strategic approaches taken by academic institutions to integrate dual education into their institutional plans. There is a progressive evolution that begins with the implementation of specific initiatives until they are fully incorporated into the universities' long-term strategies. Or to put it another way, a great number of universities have been seen to initiate the dualisation of some degrees through small pilot projects, although as these projects have gained traction they have transitioned from being mere isolated programmes to forming part of the university's mission and institutional vision.

The emphasis on employability as a mirror of the concern for job market needs is the main reason adduced by universities for bringing dual education into their institutional strategies. Nevertheless, the implementation of dual education has to contend with certain challenges that must be resolved, such as the way that universities operate, university faculty's perception of DUE or the need to understand the coordination between university and company better.

The actual universities also underline the importance of collaboration with external stakeholders, such as companies and regional governments, to guarantee a successful university dualisation. Regional coordination, in the form of task forces in Autonomous Communities, is regarded as a good practice that is necessary in order to push ahead together in DUE. By way of example, we may cite the task force created by the Government of Catalonia and the Catalan university system, which ultimately resulted in the publication of the [Dual Education in the Catalan University System](#) (July 2023) report.

It is important to stress that dual education **is not only perceived as a specific response to job market demands, but also that it is becoming a fully-fledged part of academic institutions' global strategy. This integrated approach seeks to maximise the benefits of dual education, bolstering the connection between the university setting and the business sector all across the Spanish university system.**

5.2.1. What are the reasons why universities are deploying DUE?

Most of the universities that took part in the study consider that the lack of properly trained people and their specific connection with the job world are one of the significant factors in universities' decision to integrate DUE. Social challenges and transitions in different economic sectors are obliging education systems to adapt flexibly and efficiently to cater to ever-changing job market needs, something the universities are clearly aware of, as may be gleaned from the surveys of the 60 universities and the two specific focus groups conducted with seven of them.

This phenomenon ties in with the demographic challenge faced by society in general, characterised by an ageing population and lower birth rates, which directly impacts the availability of qualified labour and translates into fewer students of traditional university age range (18-22 years).

In this context, DUE provides an effective route for improving the availability of qualified labour by providing students with the chance to acquire skills and competencies that can be applied directly to the job market from an early stage in their education.

The falling population and the reduction in the number of students that go to a public university (places on bachelor's degree courses in public universities have fallen by 200,000, whereas places in private universities have increased in the same proportion)⁶ have led public universities to move towards dual education as a strategy for attracting students and for retaining local talent.

This particularly affects public universities and the regions hit by depopulation, where young people are moving away to study at universities in the big cities and local enterprises are finding it difficult to hire qualified labour. Thanks to DUE, universities can provide students with specific opportunities for employment and professional development in their own territory, thus helping not only to retain local talent but also to re-energise the regions affected by depopulation economically. Universities can create education programmes aligned with the local economic sectors by working in close contact with the companies in the area, thus promoting knowledge transfer. This is one of the strategic lines that many small universities located in more depopulated areas have begun to develop.

Moreover, universities are becoming increasingly interested in dual education as part of their approach to innovation in education on account of its capacity to effectively integrate theory and practice, delivering a much more relevant and job world-oriented education experience. In adopting dual education, the universities demonstrate their commitment to updating their academic programmes constantly in order to cater to the ever-changing demands of society and industry, thereby nurturing a more dynamic, relevant and forward-looking education.

5.2.2. Approaches in the collaboration between stakeholders in the deployment of DUE

Based on the experiences implemented to date, DUE has been seen to have developed mainly on the basis of three different approaches:

- ***A common front between business associations, public administrations and universities (regional collaboration):*** Regions such as the Basque Country, Catalonia or Galicia advocate a concerted effort between business associations, the autonomous government and universities, accomplishing a close collaboration between these entities to promote DUE. This approach improves progress in providing students with training suited to job market needs and demands, thereby establishing a direct connection between education and employment.
- ***Stimulation by the universities (bottom-up):*** In most cases, it is the actual universities that lead the implementation and development of DUE. Using specific programmes and projects, the universities seek to establish links with companies and provide students with practical training opportunities. This initiative is bottom-up, or in other words it is driven by the actual universities, which acknowledge the importance of dual education in improving graduates'

⁶ As shown in the 2023 report on the evolution and challenges faced by universities over the last 20 years. Available online: Fundación CYD.

employability and have embarked upon projects for the dualisation of their courses of study on their own initiative.

- **Governmental initiative targeting the universities (top-down):** In contrast to the previous approach, the implementation of DUE is stimulated directly by the central or the regional government towards the universities. While this is so in other neighbouring countries, such as Ireland, it is not the case in Spain. The national or regional authorities implement policies, incentives or regulations that seek to persuade university institutions to embrace this education model.

Universities increasingly perceive the need to get closer to industries and their specific connection with the job world is one of the significant factors for them to integrate DUE into their programmes.

5.2.3. Strategies in the deployment of DUE

Besides the aforementioned approaches, the strategies employed to promote DUE in our country may be said to focus on the following aspects:

- **Retain the productive sector in peripheral areas:** In view of the concentration of the productive sector in the big cities, strategies are needed to retain or attract companies to peripheral areas. Dual education is a key resource in promoting economic development in peripheral areas by providing local companies with highly-qualified talent matched to their specific needs and also in retaining this talent.
- **Collaboration with other stakeholders:** Collaboration between different stakeholders, such as chambers of commerce, sector-specific associations and business clusters, is fostered to drive economic development and employability in these regions.
- **Academic excellence:** Universities that adopt DUE understand that DUE's academic excellence is embodied in its relevance, in its capacity to forge ties with the job market and in improving graduates' employability. Therefore, DUE is recognised not as a second-tier education model, but rather as one that makes a significant contribution to the excellence and the relevance of university education in general. Increasingly more universities are adopting this vision of the concept of academic excellence.

“Increasingly more universities are becoming aware of the need to move closer to the job world, and see DUE as one of the most effective ways of accomplishing this. Collaboration between companies, universities and governments is essential to the development of an adequate and quality DUE”.

5.2.4. Internal organisation of universities in the deployment of DUE

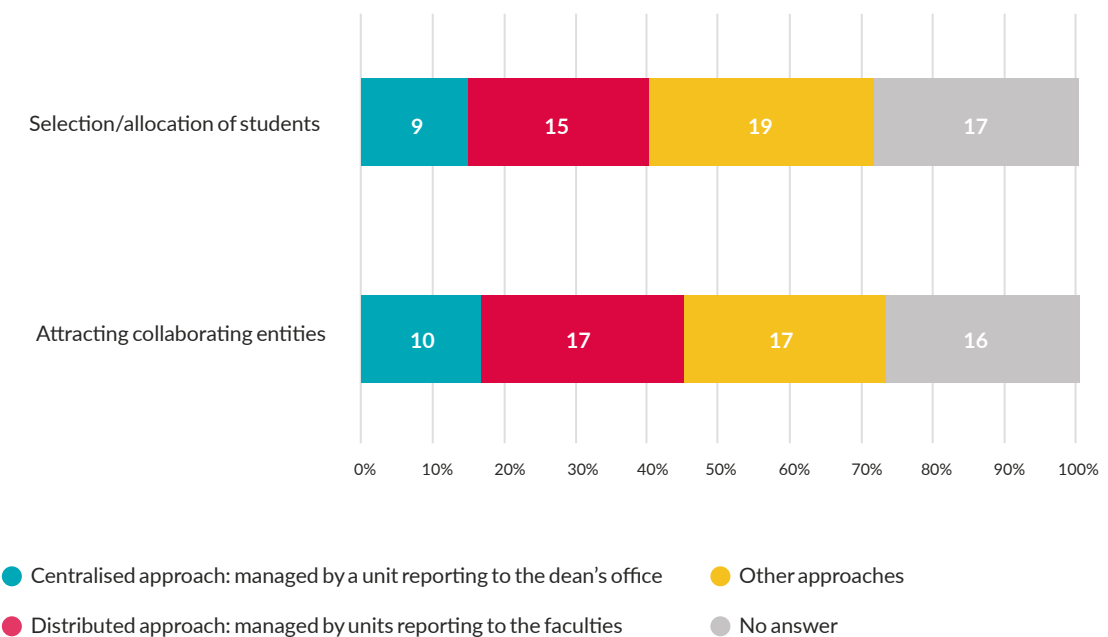
Internal organisation refers to the university organisation (dean’s office, Faculty or department) tasked with managing DUE processes. These processes, such as the allocation of students or attracting collaborating entities, can be coordinated and executed in different ways. We have also analysed how the universities polled are rolling out dual education. We have identified three main models:

1. Centralised, i.e., the dean’s office coordinates and manages all DUE processes.
2. Distributed, or in other words the faculties coordinate and manage these processes.
3. Others: this includes the other forms of coordination and management, such as hybrid models (a model with some centralised processes and other distributed ones) or a model based on academic commissions.

As chart 14 shows, both in the case of the allocation of students and attracting collaborating entities, some academic institutions take a more distributed approach (25% and 28%, respectively), giving each Faculty this power, whereas others pursue greater uniformity of structure (15% and 17%, respectively). Therefore, there is no clear pattern here, although it is true that the more distributed approach enjoys a slight predominance (organisation by the faculties and not so much by vice-dean’s offices).

This is still an emerging process, which explains why as yet a large number of universities lack a defined strategy or else adopt, albeit in a minority fashion, a mixed method.

Chart 14. Internal organisation of DUE by universities 2024



The focus groups held underlined that it is very important that there be a clear coordination between the academic vice-dean's office and the faculties, centres or academic commissions in order to guarantee a consistent development of DUE. Implementing this measure would facilitate a conscious adaptation to different education contexts, which is fundamental given the disparity of areas and companies, and without losing sight of the particularities inherent in education. Furthermore, the intervention of the vice-dean's office is identified as important in the approval and regulation of certain aspects.

Another consideration that emerged is the need to standardise models and aspects related to dual education and to foster collaboration between centres and faculties in the same university. Some universities pursue a harmonised system for the management of internships and dual education with a view to centralising processes and to making them more efficient, promoting greater inter-faculty consistency and collaboration. Centres also seek to share methodologies through proactive collaboration. The development of DUE has therefore generated greater coordination between faculties to ensure that deployment is implemented adequately since this question is still a relatively unknown quantity.

Generally speaking, the universities seek to balance the independence of their faculties and centres with the need to coordinate and standardise certain aspects of dual education at vice-dean's office level. The diverse range of approaches emphasises the model's capacity to adapt to the specific needs and contexts of each university and area of study.

5.2.5. Recognition of faculty

Tutoring students at university is essential to the deployment of DUE since its mission is to guide and support students throughout the process, both academically and professionally. Its importance lies in providing personalised guidance, supervision and feedback throughout the learning process. Furthermore, the tutor acts as a link between the university and the collaborating companies, guaranteeing fluent communication and an effective alignment between education objectives and job market needs.

However, although until only recently there was no established framework of recognition, it is important to highlight the recent enactment of the [Royal Decree 678/2023](#), of 18 July, regulating national accreditation for access to university faculty and the system governing official examinations for access to such positions, and whose Annex 2.4 recognises the work of tutors in dual education: "Tutoring activity will be rated depending on its diversity and types of tutoring (intern students, dual students or alternance training students)". For the first time ever, the work done by university tutors is recognised as an activity that is eligible for university faculty accreditation.

University faculty's commitment to DUE is undoubtedly mirrored in the work they do to coordinate these programmes, to establish relationships with collaborating entities and to tutor students. These actions prove that faculty are clearly committed to innovation and the relevance of university education. Nevertheless, a great deal of work remains to be done to integrate this activity into university faculty's teaching duties, and several barriers related to professional development and the prevailing culture in this group must be overcome. The recognition of this figure by the Royal Decree 678/2023 is a step in the right direction, since it places university tutors' work in dual education on an equal footing with knowledge transfer, teaching or research.

5.2.6. Dual education and employability: What data are available about the impact of DUE on graduates' employability?

Dual education has been shown to bring a direct influence to bear on students' employability in several European countries and on the quality of occupational integration. The consolidated experiences in this model in Germany and Austria clearly illustrate the benefits it generates in terms of preparing young people for the job market and improving their employment possibilities.

For example, in Germany, where dual education is a core part of the education system, in Vocational Education and Training and the university, around 70% of the students who complete a dual education programme are recruited directly by the company where they did their training. These good results are accompanied by a low youth unemployment rate (young people aged between 15 and 29), which stood at 5.5% [in 2023 \(macroeconomic data for Germany\)](#).

Dual education has also been proven to be highly effective in terms of employability in Austria. According to the [macroeconomic data for Austria](#) for 2023, the youth unemployment rate is 10%, not on a par with Germany's, but significantly better than Spain's performance.

In Spain, the data compiled for analysing the evolution of Dual University Education are still very scant. The employability analysis mechanisms put in place by universities and Autonomous Community employment agencies have not been fine-tuned to distinguish DUE clearly. In this regard, the more ground-breaking universities have tackled data compilation individually, adapting their strategies according to size, environment and specific needs, although the parameters utilised are not homogeneous.

If the monitoring of DUE's impact on employability in Spain is to be improved, data about graduates need to be gathered so that this analysis can be conducted in a uniform fashion and also including by-system (dual and non-dual) indicators. The main indicators for performing this analysis call for an identification by degree and level of education (bachelor's or master's degree), paying special attention to gender gaps.

The first analysis should be conducted in the short term to visualise the main impact of DUE in the time interval between when students complete their education and find their first job. This analysis should study occupational integration one year after the end of the education (Social Security registration rate). The graduates' wages (their bases for Social Security contribution) and the characteristics and the sector of the companies that hire them should also be factored in.

It is also important to evaluate the quality of the occupational integration attained, identifying the type of contract (percentage with an indefinite contract of employment) and the type of work schedule (percentage with full-time contracts of employment). This evaluation should also be complemented by an evolution of these indicators in the medium term (four years after the completion of education).

“The burgeoning inclusion of dual education in Spanish universities must go hand in hand with the creation of homogeneous and harmonised indicators to be able to monitor the connection between DUE and employability”.

It is also important that the data include other information, such as satisfaction with the education received, job satisfaction, education-job match, the channel used to access employment and the continuation rate at the DUE host entity.

The definition and the execution of this analysis on employability in DUE in Spain is a key tool for leveraging its implementation and for substantiating the benefits provided to everyone involved. Now that DUE is beginning to be deployed in Spanish universities in general, this question must be addressed as a priority.

5.3. MAIN LEARNINGS AND TRENDS OBSERVED

5.3.1. Regulatory analysis

Although the regulatory framework established in the LOSU and in the Royal Decrees mentioned above heralds a positive breakthrough with regard to recognising DUE in university education planning, certain limitations in the way in which the standards were produced must be highlighted:

1. The current framework could benefit from an analysis of the initiatives already conducted in certain Autonomous Communities as well as from a greater participation of the main stakeholders, namely the universities, companies, organisations, social partners and students. It is important that the different stakeholders involved from the beginning of the process be given a voice to ensure that the different perspectives are taken into account.
2. The direct reference to the “Dual Mention” in the LOSU, rather than using a more general term such as “dual university education”, could hinder the future development of dual university education since it rules out, for example, the possibility of developing dual bachelor's or master's degrees, since the Law refers solely to the Dual Mention formula.
3. The fact that a legislative framework was created before DUE had been fully defined and mainstreamed is positive. Nevertheless, an over-rigid framework may hamper deployment by failing to include alternative routes other than the alternance training contract. The transition towards the contract should be accompanied by alternative routes for cases in which the lack of a regulatory framework and favourable incentives means that it cannot be applied, as is the case of the public sector or the third sector.
4. In relation to the employment setting, the enactment of the Royal Decree-Law 32/2021, on the alternance training contract, heralds a significant step, although it is having to contend with challenges to and limitations upon its execution. For example, there are no benchmark models that help to formalise the training plan (to be included in the annex pertaining to the collaboration agreement), which has caused certain difficulties in terms of development and implementation.
5. Furthermore, it should be noted that the LOSU had to include an additional (tenth) provision that establishes a moratorium in the application of the alternance training contract. This moratorium gives universities with official degrees that have the Dual Mention until the 2026-2027 academic year time to adapt their training activity to the alternance training contract model. This add-on suggests a certain lack of foresight in the implementation of the new contractual model, rendering the need for a more gradual and protective transition to its full development evident.

The absence of a significant dialogue between the education and employment standpoints during the formulation and implementation of these regulations could impact the effectiveness and the real applicability of dual university education. Although these regulations are based on good intentions, the failure to consult and collaborate could create challenges to its practical implementation.

Finally, and as was observed in the analysis of the Autonomous Community regulations, the situation points to the need for a greater specific regulatory development of DUE in the Autonomous Communities in order to adapt and strengthen this education model in the university setting at regional level.

5.3.2. Global governance of the system

It is important to point out that the development of DUE calls for a global and multidimensional governance of the system to coordinate the policies and the efforts of all the stakeholders in the process. Coordination between the different participants in DUE is crucial, and the university co-ordination organisations play a key role in guaranteeing adequate adoption and implementation. A brief description of some of the main coordination organisations is provided below:

- **Association of Deans of Spanish Universities (CRUE):** The CRUE plays a key role, since it is the main organisation that represents Spanish universities. Its involvement is essential in laying down common guidelines and in promoting collaboration between the universities in the implementation and improvement of DUE programmes.
- **Association of Social Councils of Spanish Universities (CCS):** Being the organisation that represents the interests of universities and their relationship with society, the CCS can facilitate dialogue and collaboration between education institutions, the business sector and other relevant stakeholders. The CCS can foster the creation of strategic alliances between universities and companies in order to implement DUE programmes, identify areas with a demand for employment and adapt university curriculums accordingly. Moreover, it can advocate public policies that encourage the expansion and quality of DUE, as well as the assignment of the financial and human resources needed to develop it.

“In view of the ongoing emergence of DUE in Spanish universities, a voice must be given to the different sectors involved, ranging from university associations such as CRUE or REACU, quality agencies or students’ associations to chambers of commerce and sector-specific business associations, without forgetting social and economic organisations, such as the Economic and Social Council, to name but some”.

- **National University Students' Council (CEUNE):** The CEUNE, as the students' representative entity, plays an essential role in furthering DUE. It acts as an intermediary between students and academic institutions, furthering the understanding and acceptance of dual education. It also collaborates in the identification of student needs and advocates the integration of DUE in curriculums, thereby cementing the connection between education and employment.
- **General University Policy Conference (CGPU):** The CGPU, as the coordination organisation between the central government and the Autonomous Communities in matters of university policy, can lay down guidelines and regulatory frameworks to promote the implementation and expansion of DUE in the country. Similarly, the CGPU can spearhead research and the evaluation of DUE to improve its efficacy and ensure that it caters to job market needs.
- **Economic and Social Council (CES):** Social organisations play a key role in the development of DUE. These entities, which may include trade unions, chambers of commerce, non-governmental organisations and other civic organisations, bring a diverse and productive approach to the implementation of DUE. The CES, as a consultative body that pursues social dialogue, can collaborate in the creation of policies and strategies to promote DUE, facilitating coordination between education institutions, companies and social organisations. Its participation can contribute to guaranteeing that DUE will respond effectively to job market needs and promote university graduates' employability and occupational integration.
- **Spanish Network of University Quality Agencies (REACU):** REACU is comprised of ANECA and the Autonomous Community quality agencies, and its function is to facilitate collaboration and to contribute to establishing common reference points between agencies. Although its approach is not limited exclusively to DUE, its work contributes to establishing uniform guidelines for the evaluation of dual programmes.
- **Chambers of commerce and sectoral organisations:** The chambers of commerce can provide SMEs with guidance and training in DUE and in how to recruit dual university students. This ensures that DUE also fulfils the interests of companies and students alike.

In summary, the successful development of DUE calls for global and multidimensional governance to coordinate the policies and the efforts of all the stakeholders involved. To improve the DUE implementation process, any shortcomings must be addressed from the outset, furthering collaboration among all the stakeholders and ensuring effective communication between the education and employment domains. This will guarantee that DUE will respond effectively to job market needs and promote university graduates' employability and occupational integration.

5.3.3. The role of Quality Agencies

It is important to emphasise the different roles that have been played by university quality agencies in the development of DUE. They have acted as facilitators and providers of pedagogical support, although they have also posed challenges that call for additional efforts for its implementation. Based on the universities' feedback in this study, it may be concluded that the quality agencies have three levels of involvement.

There are cases in which the quality agencies have acted as facilitators and in an instructive fashion, providing a regulatory framework and support in the definition of dual education, enabling universities to introduce themselves to society and companies with a solid foundation. An agency's predisposition and collaboration makes for a positive experience, particularly in the implementation of protocols and seals that formalise and support existing dual education initiatives. On the other hand, even if in other cases they were not proactive from the outset, they collaborated constructively, providing documents and recommendations on request.

There are also situations in which the agencies have been neither proactive nor obtrusive, permitting the implementation of dual degrees without any major issues. While they may not have been conspicuous for their active participation, neither did they try to thwart dual education efforts.

On the other hand, in some cases, some universities feel that they have not received the backing they need to implement dual education, revealing a less collaborative approach taken by agencies.

Overall, these experiences illustrate the different roles played by the university quality agencies in the development of DUE, and underscore the importance of greater collaboration between universities and agencies if DUE is to be successful.

5.3.4. Incentives and funding

The development of DUE requires that economic and tax incentives be established for the universities and companies that participate in dual education programmes. The more advanced countries are aware of this need and deploy solid support strategies to promote collaboration between the academic world and the world of business.

In France, both the universities and the companies that participate in apprenticeships (*apprentissage*) may benefit from different tax incentives. Some of these incentives include:

- **Exemption from staff welfare expenses:** Companies can benefit from a total or partial exemption from Social Security contributions for employees hired on the basis of the alternance training scheme. This exemption may be as high as 100% for companies with under 11 employees, and varies for companies with more than 11 employees depending on the company's size and the apprentice's age.
- **Income tax credit:** Companies can benefit from an income tax credit (*Crédit d'Impôt sur la Taxe sur les Salaires*, or CITS) applied to the wages paid to apprentices. This credit can cover up to 60% of the apprentice's wage during the first year of training and up to 40% in subsequent years.
- **Additional funding for training:** Companies may be entitled to receive additional funding from the Spanish government to cover the costs associated with alternance training, such as apprentice tutoring and monitoring.
- **Incentives for universities:** Universities may be reimbursed for up to 100% of training costs. Universities cannot ask apprentices to pay registration costs. If this fund does not cover the total cost to the university, the university may request additional funding from the company, although this is a recent legal provision that is seldom enforced (as a rule, companies do not accept this additional funding).

It is important that these incentives be publicised properly, since universities and companies often have to contend with a lack of knowledge and training in the benefits and the processes of dual education. Furthermore, the acknowledgement of the main DUE stakeholders, particularly the tutors from both universities and companies, is equally important as the incentives. Although the Royal Decree for the accreditation of teaching staff addresses this aspect, work still remains to be done to guarantee that tutors and the work they do in guiding and mentoring students during their dual education receive proper appreciation and support.

06 FUTURE OUTLOOK

This section provides a succinct analysis of the current state of affairs in Dual University Education and makes a series of concrete recommendations.

6.1. WHERE IS DUAL UNIVERSITY EDUCATION IN SPAIN HEADED?

The preceding chapter showed that there is a marked trend towards dualisation in Spanish universities. According to the information gathered through the questionnaire, 87% of the universities polled evince an interest in dualising their study programmes or have already implemented dualised programmes. Moreover, there is a clear balance between bachelor's and master's degrees, both now and in future projections.

In fields of study there is an evident tendency towards dualising programmes in the field of engineering, particularly in disciplines such as industrial, mechanical, automation, industrial organisation and navigation engineering. There is a similar trend in the social and legal sciences, more specifically in studies related to business administration and management.

The identification of scenarios in which dualisation is closely aligned with local companies' economic activity calls for a strategic adaptation of the education offer to cater to the specific needs of the different industrial sectors. This approach materialises when the universities design dualised programmes focusing on areas that are crucial to regional economic development. One noteworthy example is provided by the dual programmes of the Instituto de Máquina Herramienta [Machine-Tool Institute] (IMH) in the Bajo Deba county in the Basque Country, which emerged in response to the specific demands of the machine-tool sector. Similarly, the dual Electrical Engineering degree offered by the University of Coruña is another significant initiative designed to address emerging needs in the shipbuilding industry.

Moreover, the active collaboration between education institutions and local companies is conducive to understanding employment demands and permitting the adaptation of education programmes. This two-way interaction may lead to personalised dualised programmes that students can ultimately benefit from and also help to consolidate relationships between academia and industry.

6.2. ARE WE HEADED TOWARDS AN UNCOORDINATED AND SOMEWHAT HETEROGENEOUS SYSTEM?

The evolution of dualisation in Spain hints at a dichotomy between a regulated, not overly-standardised and flexible model that can adapt to each university's specificities, and another more standardised and rigid one. The coexistence of these different approaches mirrors the need to adapt to the socio-economic reality and to the different areas of knowledge. One example of the situation is provided by Germany, notoriously heterogeneous both in terms of the variety of its implementation models and the conditions of its legal framework, which varies substantially across the 16 federal states. This diversity may be both a challenge and an opportunity, since it makes for greater flexibility and adaptability to the changing demands of the employment and socio-economic setting. However, it also poses the need to guarantee consistent and fair access and the quality of dual education throughout the country.

Considering the Spanish context, the proposal would be to opt for an approach combining regulation with flexibility, avoiding excessive standardisation. This model lays down certain general guidelines and governing principles for the implementation of dual education, thus providing a solid structural framework. Nevertheless, leeway would be left for adapting programmes according to each university's specific needs and the demands of the socio-economic environment. This flexibility would allow the education institutions and collaborating companies to pitch dual education to the specificities of their local settings, thus promoting innovation and efficacy in readying students for the job market.

6.3. NEED FOR A SECTORAL APPROACH

The approach to sectoral needs is essential to the effective development of DUE. In a constantly-evolving job world, it is of paramount importance that education programmes be closely aligned with the specific demands and trends in each sector. By understanding the specific needs of each sector (primary, secondary or tertiary), both public and private, universities can design DUE programmes that teach students the skills and competencies they need to pursue a successful future career.

Moreover, by focusing on sectoral needs, DUE can improve graduates' employability by ensuring that they have the practical skills and the technical expertise needed to integrate easily into the job market. Not only does this benefit students by increasing their employment opportunities, it also strengthens companies' competitiveness by ensuring that they enjoy access to a qualified workforce suited to their specific needs.

Similarly, digital and green transitions are affecting each sector differently, creating both challenges and opportunities for innovation and economic growth. It is crucial to take these changes into account when analysing a country's economic structure and with a view to designing policies that foster a fair and sustainable transition towards a more digital and green future.

For example, the digital transformation is fundamentally changing the way in which economic activities are conducted in all sectors. For example, in agriculture, digital technologies are being used to manage crops and monitor yields, whereas automation and artificial intelligence are revolutionising production processes in the manufacturing industry. In the tertiary sector, digitalisation has spawned the proliferation of online services and the creation of new industries such as financial technology and e-commerce.

Moreover, the transition towards a greener economy is significantly impacting sectors such as energy, construction, transport and agriculture. The demand for renewable energies is transforming the energy sector, whereas energy efficiency policies are driving change in construction and transport. More sustainable and environmentally-friendly practices are being promoted in agriculture to reduce carbon emissions and minimise the use of natural resources.

“DUE can improve graduates' employability by ensuring that they have the practical skills and the technical expertise needed to integrate easily into the job market. This is borne out by the data from countries with a longer-standing tradition in the development of DUE”.

6.4. DIALOGUE AND COMMITMENT BETWEEN THE STAKEHOLDERS

Dialogue and commitment among all stakeholders are essential to the effective adoption of DUE. This commitment involves a shared responsibility, one in which the universities undertake to develop a relevant and quality education offer that caters to the needs of the job market now and in the future. This means adapting curriculums, searching for relevant dual places and updating programmes constantly to maintain their relevance and quality.

Moreover, companies and organisations must undertake to participate actively in the DUE process, taking the responsibility for attracting and retaining young talent. This means offering quality practical learning opportunities, providing a working environment conducive to professional growth and advancement and liaising closely with the universities to ensure that academic training and job market needs are effectively aligned.

Finally, the public administrations and social partners play a key role in creating an environment that is favourable to the effective adoption of DUE. This means that adequate regulatory instruments and sufficient resources must be deployed to support a stable and balanced countrywide development and implementation of DUE. Moreover, dialogue and collaboration among the different stakeholders should be promoted to guarantee effective coordination and the accomplishment of common education and employment objectives.

07 CONCLUSIONS

By way of a conclusion, we present the 15 key ideas that have emerged from this study:

7.1. DUE: A FORWARD-LOOKING EDUCATION MODEL

The ongoing growth of DUE is underpinned by the rising demand for university degrees in Spain, an increasingly more visible interest by companies and the backing of the public administrations. Moreover, several current trends and developments endorse the positive future outlook of DUE. For example, the growing recognition of the importance of employability and practical skills in the modern job market is driving a greater demand for education programmes combining theory and practice.

Similarly, the increasing awareness of the importance of sustainability and corporate social responsibility could lead to a wider collaboration between companies and universities in the implementation of DUE programmes promoting ethical values and practices in the workplace. These and other factors would appear to point to a promising future for DUE and its capacity to adapt and respond to changing needs in the job market and in society overall.

7.2. LACK OF KNOWLEDGE AND SOCIAL AWARENESS

DUE is still something of an unknown quantity in society overall, although the people who are familiar with this education model hold it in very high esteem. Nevertheless, dual education is still more traditionally associated with Vocational and Educational Training, making it difficult for it to be recognised as a valid option for university education. Similarly, confusion in terms of terminology is common and it is frequently mistaken for joint degree programmes.

Moreover, it is vital to increase awareness of the benefits that DUE can deliver in terms of students' employability and professional development.

7.3. IMPROVEMENT OF GRADUATE QUALIFICATIONS AS A COMMITMENT TO SOCIAL RESPONSIBILITY

Through their participation in dual education, collaborating companies demonstrate and visualise their commitment to the community to contributing to the development of talent and to offering quality employment opportunities to young students.

By being engaged in dual education, companies also take an innovative approach to the training and experience of the participating students. This strategy allows them to keep abreast of job market trends and be seen as excellent entities for professional advancement.

This social commitment increases the qualifications and loyalty of the students involved and also conveys a positive image to clients and other future candidates.

7.4. GREATER DIALOGUE AND COORDINATION BETWEEN THE JOB AND EDUCATION WORLDS

This analysis underlines the need to deepen the links between the world of employment and education in order to guarantee a more seamless transition of students towards the job market. Moreover, it highlights the importance of the Autonomous Communities playing a proactive role in this process, by liaising closely with the universities and local companies to pinpoint specific needs in regional job markets and to adapt DUE programmes accordingly.

Moreover, a fluent dialogue between the central administration, the Autonomous Communities and the universities is known to be essential in tackling challenges and maximising opportunities in the development of DUE. This dialogue must be open and flexible, making room for the discussion of innovative ideas and a flexible adaptation of policies and programmes suited to the changing needs in employment and education.

Ultimately, it is essential to set up a solid collaboration network among all the stakeholders, also including companies and relevant organisations if the long-term success of DUE is to be guaranteed. Only a shared commitment and effective coordination will lead to an effective implementation of this form of education, thus promoting the development of relevant skills and student employability in the job world now and in the future.

7.5. NEED FOR SPACES FOR EXPERIMENTATION AND ASSESSMENT OF THE REGULATION OF DUE

The current regulation of DUE was established rather hastily as of the Royal Decree 822/2021 without the foundations of a broad consensus between the Autonomous Communities, business associations, social organisations, students and universities. Although it is still in the early phase, it is crucial that in this stage universities be able to experiment and evaluate this form of education, emphasising the importance of mutual trust and accountability.

Once this initial experimentation stage has been completed, regulation must be evaluated, promoting consensus-building and generating greater clarity in the rules or standards to avoid over-restrictive regulation during the initial implementation stage.

Similarly, DUE must be provided with institutional support comparable to the effort devoted to dual Vocational Education and Training (Dual VET). This shall guarantee its viability and success, with a sustainable development and a positive contribution to the education and economic system.

7.6. FLEXIBILITY OF THE CONTRACTUAL FRAMEWORK IN ORDER TO OPEN UP DUE TO NEW SECTORS

The analysis underlines the concern around the new legislation and the Dual Mention, highlighting the need for a more flexible framework in terms of the obligatory nature of the alternance training contract in this initial stage. Moreover, this mandatory contract aspect is seen to exclude certain sectors, such as the public domain, which affects, for example, study programmes related to education and health. Despite the fact that the curriculums in these areas are highly dual due to the configuration of the training, it is also clear that they could be dualised much more comprehensively if the contract were not obligatory.

There is also a patent need to establish dialogue and effective communication, particularly with regard to regulation. Fora where common concerns can be shared and changes debated are called for, not to mention understandable regulations and meeting points to facilitate the exchange of experiences and the implementation of changes.

7.7. DUE AS A PEDAGOGICAL MODEL OF ACADEMIC EXCELLENCE

This form of education promotes the students' all-round development by giving them the chance to acquire relevant job market skills and competencies as soon as they begin their university education, making it highly pertinent and beneficial for students' professional future.

DUE promotes close collaboration between universities and companies, guaranteeing a quality education that caters to the needs and demands of the modern job world. This innovative approach not only boosts graduates' employability, but also contributes to the ongoing improvement of education quality and the strengthening of the socio-economic fabric.

In this regard, ANECA, in collaboration with the Ministry of the Treasury and State Administration, the CEOE, CEPYME, UGT and CCOO, has produced a Seal of Employability and Entrepreneurship to promote students' employability and entrepreneurial capacity, and in turn to provide recognition to universities that are meeting the specific standards related to both questions. This Seal includes a specific guideline on the Dual Mention as one of the indicators for improving students' employability.

7.8. ADAPTABLE TO THE NEEDS OF THE BUSINESS WORLD AND SOCIETY

DUE is seen as a fundamental instrument for tackling the challenges of society and the business world. In an environment in which rapid technological progress and business model transformations are constant, DUE becomes a key bridge towards permanent dialogue between academia and the professional setting.

Moreover, dual education rises to the specific needs of companies by offering them the chance to collaborate closely in training future professionals. When companies are involved in the training process, they can provide their own insights vis à vis the design of education programmes, ensuring that graduates acquire the skills they need to integrate quickly into the employment setting.

7.9. CONNECTION BETWEEN DUE AND THE TERRITORY

DUE is a lever for social transformation because it contributes to the economic and social development of the communities where it is implemented. One of the main advantages of dual education tied to the territory is its capacity to adapt to each region's specific needs. By collaborating closely with local companies, universities can design education programmes aligned with the main economic sectors in the area and boost technology transfer.

Applied research projects and DUE-related collaborations generate opportunities for innovation and the development of activities that deliver a solution to the specific challenges faced by the

community. Moreover, this connection with the territory also fosters a sense of belonging and social responsibility among students participating in DUE.

7.10. NEED FOR INCENTIVES

Economic incentives that stimulate the participation of a greater number of companies in DUE must be established, as this would extend the training opportunities for university students and would help to build a robust and effective model.

These incentives could include tax deductions or subsidies that provide partial compensation for costs incurred in the training of students and in the training and dedication of tutors. Many companies call for technical support and counselling on the design of training plans, the tutoring of students and coordination with the education institutions.

Incentives for recruiting students that have completed dual education programmes should also be included. These incentives may include reductions in tax burdens, in Social Security contributions or direct subsidies to recruitment.

Besides establishing economic incentives that foster the participation of a greater number of companies in DUE, it is also crucial that economic incentives be created for universities to facilitate their commitment to and active participation in this education model. These incentives could include additional funding for the development and implementation of DUE programmes, as well as recognition and bonuses for the academic and administrative personnel involved in coordinating and tutoring students. Not only would the creation of economic incentives encourage universities to expand their DUE offer, it would also guarantee the quality and the sustainability of these programmes, ultimately generating a robust and effective dual education model.

Finally, the monitoring and evaluation of the impact of these incentives will make it possible to fine-tune policies depending on the outcomes and to make sure that DUE continues to be a viable and relevant option for everyone involved.

7.11. ACCESSIBILITY AND INCLUSION

Accessibility and inclusion are core aspects in the design and implementation of DUE programmes. These programmes should ensure that all students, irrespective of their individual circumstances, enjoy equal access and opportunities to participate successfully in their training process.

DUE also heralds a new opportunity for non-traditional students to acquire a university degree. This education model provides an accessible alternative for anyone who encounters challenges in access to higher education, such as working adults, students who need to combine study and work, people with family responsibilities or anyone looking to switch career.

7.12. STRATEGIC INTEGRATION OF EMPLOYABILITY DATA

It is essential to consider integrating data related to the employability of DUE into measuring systems and job market observatories given that it is in the embryonic stage. This strategic inclusion not only provides valuable information about graduates' job market performance, but also lays

the foundations for the ongoing development of DUE, guaranteeing its relevance and efficacy in the training of highly-qualified professionals.

7.13. STUDENT PARTICIPATION IN DEFINING AND DESIGNING DUE

Students play a key role in the development and configuration of DUE. The active participation of students in the formulation of dual education programmes not only guarantees a comprehensive approach but also contributes to ensuring that these programmes are truly relevant and adapted to the students' needs and expectations.

Involving students in the conception and structuring of DUE promotes a sense of belonging and commitment to the programme, fostering a more dynamic and participative learning environment.

7.14. NEED FOR A FRAMEWORK TO GUARANTEE THE QUALITY OF COMMON DUE IN EUROPE

The need to establish a framework to guarantee the quality of common DUE in Europe is becoming increasingly more patent. A harmonised quality framework would provide a solid foundation to guarantee the consistency and excellence of DUE programmes throughout Europe, facilitating the comparability and mutual recognition of degrees at international level.

Such a common quality assurance framework would enable education institutions and companies to adhere to uniform quality standards and criteria, thereby promoting the transparency, confidence and credibility of DUE in Europe. This would all help to raise quality standards throughout Europe and bolster the region's position as a world leader in higher education and Vocational Education and Training. It would also facilitate cross-border mobility of students and professionals by providing a quality assurance framework recognised and accepted throughout Europe.

7.15. TALENT ATTRACTION AND RETENTION

DUE allows students to establish meaningful ties with companies and employers at an early stage in their education. This early exposure to the job world gives them both a greater understanding of their field of study and also enables them to explore different professional pathways and take well-informed decisions about their employment future.

DUE establishes a direct link between students and companies, which goes a long way towards generating a greater sense of belonging and bond with their job and their working environment, which ultimately increases their commitment to and satisfaction with their role.

Similarly, DUE can play an important role in attracting talent by offering a unique combination of learning in theory and practice in real-life business environments.

08

DECALOGUE

The main recommendations for future actions for the development of DUE are presented below in the form of a decalogue:

1. Increase the prestige of DUE:

- a. **Among students:** Raise students' awareness of the benefits of DUE for improving their employability and personalising their learning process, bringing them closer to the real job world.
- b. **Among university faculty:** Give the university function a meaning, and expedite its adaptation to changes in its setting through recognition and incentives to faculty and academic institutions.
- c. **Among companies and social partners:** Raise companies' and social partners' awareness of their role in training talent and in contributing to make up for the lack of competencies and skills in the job market.
- d. **In society:** Highlight DUE's contribution to territorial balance and social cohesion, increasing governments' and society's appreciation and support for it.

2. Deploy an institutional strategy: Implement an institutional strategy that promotes and supports the implementation of DUE, guaranteeing a coordinated and consistent approach in all actions related to this education model.

3. Cultural change in universities and companies: Promote a cultural change in universities and companies to further the development of DUE. There is a need for a culture that fosters close collaboration, flexibility, openness to innovation, the appreciation of practical experience and a commitment to students' professional advancement and employability.

4. Alliances and social dialogue: Build alliances and spaces for continuous dialogue among the different DUE stakeholders to promote collaboration and the exchange of experiences.

5. Open up to new areas of knowledge: Extend DUE to non-traditional sectors in order to adapt to changing job market requirements and to promote the diversity of professional profiles.

6. Public sector involvement: Involve the public sector actively in the promotion and facilitation of DUE, creating a more flexible regulatory framework for its integration in public institutions and areas of public service.

7. Regulatory flexibility: Evaluate and adapt the regulation of universities to make it more flexible in the areas where this is necessary to facilitate adaptation and innovation in DUE.

8. Economic resources and incentives: Provide economic resources and incentives to implement DUE, including tax deductions, subsidies and resources to support companies, universities and students.

9. Promote academic quality and excellence: Boost coordination between quality agencies and universities with a view to guaranteeing a consistent implementation and evaluation of DUE.

10. Impact evaluation mechanisms: Develop mechanisms to evaluate the socio-economic profitability of DUE, focusing on the well-being and future prospects of up-and-coming generations and promoting DUE's sustainability and long-term effectiveness.

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Annexes

ANNEX I: SITUATION AND TRENDS IN DUE IN EUROPE

	A. POLICY AND REGULATORY FRAMEWORK	B. COLLABORATION WITH THE JOB WORLD IN DUAL SCHEMES	C. THE SITUATION IN THE UNIVERSITY
FINLAND	<ul style="list-style-type: none"> - The term DUE does not exist. - Vocational Education and Training schools provide dual education although it is not called “dual” as such. - Applied science universities offer “internships” but do not officially refer to “dual” education. - There are no dual education programmes. 	<ul style="list-style-type: none"> - Cooperation: It is based on formal contracts between universities and participating companies. - Management of cooperation: The universities plan and oversee learning in the workplace. - Quality management: There is a process in place for validating workplaces. Practical training accounts for between 30 and 120 ECTS credits in bachelor's degrees. 	<ul style="list-style-type: none"> - Barriers/Challenges: <ul style="list-style-type: none"> o There is no dual model in the national education system. o Red-tape workload. o The trade unions are lobbying for the enactment of new laws that recognise dual university education. o Headway is being made in designing competency-based curriculums and dual programmes. o Truly-collaborative dual programmes are being defined. o The new sector companies are being attracted - Main difficulties: <ul style="list-style-type: none"> o State-wide legislation. o Costs to the partners (students' wage).
FRANCE	<ul style="list-style-type: none"> - Dual education is called alternance training in France. - Dual programmes are offered most by the applied sciences universities. - It is implemented at EQF levels 4, 6 and 7. 	<ul style="list-style-type: none"> - Cooperation: It is based on formal contracts; policies and regulations are designed for students and dual learning in the workplace. - Management of cooperation: It is coordinated by the study programme managers and the corporate relations offices. - Quality management: Dual education programmes must be accredited; the national quality agencies analyse the contents of these programmes. 	<ul style="list-style-type: none"> - Barriers/Challenges: <ul style="list-style-type: none"> o Funding to DUE. o Accreditation of the dual programmes. o Engage industry for the management of training in the job world. - Main difficulties: <ul style="list-style-type: none"> o State-wide legislation. o Little effort is being made to set up cooperation or relationships with the industry and other partners.

<p style="text-align: center;">AUSTRIA</p>	<ul style="list-style-type: none"> - AQ Austria (Agency for Quality Assurance and Accreditation Austria) establishes the official DUE definition. - Applied sciences universities offer DUE at EQF levels 4 and 6. - DUE integrates both theory and in-company work. The students have contracts with both the university and the company. - There is a continuous improvement process for dual programmes. 	<ul style="list-style-type: none"> - Cooperation: There are policies and regulations in place for students and dual learning in the workplace. - Management of cooperation: The universities plan and oversee learning in the workplace; it is managed by the study programme managers. - Quality management: Accreditation is provided by the Agency for Quality Assurance and Accreditation Austria, which verifies the quality assurance indicators and the guidelines for companies. 	<ul style="list-style-type: none"> - Barriers/Challenges: <ul style="list-style-type: none"> ○ Some programmes do not have funding for DUE. ○ There is a heterogeneity of students due to internships. ○ It is difficult to find/recruit teachers to technical departments. ○ No barriers have been identified in some programmes. - Main difficulties: <ul style="list-style-type: none"> ○ Lack of support to faculty. ○ Lack of funding for DUE. ○ Costs involved in developing DUE programmes. ○ Acceptance of the credits (ECTS) to be recognised for the workplace activity. ○ Little effort is being made to build relationships with industry.
<p style="text-align: center;">POLAND</p>	<ul style="list-style-type: none"> - Thirty (30) ECTS credits are recognised for working in a company. - DUE is offered in the applied sciences universities. - The participant is an employee, unlike in the internship, where they are regarded as a student. - It is seen as a core element in the future of the education system. 	<ul style="list-style-type: none"> - Cooperation: Collaboration is based on formal contracts; there are policies and regulations in place for the development of programmes. - Management of cooperation: The universities plan and oversee learning in the workplace. - Quality management: There is no national regulation governing practical learning in the workplace. 	<ul style="list-style-type: none"> - Barriers/Challenges: <ul style="list-style-type: none"> ○ The legislation is confusing. ○ Lack of enthusiasm and training among faculty. ○ Lack of interest among students. - Main difficulties: <ul style="list-style-type: none"> ○ State-wide legislation. ○ Lack of interest among business partners. ○ Lack of support by faculty. ○ Lack of regulations for the recognition of in-company credits (ECTS).

CROACIA	<ul style="list-style-type: none"> - There is no specific definition of DUE. - It is neither recognised nor regulated in Croatia. - Dual education policies focus solely on VET. 	<p>- Cooperation: Collaboration is based on formal contracts; the universities plan and oversee learning in the workplace.</p> <p>- Management of cooperation: It is coordinated by the study programme managers.</p> <p>- Quality management: Practical learning in the workplace is not defined at national level; there is no support or recognition for dual programmes.</p>	<p>- Barriers/Challenges:</p> <ul style="list-style-type: none"> ○ Recognition of DUE in Croatia. ○ Neutral/negative perception of DUE. ○ There are no barriers because it enjoys management's full support. <p>- Main difficulties:</p> <ul style="list-style-type: none"> ○ State-wide legislation. ○ Lack of funding for DUE programmes. ○ Costs involved in developing DUE programmes. ○ Costs to institutions (student's wage).
MALTA	<ul style="list-style-type: none"> - DUE includes dual education and internship periods. - Universities and higher education institutions offer DUE at EQF levels 4, 6 and 7. - It is regulated in the Law on Work-based Learning. - There are initiatives for improving the education system and quality assurance for work-based learning. 	<p>- Cooperation: Collaboration is based on formal contracts; there are policies and regulations in place for students and learning in the workplace.</p> <p>- Management of cooperation: Joint study commissions; the universities plan and oversee learning in the workplace.</p> <p>- Quality management: Regulated by law; quality assurance is delegated to the NCFHE (National Commission for Further and Higher Education).</p>	<p>- Barriers/Challenges:</p> <ul style="list-style-type: none"> ○ The curriculum is not aligned with dual education activities. <p>- Main difficulties:</p> <ul style="list-style-type: none"> ○ Not specified.

<p style="text-align: center;">HUNGARY</p>	<ul style="list-style-type: none"> - Full-time training is designed and integrated into the curriculum as defined by the Dual Education Council. - Applied sciences universities offer DUE at EQF levels 6 and 7. - The internship is part of the curriculum and the students find companies on their own account. - The government plans future improvements for dual education programmes. These programmes face major challenges. 	<p>- Cooperation: Collaboration is based on formal contracts; there are policies and regulations in place for the development of programmes.</p> <p>- Management of cooperation: The universities plan and oversee learning in the workplace; it is managed by the study programme managers.</p> <p>- Quality management: The ESG guidelines are applied; there are no specific quality assurance standards for learning in the workplace.</p>	<p>- Barriers/Challenges:</p> <ul style="list-style-type: none"> ○ Regulation is not aligned with needs. ○ Interruption of the relationship with the students due to sick leave. <p>- Main difficulties:</p> <ul style="list-style-type: none"> ○ Examination and internship periods take place at the same time. ○ Companies demand more time from their students. ○ Costs involved in developing dual programmes. ○ Costs to institutions (students' wage).
<p style="text-align: center;">GERMANY</p>	<ul style="list-style-type: none"> - In Germany there are multiple definitions of dual education in the country's 16 federal states. - The universities, applied sciences universities and polytechnics offer DUE at EQF levels 4, 6 and 7. - Dual students have a legal status with contracts of employment and they receive regulated wages. - Dual programmes are well regulated and enjoy prestige and staunch government backing. 	<p>- Cooperation: Collaboration is based on formal contracts; there are policies and regulations in place for the development of programmes and learning in the workplace.</p> <p>- Management of cooperation: Evaluation is carried out by mixed commissions; the universities plan and oversee learning in the workplace.</p> <p>- Quality management: All DUE programme support processes must be defined.</p>	<p>- Barriers/Challenges:</p> <ul style="list-style-type: none"> ○ Not provided in the questionnaire. <p>- Main difficulties:</p> <ul style="list-style-type: none"> ○ Not provided in the questionnaire.

ANNEX II: AUTONOMOUS COMMUNITY REGULATIONS

Some of the most relevant Autonomous Community regulations are summarised below:

- **Andalusia:** The [Decree 154/2023, of 27 June](#), on the planning of official university education in the Autonomous Community of Andalusia. Article 7, “Official bachelor’s degree education”, and Article 8, “Official master’s degree education”, of this decree include the possibility that the bachelor’s and master’s degrees obtain the Dual Mention (Sections 2.d and 4.c, respectively).
- **Aragon:** [Law 5/2005, of 14 June, on the Planning of the University System of Aragon](#) and [the Decree 72/2023, of 17 May, enacting the Regulation that governs official university education quality assurance procedures and measures in the Autonomous Community of Aragon](#). The latter regulates the recent amendments introduced by the [Royal Decree 822/2021](#). Nevertheless, no specific reference is made to the Dual Mention.
- **Asturias:** The [Decree 90/2009, of 29 July, on Official University Education and Centres in the Principality of Asturias](#). The Decree predates the LOSU and the Royal Decree 822/2021 and therefore makes no reference to the Dual Mention.
- **Cantabria:** No specific regulation has been developed for the planning of university education in this Autonomous Community barring the decrees approving the statutes of the universities based in this Autonomous Community.
- **Castilla-La Mancha:** No specific regulation has been developed for the planning of university education in this Autonomous Community, barring the decree approving the statutes of the University of Castilla-La Mancha.
- **Castilla y León:** [Law 3/2003, of 28 March, on Universities in Castilla y León](#). No specific regulation has been developed for the planning of university education in this Autonomous Community.
- **Catalonia:** [Law 1/2003, of 19 February, on Universities in Catalonia](#). No specific regulation has been developed for the planning of university education in this Autonomous Community.
- **Extremadura:** The [Decree 157/2016, of 20 September, regulating the authorisation of the implementation, modification and elimination of official university education and the renewal of accreditation](#). The Decree predates the LOSU and the Royal Decree 822/2021 and therefore makes no reference to the Dual Mention.
- **Galicia:** [Law 6/2013, of 13 June, on the University System of Galicia](#). The [Decree 222/2011, of 2 December, regulating official university education in the Autonomous Community of Galicia](#). Both regulations predate the LOSU and the Royal Decree 822/2021 and therefore make no reference to the Dual Mention.
- **Balearic Islands:** [Law 2/2003, of 20 March, on the institutional organisation of the Balearic Islands university system](#). No specific regulation has been developed for the planning of university education in this Autonomous Community, barring the decree approving the statutes of the University of the Balearic Islands.

- **Canary Islands:** No specific regulation has been developed for the planning of university education in this Autonomous Community, barring the decrees approving the statutes of its universities.
- **La Rioja:** [Order 28/2009, of 7 October, of the Department of Education, Culture and Sport](#), establishing the procedure for the implementation of official university education, and [Resolution 5/2022, of 3 March, of the Directorate-General for University and Scientific Policy](#), approving the instructions for requesting the mandatory report prior to the verification procedure. Order 28/2009 predates the LOSU and the Royal Decree 822/2021 and therefore makes no reference to the Dual Mention. On the other hand, it regulates the issuance of the mandatory report, which is included in the Royal Decree 822/2021.
- **Madrid:** [Law 4/1998, of 8 April, on University Coordination in the Autonomous Community of Madrid](#). Its objectives are university planning in the Autonomous Community and the adaptation of the offer of studies, services and university activities to social needs. Nevertheless, it is important to emphasise that no additional legislation regulating the planning of university education has been developed, so this regulation includes no specific provisions regarding the Dual Mention.
- **Murcia:** [Law 3/2005, of 25 April, on the universities of the Region of Murcia](#) and the [Decree 203/2009, of 26 June, regulating the authorisation of the implementation of official university education, as well as the creation, modification and elimination of university centres in the Region of Murcia](#). Both regulations predate the LOSU and the Royal Decree 822/2021 and therefore make no reference to the Dual Mention.
- **Navarre:** The [Foral Decree 99/2022, of 16 November](#). It establishes the procedures for the implementation, modification, renewal of accreditation and extinction of official university education of the Public University of Navarre and regulates the recent amendments introduced by the Royal Decree 822/2021. Nevertheless, no specific reference is made to the Dual Mention.
- **Basque Country:** The [Decree 274/2017, of 19 December, on the implementation and elimination of official university education intended for obtaining bachelor's degrees, master's degrees and PhD degrees, of the Basque Government](#). Albeit not explicitly, the Decree 274/2017 provides for the possibility of classifying official university education based on the “relationship with companies, institutions and other entities” vector. As part of this regulation, a Dual Seal initiative was implemented for the bachelor's and master's degrees, which shall be addressed further below.
- **Valencia:** [Law 4/2007, of 9 February, on the coordination of the Valencian University System](#). [Law 2/2008, of 17 April, of the Generalitat \[Autonomous Government of Valencia\], on the Valencian System of Higher Education Degrees and Accreditations](#). Both laws predate the LOSU and the Royal Decree 822/2021 and therefore make no reference to the Dual Mention.

ANNEX III: LIST OF THE PARTICIPATING UNIVERSITIES

NAME OF THE UNIVERSITY	TYPE OF UNIVERSITY
1. National University of Distance Education (UNED)	Public
2. International University of La Rioja (UNIR)	Private
3. Isabel I University	Private
4. Open University of Catalonia (UOC)	Private, with public funding (It is not a CCS member)
5. University of Almería	Public
6. University of Cádiz	Public
7. University of Córdoba	Public
8. University of Granada	Public
9. University of Huelva	Public
10. University of Jaén	Public
11. University of Málaga	Public
12. University of Seville	Public
13. Pablo de Olavide University	Private
14. University of Zaragoza	Public
15. University of La Laguna	Public
16. University of Las Palmas de Gran Canaria	Public
17. Fernando Pessoa-Canarias University	Private
18. University of Cantabria	Public
19. University of Castilla-La Mancha	Public
20. University of Burgos	Public
21. University of León	Public
22. University of Salamanca	Public
23. University of Valladolid	Public
24. Pontifical University of Salamanca	Private (It is not a CCS member)
25. Autonomous University of Barcelona	Public
26. University of Barcelona	Public
27. University of Girona	Public
28. University of Lleida	Public
29. Technical University of Catalonia	Public

NAME OF THE UNIVERSITY	TYPE OF UNIVERSITY
30. Pompeu Fabra University	Public
31. Rovira i Virgili University	Public
32. University of Alicante	Public
33. Miguel Hernández University of Elche	Public
34. University of Valencia	Public
35. Jaume I University (UJI) of Castelló	Public
36. Technical University of Valencia	Public
37. Mondragon University	Private (It is not a CCS member)
38. University of Deusto	Private (It is not a CCS member)
39. University of the Basque Country	Public
40. University of Extremadura	Public
41. University of Santiago de Compostela	Public
42. University of Coruña	Public
43. University of Vigo	Public
44. University of the Balearic Islands	Public
45. University of La Rioja	Public
46. IE University	Private (It is not a CCS member)
47. Autonomous University of Madrid	Public
48. Carlos III University of Madrid	Public
49. Complutense University of Madrid	Public
50. University of Alcalá	Public
51. University of Nebrija	Private
52. European University of Madrid	Private
53. Francisco de Vitoria University	Private
54. UNIE University	Private
55. Technical University of Madrid	Public
56. Rey Juan Carlos University	Public
57. CEU San Pablo University	Private
58. University of Murcia	Public
59. Technical University of Cartagena	Public
60. Public University of Navarre	Public

ANNEX IV: THE SITUATION OF DUE BY AUTONOMOUS COMMUNITY

	Private
	Private with public funding
	Public

Distance education

University	Dual pathway	Dual Mention	Area of knowledge	Dualisation scheduled
UNED	–	–	–	Yes
UNIR (International University of La Rioja)	–	–	–	No
Isabel I University	–	–	–	Yes
UOC	–	–	–	Yes

ANDALUSIA

University	Dual pathway	Dual Mention	Area of knowledge	Dualisation scheduled
UNIVERSITY OF ALMERÍA	30	1	<ul style="list-style-type: none"> ○ Biochemistry and biotechnology. ○ Agricultural sciences and food technology. ○ Behavioural sciences and psychology. ○ Economics, business administration and management, marketing, commerce, accounting and tourism. ○ Social sciences, social work, industrial relations and human resources, sociology, political science and international relations. ○ Law and legal specialities. ○ Philology, classical studies, translation and linguistics. ○ Electrical engineering, electronic engineering and telecommunications engineering. ○ Industrial engineering, mechanical engineering, automation engineering, industrial organisation engineering and navigation engineering. ○ Computer and systems engineering. ○ Chemical engineering, materials engineering and natural environmental engineering. ○ Mathematics. ○ Chemistry. ○ Computer and systems engineering. 	

University	Dual pathway	Dual Mention	Area of knowledge	Dualisation scheduled
UNIVERSITY OF CÁDIZ		1	<ul style="list-style-type: none"> Industrial engineering, mechanical engineering, automation engineering, industrial organisation engineering and navigation engineering. 	
UNIVERSITY OF CÓRDOBA	1	3	<ul style="list-style-type: none"> Chemistry. Economics, business administration and management, marketing, commerce, accounting and tourism. Social sciences, social work, industrial relations and human resources, sociology, political science and international relations. 	
UNIVERSITY OF GRANADA		1	<ul style="list-style-type: none"> Computer and systems engineering. 	
UNIVERSITY OF HUELVA	–	–	–	Yes
UNIVERSITY OF JAÉN	–	–	–	Yes
UNIVERSITY OF MÁLAGA		1	<ul style="list-style-type: none"> Computer and systems engineering. 	
PABLO OLAVIDE UNIVERSITY	–	–	–	Yes
UNIVERSITY OF SEVILLE	1		<ul style="list-style-type: none"> Industrial engineering, mechanical engineering, automation engineering, industrial organisation engineering and navigation engineering. 	

ARAGON

University	Dual pathway	Dual Mention	Area of knowledge	Dualisation scheduled
UNIVERSITY OF ZARAGOZA	1	3	<ul style="list-style-type: none"> Industrial engineering, mechanical engineering, automation engineering, industrial organisation engineering and navigation engineering. Electrical engineering, electronic engineering and telecommunications engineering. 	Yes

THE CANARY ISLANDS

University	Dual pathway	Dual Mention	Area of knowledge	Dualisation scheduled
FERNANDO PESSOA UNIVERSITY	–	–	–	–
UNIVERSITY OF LA LAGUNA	–	–	–	Yes
UNIVERSITY OF LAS PALMAS DE GRAN CANARIA	–	1	<ul style="list-style-type: none"> Architecture, construction, building and urbanism, and civil engineering. 	Yes

CANTABRIA

University	Dual pathway	Dual Mention	Area of knowledge	Dualisation scheduled
UNIVERSITY OF CANTABRIA	–	–	–	Yes

CASTILLA-LA MANCHA

University	Dual pathway	Dual Mention	Area of knowledge	Dualisation scheduled
UNIVERSITY OF CASTILLA-LA MANCHA		2	<ul style="list-style-type: none"> Electrical engineering, electronic engineering and telecommunications engineering. Computer and systems engineering. 	

CASTILLA Y LEÓN

University	Dual pathway	Dual Mention	Area of knowledge	Dualisation scheduled
UNIVERSITY OF BURGOS	1	1	<ul style="list-style-type: none"> Computer and systems engineering. 	
UNIVERSITY OF LEÓN	–	–	–	Yes
PONTIFICAL UNIVERSITY OF SALAMANCA	–	–	–	No
UNIVERSITY OF SALAMANCA	–	–	–	No

University	Dual pathway	Dual Mention	Area of knowledge	Dualisation scheduled
UNIVERSITY OF VALLADOLID	4		<ul style="list-style-type: none"> ○ Industrial engineering, mechanical engineering, automation engineering, industrial organisation engineering and navigation engineering.. ○ Electrical engineering, electronic engineering and telecommunications engineering.. ○ Computer and systems engineering. 	

CATALONIA

University	Dual pathway	Dual Mention	Area of knowledge	Dualisation scheduled
AUTONOMOUS UNIVERSITY OF BARCELONA	–	–	–	Yes
UNIVERSITY OF BARCELONA	–	–	–	Yes
UNIVERSITY OF GIRONA	–	–	–	Yes
UNIVERSITY OF LLEIDA	5		<ul style="list-style-type: none"> ○ Industrial engineering, mechanical engineering, automation engineering, industrial organisation engineering and navigation engineering. ○ Computer and systems engineering. ○ Architecture, construction, building and urbanism, and civil engineering. ○ Education sciences. 	
TECHNICAL UNIVERSITY OF CATALONIA	–	–	–	Yes
POMPEU FABRA UNIVERSITY	–	–	–	No
ROVIRA I VIRGILI UNIVERSITY		3	<ul style="list-style-type: none"> ○ Chemistry. ○ Economics, business administration and management, marketing, commerce, accounting and tourism. ○ Social sciences, social work, industrial relations and human resources, sociology, political science and international relations. 	

VALENCIAN COMMUNITY

University	Dual pathway	Dual Mention	Area of knowledge	Dualisation scheduled
UNIVERSITY OF ALICANTE	–	–	–	Yes
MIGUEL HERNÁNDEZ UNIVERSITY OF ELCHE	–	–	–	Yes
TECHNICAL UNIVERSITY OF VALENCIA		1	<ul style="list-style-type: none"> Electrical engineering, electronic engineering and telecommunications engineering. 	
JAUME I UNIVERSITY (UJI) OF CASTELLÓ		1	<ul style="list-style-type: none"> Computer and systems engineering. 	
UNIVERSITY OF VALENCIA	–	–	–	Yes

BASQUE COUNTRY

University	Dual pathway	Dual Mention	Area of knowledge	Dualisation scheduled
MONDRAGON UNIVERSITY	7	22	<ul style="list-style-type: none"> Industrial engineering, mechanical engineering, automation engineering, industrial organisation engineering and navigation engineering. Electrical engineering, electronic engineering and telecommunications engineering.. Computer and systems engineering. Chemical engineering, materials engineering and natural environmental engineering. Economics, business administration and management, marketing, commerce, accounting and tourism. Cultural industries: design, animation, cinematography and audiovisual production. Education sciences. Social sciences, social work, industrial relations and human resources, sociology, political science and international relations.. 	

University	Dual pathway	Dual Mention	Area of knowledge	Dualisation scheduled
UNIVERSITY OF DEUSTO		11	<ul style="list-style-type: none"> ○ Industrial engineering, mechanical engineering, automation engineering, industrial organisation engineering and navigation engineering.. ○ Electrical engineering, electronic engineering and telecommunications engineering.. ○ Computer and systems engineering. ○ Economics, business administration and management, marketing, commerce, accounting and tourism.. ○ Social sciences, social work, industrial relations and human resources, sociology, political science and international relations.. 	
UNIVERSITY OF THE BASQUE COUNTRY		14	<ul style="list-style-type: none"> ○ Economics, business administration and management, marketing, commerce, accounting and tourism.. ○ Industrial engineering, mechanical engineering, automation engineering, industrial organisation engineering and navigation engineering.. ○ Journalism, communication, advertising and public relations. ○ Biochemistry and biotechnology. ○ Social sciences, social work, industrial relations and human resources, sociology, political science and international relations.. ○ Computer and systems engineering. 	

EXTREMADURA

University	Dual pathway	Dual Mention	Area of knowledge	Dualisation scheduled
UNIVERSITY OF EXTREMADURA	–	–	–	Yes

GALICIA

University	Dual pathway	Dual Mention	Area of knowledge	Dualisation scheduled
UNIVERSITY OF CORUÑA	2		<ul style="list-style-type: none"> ○ Electrical engineering, electronic engineering and telecommunications engineering.. ○ Computer and systems engineering. 	Yes
UNIVERSITY OF VIGO	–	–	–	Yes

University	Dual pathway	Dual Mention	Area of knowledge	Dualisation scheduled
UNIVERSITY OF SANTIAGO DE COMPOSTELA	1		<ul style="list-style-type: none"> Economics, business administration and management, marketing, commerce, accounting and tourism.. 	

BALEARIC ISLANDS

University	Dual pathway	Dual Mention	Area of knowledge	Dualisation scheduled
UNIVERSITY OF THE BALEARIC ISLANDS	–	–	–	No

LA RIOJA

University	Dual pathway	Dual Mention	Area of knowledge	Dualisation scheduled
UNIVERSITY OF LA RIOJA	–	–	–	Yes

MADRID

University	Dual pathway	Dual Mention	Area of knowledge	Dualisation scheduled
IE UNIVERSITY	–	–	–	No
UNIVERSITY OF ALCALÁ	1*	–	<ul style="list-style-type: none"> Economics, business administration and management, marketing, commerce, accounting and tourism. 	Yes
AUTONOMOUS UNIVERSITY OF MADRID	–	–	–	Yes
CARLOS III UNIVERSITY OF MADRID	–	–	–	No
COMPLUTENSE UNIVERSITY OF MADRID		1	<ul style="list-style-type: none"> Agricultural sciences and food technology. 	
EUROPEAN UNIVERSITY OF MADRID	–	–	–	Yes
FRANCISCO DE VITORIA UNIVERSITY	–	–	–	Yes
UNIE UNIVERSITY	–	–	–	Yes
UNIVERSITY OF NEBRIJA	–	–	–	No

TECHNICAL UNIVERSITY OF MADRID	1		○ Computer and systems engineering.	
REY JUAN CARLOS UNIVERSITY	–	–	–	Yes
CEU SAN PABLO UNIVERSITY	–	–	–	Yes

1* In collaboration with the German University of Baden-Württemberg (DHBW) and with the FEDA-EWA training school (in Madrid). For further information, see section 5.1.2 of the report.

MURCIA

University	Dual pathway	Dual Mention	Area of knowledge	Dualisation scheduled
UNIVERSITY OF MURCIA	–	–	–	Yes
TECHNICAL UNIVERSITY OF CARTAGENA	–	–	–	Yes

NAVARRRE

University	Dual pathway	Dual Mention	Area of knowledge	Dualisation scheduled
PUBLIC UNIVERSITY OF NAVARRRE	2	1	○ Industrial engineering, mechanical engineering, automation engineering, industrial organisation engineering and navigation engineering.	



