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DIGITAL ECONOMY AND SOCIETY IN THE BASQUE COUNTRY 2018

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Resumen

Este trabajo presenta los resultados del indicador para la economía y la sociedad digitales, DESI (*Digital Economy and Society Index*) para el País Vasco en 2018. Analiza, en primer lugar, la comparativa de la realidad vasca en relación con los países de la Unión Europea y, posteriormente, estudia la evolución comparada en el último ejercicio. Para ello incorpora las novedades metodológicas introducidas en 2018 por la Comisión Europea.

Laburpena

Lan honek ekonomia eta gizarte digitalerako adierazlearen (DESI-*Digital Economy and Society Index*) 2018ko emaitzak aurkezten ditu, Euskal Autonomia Erkidegorako. Lehenengo, Euskal Autonomia Erkidegoko errealitatea Europar Batasuneko herrialdeen errealitatearekin alderatzen du eta, ondoren, azken ekitaldiko bilakaera alderatua aztertzen du. Horretarako, 2018an Europako Batzordeak sartu dituen berrikuntza metodologikoak hartu ditu kontuan.

Summary

This paper presents the results of the indicator for the digital economy and society, DESI (*Digital Economy and Society Index*) for the Basque Country in 2018. It first analyses the Basque reality in relation to the countries of the European Union and later it studies the evolution of the 2018 DESI indicator compared to that of the previous year. To do so, it incorporates the methodological novelties introduced in 2018 by the European Commission.

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1. Presentation

This report on DESI for the Basque Country 2018 continues the work carried out last year when this European indicator was adapted to the Basque reality for the first time. In this case, the analysis is presented in a shorter report with the aim of showing the results in a more synthetic way. In addition, this year's report includes comparable data from the previous year, and therefore provides a particularly interesting analysis of the evolution that has taken place in these two years.

The DESI, or the Digital Economy and Society Index, allows us to measure the degree of digitisation of a territory, as well as to track its development over time. It consists of 34 indicators that are grouped into five dimensions: connectivity, human capital, use of Internet services, integration of digital technology and digital public services. Between the dimensions level and that of the indicators there is another intermediate level, that of the sub-dimensions. Based on the absolute value of the indicator, a series of standardisation processes and weightings are carried out to obtain the final DESI indicator.

The DESI has been created to measure the digitisation of EU Member States, and thus its configuration follows a state-level approach. This generates certain limitations in terms of adapting it to a regional level, not only in terms of statistical sources but also in obtaining specific indicators such as those related to administration services.

Another difficulty concerns the methodological changes (*DESI 2018. Digital Economy Society Index, Methodological Note, May 2018*). These changes have entailed readjustments in the DESI of previous years (in the DESI 2017 for the case of the Basque Country), because the inclusion of new indicators or the elimination of others from one year to the next means that the past DESI has to be updated for the comparative analysis to remain valid. Consequently, when it comes to updating the DESI 2017 for the Basque Country, new indicators have to be incorporated (those included in the DESI 2018), which were not included in its initial calculation. This /causes certain problems for specific indicators, such as those obtained through primary information sources (this is the case for most of the digital public services indicators). Therefore, these indicators must be estimated. This report has been prepared according to the data available in November 2018.

The analysis of the DESI 2018 in the Basque Country is presented in two sections. In the first section, the results of this year are shown in level order, i.e. starting with the DESI and continuing with the description of the dimensions, sub-dimensions and finally the indicators. The figures show the Basque Country's position in relation to the set of EU-28 countries. For the levels of sub-dimensions and indicators, the results are presented in tables with the objective of summarising the data. The values used as a reference are those of Spain, the leading country and the average of the EU-28.

The second section shows a summary table where the results of the indicators, sub-dimensions and dimensions of 2018 and 2017 are compared. The results are given in absolute values (or weighted in the case of sub-dimensions and dimensions) and focus on the relative position of the Basque Country in relation to the set of EU-28 countries. Its percentage variations are also calculated.

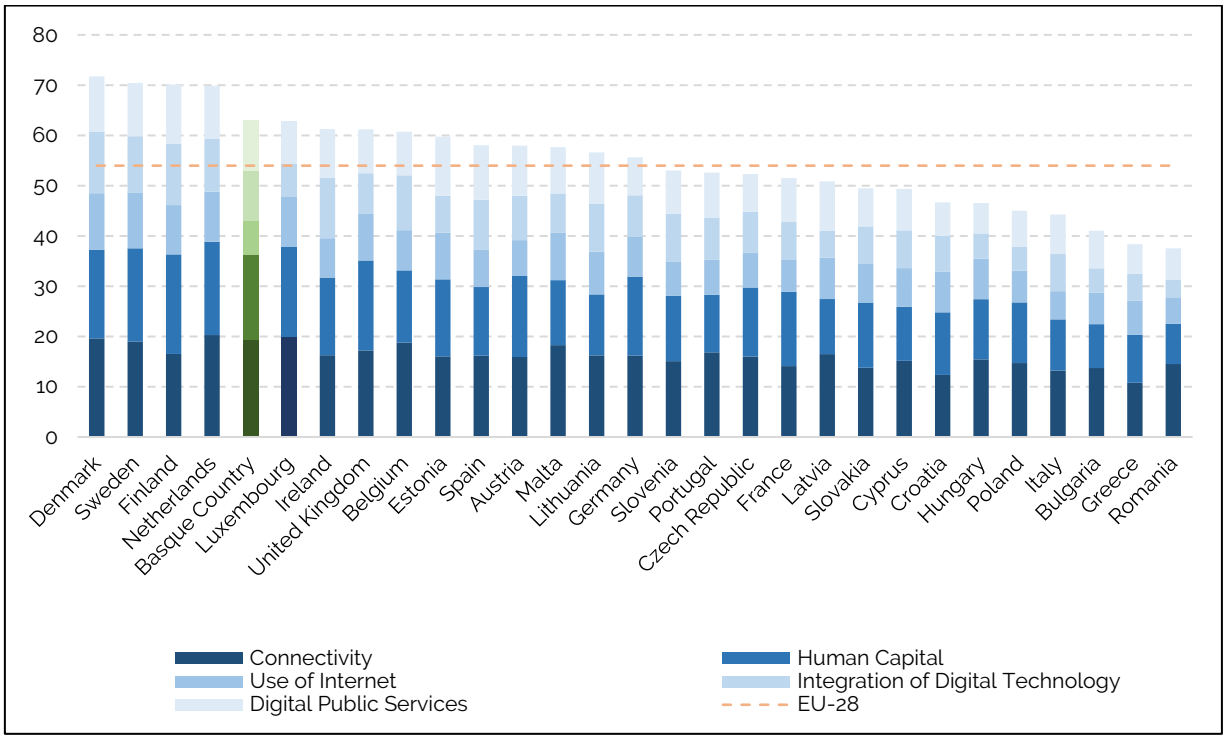
2. Digitisation in the Basque Country in 2018

2.1 DESI 2018

The digitisation of the Basque society and economy is expressed through the Digital Economy and Society Index (DESI). According to this indicator, the Basque Country ranks fifth, with a value of 62.99%, considerably higher than the average of the EU-28 (53.98%).

As shown in Figure 1, there is a leading group consisting of the Nordic countries, among which are Denmark (71.73%), Sweden (70.45%), Finland (70.11%) and the Netherlands (69.87%). Behind, at a certain distance, is the Basque Country, slightly ahead of Luxembourg (62.79%), Ireland (61.26%), the United Kingdom (61.21%) and Belgium (60.73%).

Figure 1. DESI 2018 (%)



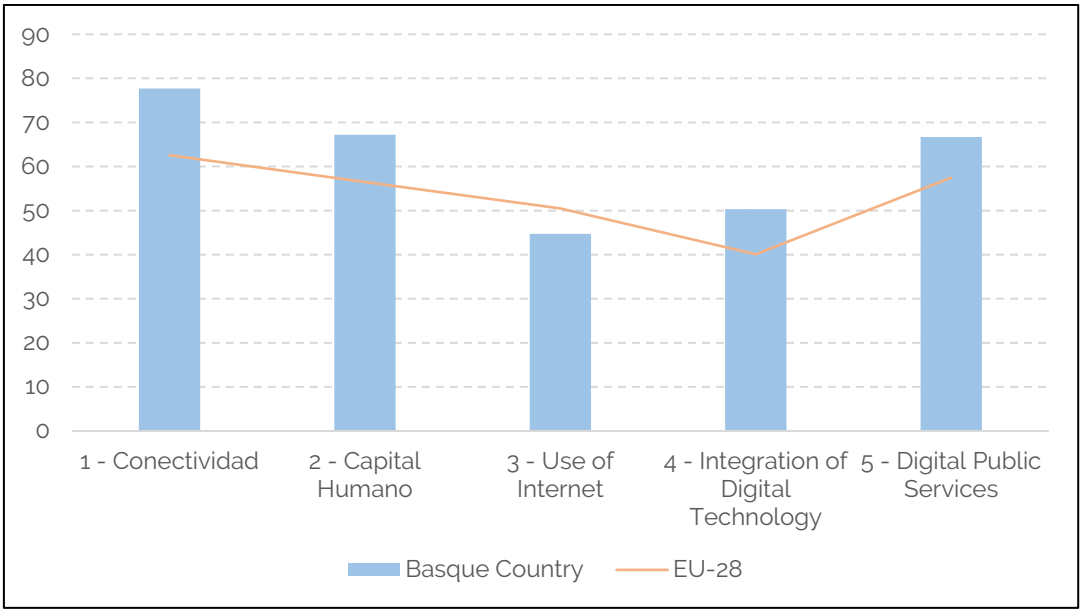
Source: EUROSTAT

2.2 Dimensions

The DESI indicator is made up of five dimensions: connectivity, human capital, use of Internet services in households, integration of digital technology in companies and digital public services. The following sections describe the degree of digitisation in each of these dimensions.

We can observe in Figure 2 that the Basque Country is not a top performer in any of the dimensions although it does maintain levels of progress above the EU-28 average, with the exception of the use of the Internet in families, where there is a certain difference. The convergence towards the leading countries is clearly evident in the rest of the dimensions, with very positive results in connectivity, human capital, integration of digital technology in business and digital public services.

Figure 2. DESI 2018 Basque Country dimensions (%)



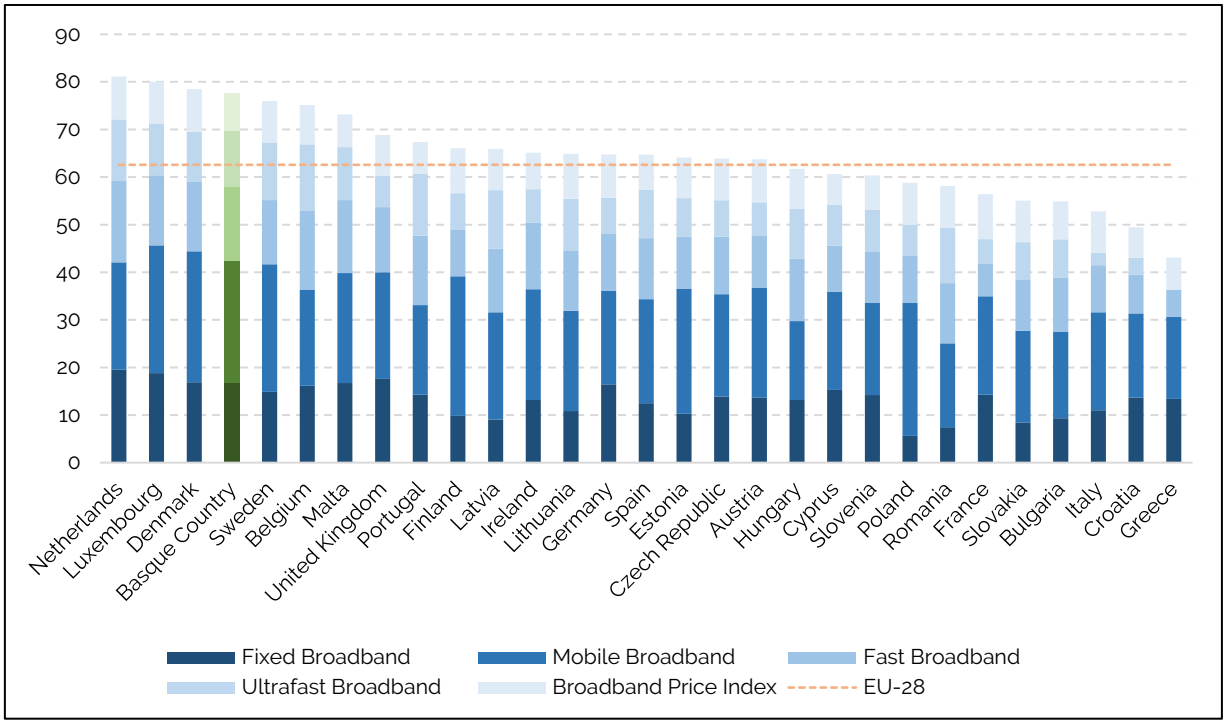
Source: EUROSTAT, INE (National Statistics Institute), EUSTAT

The following subsections provide a detailed description of each of the five dimensions with their corresponding sub-dimensions for all the countries, depicting the Basque Country's position in each dimension. Also provided is the average value of the EU-28 in each dimension.

2.2.1 Connectivity

The Basque Country ranks fourth in terms of connectivity, with a value of 77.67%, which is notably above the average of the EU-28 (62.58%). The Basque Country is therefore among the leading countries, only behind the Netherlands (81.13%), Luxembourg (80.05%) and Denmark (78.48%). It should be noted that it is precisely in this dimension that the Basque Country obtains its best position.

Figure 3. Connectivity (%)



Source: EUROSTAT, CNMC (National Commission on Markets and Competition), Ministry of Economy and Business, INE (National Statistics Institute)

The connectivity dimension includes five sub-dimensions: fixed, mobile, fast, ultra-fast broadband[1] and the broadband price index, which measures the affordability of its access price. Ultra-fast broadband connectivity is introduced for the first time in the 2018 edition of DESI, while the degree of commercialisation of the radiofrequency spectrum is no longer included.

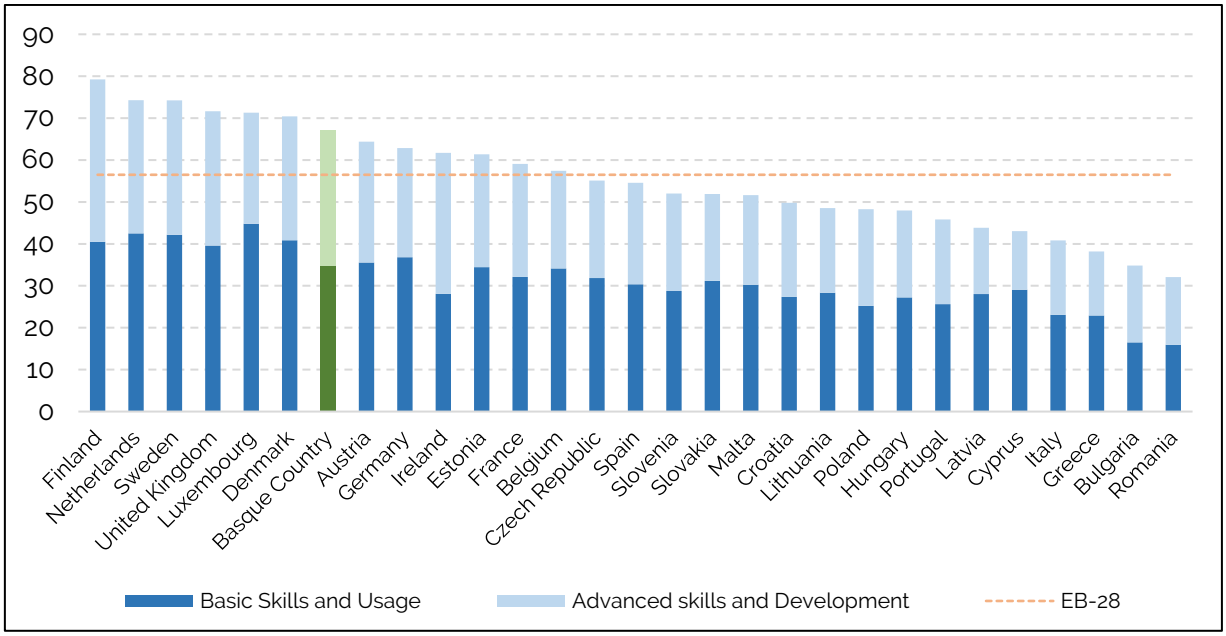
2.2.2 Human capital

Regarding human capital for digitisation, the Basque Country reaches 67.19% and occupies the seventh place in a dimension where Finland (79.24%), the Netherlands (74.25%) and Sweden (74.23%) are the top performers. Once again the Basque Country is above the EU-28 average (56.48%), in a position that could be described as transitional towards the group of leading countries.

[1] A new sub-dimension has been added in this particular dimension: ultra-fast broadband (1.d). It consists of two indicators: ultra-fast broadband coverage (households with ultra-fast broadband coverage, i.e. equal to or more than 100 Mbps (1.d.1)) and ultra-fast broadband penetration (ratio of ultra-fast broadband subscriptions to total households (1.d.2)).

For more information, see 5. *Methodological note* and 6. *Appendix - Indicators and definitions.*

Figure 4. Human Capital (%)



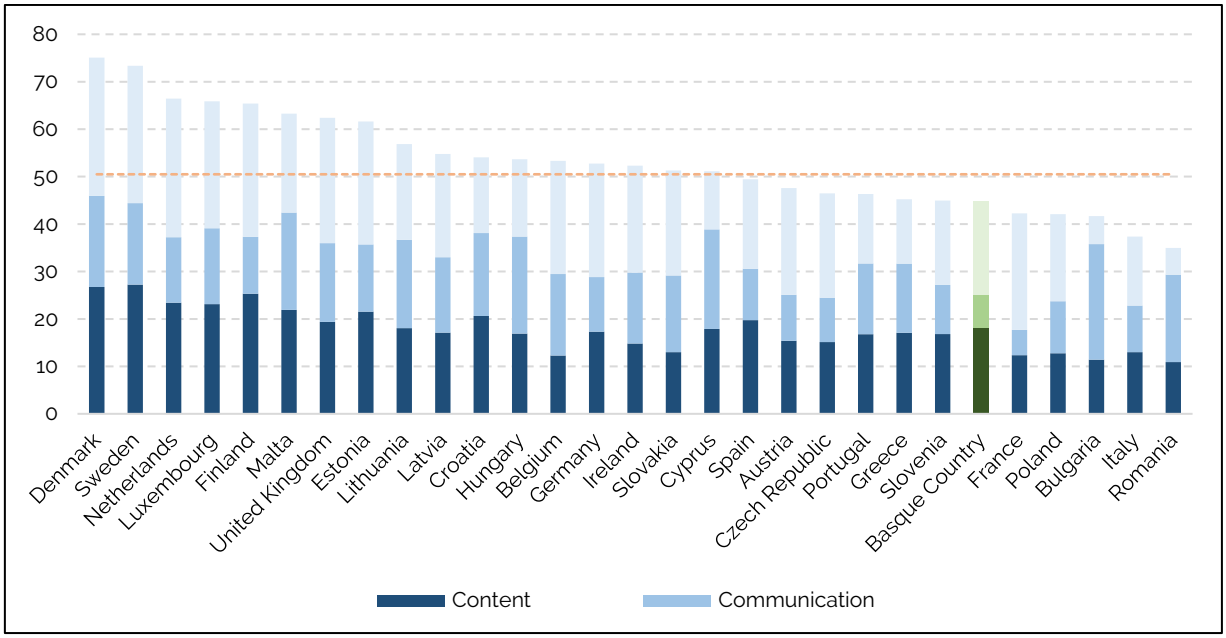
Source: EUROSTAT, INE (National Statistics Institute), EUSTAT, IKANOS

This dimension includes two sub-dimensions: basic skills and use, and advanced skills and development. The first refers to the ability of citizens to use digital products and services, while the second is related to the capability to produce such goods and services.

2.2.3 Use of Internet services

In the dimension on the use of Internet services in households, the Basque Country is well below the EU-28 average, with a value of 44.73% compared to the average, which stands at 50.49%. This implies that it obtains the lowest score in the ranking and is in position 24. Among the leading countries, Denmark (75.09%) and Sweden (73.37%) stand out.

Figure 5. Use of Internet Services (%)



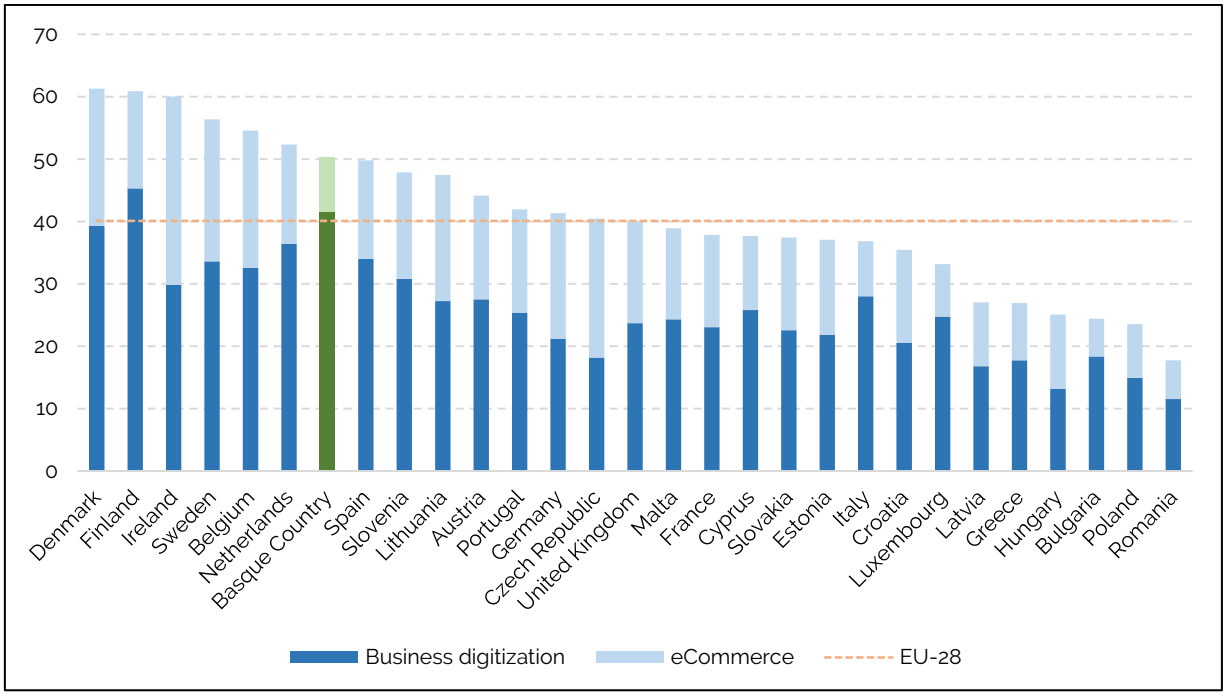
Source: EUROSTAT, INE (National Statistics Institute), EUSTAT

The 3 sub-dimensions included in this particular dimension cover the type of activities that are taken into account when measuring the use of the Internet: content, communication and transactions.

2.2.4 Integration of digital technology

In the dimension measuring the integration of digital technology in companies the Basque Country ranks seventh with a share of 50.30%, which is above the European average of 40.09%. Denmark (61.28%), Finland (60.88%) and Ireland (60.02%) obtain the highest scores in technological integration, roughly 10 percentage points/more than the Basque Country.

Figure 6. Integration of Digital Technology (%)



Source: EUROSTAT, INE (National Statistics Institute), EUSTAT

This dimension consists of two sub-dimensions: digitisation of business and e-commerce. The first measures the use of certain technologies, while the second is specifically related to the online sales of SMEs. It is in the first sub-dimension that the Basque Country has a clear advantage over other countries.

2.2.5 Digital public services

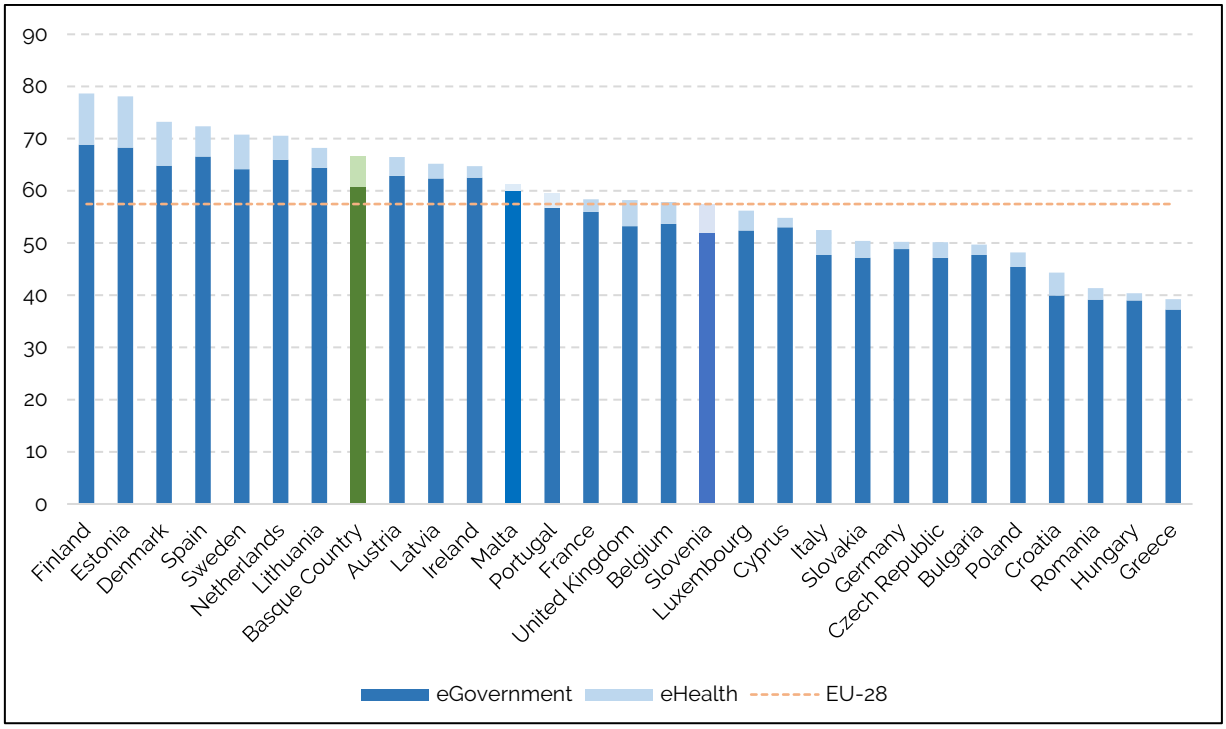
The digitisation of public administration and its provision of digital public services[2] in the Basque Country is slightly higher than the EU-28 average, 66.68% compared to 57.48%, enabling it to take the eighth position. The top performing countries are Finland (78.64%) and Estonia (78.10%).

[2] A new indicator has been added to this dimension: digital public services for companies (5.a.4) which measures the proportion of public services needed to start a business or carry out the usual procedures related to a business and that are available online both for domestic users as well as for foreigners.

Also included is a new sub-dimension: eHealth (5.b), whose only indicator (5.b.1) measures the percentage of people who have used health services provided online without having to go to the hospital or the doctor.

More information in section 5, *Methodological note*, and section *6, Appendix - Indicators and definitions.*

Figure 7. Digital Public Services (%)



Source: EUROSTAT, INE (National Statistics Institute), and authors' calculations.

There are two sub-dimensions in the digitisation of public administration, eGovernment and eHealth, the first of which has a greater weight in the dimension than the second.

2.3 Sub-dimensions and indicators

In the following sections, the sub-dimensions and indicators of each of the dimensions are presented. The analysis includes both the value of the sub-dimension or indicator for the Basque Country, and the position it occupies, as well as the corresponding values for Spain, the EU-28 and the country with the best result.

2.3.1 Connectivity

All broadband sub-dimensions are made up of two indicators that measure both the coverage and the adoption of each of these technologies. The price index includes a single indicator and measures the percentage of gross salary needed to contract a broadband connection.

Table 1 presents the scores and positions of each of the sub-dimensions of the connectivity dimension.

Table 1. Comparison of the connectivity sub-dimensions

Dimension 1 - Connectivity	Basque Country		Spain	Leader country	EU-28
	Score	Position			
1.a - Fixed broadband	84.05	5	62.50	97.63	68.99
1.b - Mobile broadband	85.86	7	72.84	97.70	71.47
1.c - Fast broadband	76.75	3	64.00	85.43	56.77
1.d - Ultra-fast broadband	59.14	6	49.84	69.36	36.58
1.e - Broadband price index	79.30	21	74.31	94.40	86.67

Source: Authors' calculations.

The Basque Country's results are good in all sub-dimensions, except for the one related to price. In all the others its position is outstanding, particularly in ultrafast broadband, a new sub-dimension in the DESI 2018.

Table 2 shows the results of the indicators of the five connectivity sub-dimensions[3].

Table 2. Comparison of connectivity indicators

	Basque Country		Spain	Leader country	EU-28
	Score	Position			
Sub-dimension 1.a – Fixed Broadband					
1.a.1 - Fixed broadband coverage	99.1	13	95.67	100	97.41
1.a.2 - Fixed broadband take-up	86.3	5	73.32	97.63	75.47
Sub-dimension 1.b – Mobile Broadband					
1.b.1 - Mobile broadband coverage	99	5	92.25	99.97	90.77
1.b.2 - Mobile broadband take-up	115.9	7	91.79	146,34	90.22
Sub-dimension 1.c – Fast Broadband					
1.c.1 - Fast broadband coverage	94.5	7	85.03	99.95	80.06
1.c.2 - Fast broadband take-up	58.99	3	42.97	72.57	33.49
Sub-dimension 1.d - Ultrafast Broadband					
1.d.1 - Ultrafast broadband coverage	93.6	5	83.64	99.95	57.77
1.d.2 - Ultrafast broadband take-up	24.67	9	17.60	47.54	15.39
Sub-dimension 1.e – Broadband Price Index					
1.e.1 - Broadband Price index	79.3	21	74.31	94.40	86.67

Source: Prepared by the authors/Own source

In virtually all the indicators related to the connectivity dimension, the Basque Country is above the EU-28 average. The coverage data show remarkably high absolute values/scores, and the position of the Basque Country in comparison to the rest of the Member States is considerably good in the set of indicators, including take-up. In fact, particularly worth mentioning is its third position in fast

[3] The calculation of indicator 1.c.2 has changed compared to last year's: it is now measured on the total of households with at least one member aged between 16 and 74 and not on the total of broadband subscriptions. This also applies to indicator 1.d.2.

For further information see 5. *Methodological note.*

broadband take-up (speed higher than or equal to 30 Mbps), as well as the good results it has obtained in ultrafast broadband (speed higher than or equal to 100 Mbps).

The broadband price indicator, however, is an exception. A higher indicator means higher broadband access affordability and, in this case, the result shows that the Basque Country's position is below the EU-28 average. However, in comparison with Spain, and considering their equivalent price structure[4], the result is better due to a higher available income, which means that the connexion access in the Basque Country is more affordable in economic terms.

2.3.2 Human capital

Human capital is analysed based on two sub-dimensions: basic skills and Internet use, and advanced skills and development. Table 3 presents the values and positions of these two sub-dimensions.

Table 3. Comparison of human capital sub-dimensions

Dimension 2 – Human Capital	Basque Country		Spain	Leader country	EU-28
	Score	Position			
2.a – Basic skills and Internet use	69.88	9	60.73	89.58	62.66
2.b – Advanced skills and development	64.49	2	43.39	74.30	48.5

Source: Authors' calculations.

Both sub-dimensions include two indicators that measure the digital skills of citizens in general as well as those of the labour force. The Basque Country has the second position in advanced skills, while in the case of basic skills, the results are also positive.

Table 4 shows the results of the human capital indicators.

Table 4. Comparison of human capital indicators

	Basque Country		Spain	Leader country	EU-28
	Score	Position			
Sub-dimension 2.a – Basic Skills and Internet Use					
2.a.1 - Internet users	81.8	11	80.01	96.40	80.88
2.a.2 – Basic digital skills	70.1	7	54.77	85.18	57.18
Sub-dimension 2.b – Advanced Skills and Development					
2.b.1 – ICT specialists	2.44	24	3	6.6	3.70
2.b.2 – STEM graduates	37.65	1	21.60	37.65	19.1

Source: Authors' calculations.

The indicators of basic skills present fair results, above the average of the EU-28. However, those related to advanced skills show very different results: in the case of STEM graduates[5], the Basque

[4] This indicator has been estimated based on the data of Spain.

[5] Science, Technology, Engineering and Mathematics.

Country obtains the highest values in the ranking, while in the case of ICT specialists[6], its score is amongst the lowest.

2.3.3 Use of Internet services

The measurement of Internet use by families is carried out based on a series of services offered that are grouped into three sub-dimensions: content, communication and transactions. Table 5 presents the scores and positions of the three sub-dimensions included in the use of Internet services in households dimension.

Table 5. Comparison of the use of Internet services sub-dimensions

Dimension 3 – Use of Internet Services	Basque Country		Spain	Leader country	EU-28
	Score	Position			
3.a - Content	54.38	11	59.20	81.69	49.86
3.b – Communication	20.54	28	32.51	73.07	37.14
3.c – Transactions	59.27	18	56.58	87.69	64.49

Source: Authors' calculations.

The sub-dimension of content consists of three indicators that measure the use of the Internet in leisure services, whereas communication, which refers specifically to services of interaction with other users, as well as transactions, which measures the operations of banking or e-commerce, have two indicators each.

The Basque Country's results in this particular area are not good, ranking above the EU-28 average only in the content sub-dimension. The best data can be seen in the transactions sub-dimension.

Below are the indicators that measure Internet use.[7]

Table 6. Comparison of indicators of use of Internet services

	Basque Country		Spain	Leader country	EU-28
	Scores	Position			
Sub-dimension 3.a - Contents					
3.a.1 - News	80.5	13	77.50	93.02	72.50
3.a.2 - Music, video and games	70.06	25	83.12	90.88	78.09
3.a.3 - Video on demand	31.27	6	26.96	49.04	20.67
Sub-dimension 3.b - Communication					
3.b.1 - Video Calls	30.6	29	35.25	85.23	46.22
3.b.2 - Social Networks	56.7	27	67.58	86.83	64.89
Sub-dimension 3.c - Transactions					
3.c.1 - Banking	57.3	18	54.58	93.31	61.41
3.c.2 - Shopping	61.24	16	58.58	86.23	67.56

Source: Authors' calculations.

[6] Information and Communication Technology.

[7] For indicator 3.a.3 "Pay TV" data has been used.

The use of Internet services dimension is where the Basque Country has the worst performance, and this is reflected in practically all the indicators that make up this dimension. With the exception of two of the content indicators, news and videos on demand, the scores are far from the EU-28 average. In fact, in some sub-dimensions the Basque Country even obtains the lowest scores, as in the case of the indicators related to communication.

2.3.4 Integration of digital technology

The dimension of integration of digital technology in companies is broken down into two sub-dimensions, one related to the degree of digitisation existing in companies and the other related to the level of e-commerce in SMEs. There are five indicators in the first sub-dimension and three in the second.

Table 7 shows the scores and ranking of the Basque Country in each of these sub-dimensions.

Table 7. Comparison of the integration of digital technology sub-dimensions

Dimension 4 – Integration of Digital Technology	Basque Country		Spain	Leader country	EU-28
	Score	Position			
4.a – Business digitisation	69.16	1	45.34	69.16	36.57
4.b – E-commerce	22	25	39.45	75.37	38.86

Source: Authors' calculations.

In terms of business digitisation the Basque Country obtains the highest score, occupying the first position in the ranking. On the contrary, the degree of e-commercialisation of Basque SMEs can be improved, since currently this region occupies the 25th position.

Table 8 provides these indicators' results.

Table 8. Comparison of integration of digital technology indicators

	Basque Country		Spain	Leader country	EU-28
	Score	Position			
Sub-dimension 4.a - Business digitisation					
4.a.1 -Electronic Information Sharing	56.55	1	45.97	56.55	33.76
4.a.2 - RFID	8.71	2	7.81	9.18	4.19
4.a.3 - Social Media	41.3	2	27.87	42.43	21.42
4.a.4 - E-invoices	35.87	4	24.99	71.82	17.72
4.a.5 - Cloud	19.57	8	12.95	40.39	13.51
Sub-dimension 4.b -E-commerce					
4.b.1 - SMEs e-sales	10.6	23	19.56	29.51	17.15
4.b.2 - SMEs e-commerce turnover	4.98	24	10.14	22.93	10.26
4.b.3 - SMEs cross-border e-sales	4.7	26	7.09	16.80	8.38

Source: Authors' calculations.

The analysis of the indicators of technology implementation in companies reflects the same contrast found at the level of sub-dimensions. On the one hand, in the five indicators of business digitisation, the Basque Country is among the top performers in all of them, even obtaining the highest score in electronic information sharing (ERP) and the second highest in radio frequency identification (RFID) and in the use of social media (at least two of them). On the other hand, the use of e-commerce is

very limited among Basque SMEs, as well as in the international arena, which is reflected in a low turnover in this type of sales.

2.3.5 Digital public services

The digitisation of public services is studied based on two aspects: eGovernment, which measures the use of technology in public administration services, and eHealth, related to the use of online health services. Table 9 presents the values and positions of these two sub-dimensions.

Table 9. Comparison of digital public services sub-dimensions

Dimension 5 – Digital Public Services	Basque Country		Spain	Leader country	EU-28
	Score	Position			
5.a - eGovernment	76.13	11	83.2	86.05	67.34
5.b - eHealth	28.87	6	29	49	18

Source: Authors' calculations.

Regarding eGovernment, the Basque public administration performs well scoring above the European average. It also holds an advanced position in eHealth.

The eGovernment and eHealth indicators are shown below. [8]

Table 10. Comparison of digital public services indicators

	Basque Country		Spain	Leader country	EU-28
	Score	Position			
Sub-dimension 5.a - eGovernment					
5.a.1 – eGovernment users	59.87	15	67.24	96.11	58.49
5.a.2 – Pre-filled forms	72.63	9	71.71	100.00	53.32
5.a.3 – Online service completion	87.57	13	93.88	98.625	84.38
5.a.4 – Digital public services for businesses	93.5	5	94.61	100.00	82.75
5.a.5 – Open data	0.77	12	0.94	0.96	0.73
Sub-dimension 5.b - eHealth					
5.b.1 - eHealth services	28.9	6	29	49	18

Source: Authors' calculations.

The indicators of the first of the sub-dimensions in digital public services show fair results, holding a relevant position only in digital public services for businesses and, to a lesser extent, in pre-filled forms. In all the indicators the performance of the Basque Country is higher than the European average.

The Basque Country enjoys a strong position in the second sub-dimension, which is focused on eHealth services and has only one indicator.

[8] The calculation of indicator 5.a.1 has changed from last year: it is measured on the total of people who needed to submit pre-filled forms to the public administration in the last 12 months instead of the total number of Internet users in the last 12 months.

The questionnaire used to create indicator 5.a.5 is different from last year's.

For further information see *5. Methodological note*.

2.4 Analysis of results

In connectivity, the Basque Country maintains an outstanding fourth position, with a difference of only 4 points with the best performer, obtaining positive results in all its sub-dimensions and indicators, with the exception of the affordability of Internet access. These promising results include those related to ultrafast broadband networks.

Regarding human capital, the Basque Country ranks seventh position. This is due to the fact that its results in basic skills need improving, while in advanced skills it has obtained the second highest values. This second position hides a striking contrast between the remarkable level of people graduated in the scientific-technological field (STEM) and the low level of ICT specialists in the labour market. As a consequence there is a difference of 12 points with the country with the highest score in human capital.

On the other hand, the Basque Country obtains very limited results in the use of Internet services in households, with low scores in comparison to the European average. This is explained by its poor ratios in the use of communication services and access to content, and somewhat less by its limited usage of economic transactions through the Internet.

The integration of digital technology in Basque companies is significant, although there is a 10-point differential with the leading countries. This relatively decent position, however, contains uneven behaviour. On the one hand, Basque companies are leaders in business digitisation, i.e. adopting technologies in their business. But, on the other hand, the use of technology in the e-commerce of SMEs presents very low levels in different markets and in their contribution to their total turnover.

The digitisation of public services in the Basque Country enables Basque public administration to obtain a twelfth position, slightly above the European average, i.e. 18 points from the most digitised country. Thus, while the development of eGovernment attains a medium relative position (obtains average scores in almost all indicators, despite a very limited offer of digital public services for companies), Basque public administration holds a remarkable sixth position in eHealth.

3. 2017-2018 Evolution of the DESI in the Basque Country

Before comparing the progress between 2017 and 2018, it is essential to point out the change of methodology in the calculation of the DESI indicator for the year 2018. In order to allow comparability between both years, the 2017 indicator must be updated. The incorporation, replacement and updating of the new DESI 2018[9] indicators, makes it is necessary to recalculate dimensions, sub-dimensions and the DESI 2017 synthetic indicator.

Below is a table comparing the results of the DESI for the years 2017 and 2018, both in terms of scores and position in the ranking.

Table 11. Comparative analysis (2017-2018)

	Scores			Position		
	2018	2017	Δ	2018	2017	Δ
DESI	**62.99**	**60.09**	**4.81%**	**5**	**6**	**+1**
Dimension 1 - Connectivity	**77.67**	**74.49**	**4.27%**	**4**	**4**	=
Sub-dimension 1.a - Fixed Broadband	**84.05**	**79.20**	**6.12%**	**5**	**8**	**+3**
1.a.1 - Fixed broadband coverage	99.10	98.80	0.30%	13	15	+2
1.a.2 - Fixed broadband take-up	86.30	82.20	4.99%	5	6	+1
Sub-dimension 1.b - Mobile Broadband	**85.86**	**85.55**	**0.36%**	**7**	**4**	**-3**
1.b.1 - Mobile broadband coverage	99.00	97.90	1.12%	5	4	-1
1.b.2 - Mobile broadband take-up	115,90	116,50	-0.52%	7	4	-3
Sub-dimension 1.c - Fast Broadband	**76.75**	**68.71**	**11.69%**	**3**	**6**	**+3**
1.c.1 - Fast broadband coverage	94.50	92.5	2.16%	7	7	=
1.c.2 - Fast broadband take-up	58.99	44.92	31.32%	3	6	+3
Sub-dimension 1.d - Ultra-fast Broadband	**59.14**	**58.12**	**1.75%**	**6**	**5**	**-1**
1.d.1 - Ultrafast broadband coverage	93.60	91.70	2.07%	5	5	=
1.d.2 - Ultrafast broadband take-up	24.67	24.54	0.53%	9	7	-2
Sub-dimension 1.e – Broadband Price Index	**79.30**	**76.20**	**4.07%**	**21**	**21**	=
1.e.1 - Broadband price index	79.30	76.20	4.07%	21	21	=
Dimension 2 - Human Capital	**67.19**	**64.30**	**4.48%**	**7**	**7**	=
Sub-dimension 2.a - Basic skills and Internet Use	**69.88**	**71.97**	**-2.89%**	**9**	**7**	**-2**
2.a.1 - Internet users	81.80	81.60	0.25%	11	12	+1
2.a.2 - With at least basic digital skills	70.10	74.60	-6.03%	7	4	-3
Sub-dimension 2.b - Advanced skills and Development	**64.49**	**56.64**	**13.86%**	**2**	**7**	**+5**
2.b.1 - ICT specialists	2.44	2.12	15.09%	24	26	+2
2.b.2 - STEM graduates	37.65	33.20	13.40%	1	1	=

[9] Among the indicators that did not exist in 2017, there are two cases in which the data for 2017 could not be obtained. Thus, indicator 5.a.4 has been estimated based on the data for Spain in 2017, and indicator 5.b. 1 has remained the same due to lack of data.

For further information see *5. Methodological Note* and 6. Appendix – *Indicators and definitions.*

Dimension 3 - Use of Internet Services	**44.73**	**43.66**	**2.45%**	**24**	**21**	**-3**
Sub-dimension 3.a - Content	**54.38**	**58.86**	**-7.61%**	**11**	**10**	**-1**
3.a.1 - News	80.50	81.30	-0.98%	13	11	-2
3.a.2 - Music, videos and games	70.06	85.08	-17.65%	25	9	-16
3.a.3 - Video on demand	31.27	20.60	51.80%	6	12	+6
Sub-dimension 3.b - Communication	**20.54**	**14.40**	**42.69%**	**28**	**28**	=
3.b.1 - Video calls	30.60	24.90	22.89%	29	29	=
3.b.2 - Social networks	56.70	53.60	5.78%	27	27	=
Sub-dimension 3.c - Transactions	**59.27**	**57.72**	**2.68%**	**18**	**18**	=
3.c.1 - Banking	57.30	54.80	4.56%	18	18	=
3.c.2 - Shopping	61.24	60.64	0.98%	16	14	-2
Dimension 4 - Integration of Digital Technology	**50.30**	**44.49**	**13.06%**	**7**	**8**	**+1**
Sub-dimension 4.a - Business Digitisation	**69.16**	**60.06**	**15.15%**	**1**	**3**	**+2**
4.a.1 - Electronic information sharing	56.55	60.20	-6.06%	1	1	=
4.a.2 - RFID	8.71	5.80	50.17%	2	7	+5
4.a.3 - Social media	41.30	35.50	16.34%	2	4	+2
4.a.4 - eInvoicing	35.87	27.10	32.36%	4	6	+2
4.a.5 - Cloud	19.57	18.05	8.42%	8	8	=
Sub-dimension 4.b - E-commerce	**22.00**	**21.13**	**4.13%**	**25**	**24**	**-1**
4.b.1 - SMEs e-sales	10.60	10.20	3.92%	23	22	-1
4.b.2 - SMEs e-commerce turnover	4.98	4.78	4.18%	24	23	-1
4.b.3 - SMEs cross-border e-sales	4.70	4.50	4.44%	26	23	-3
Dimension 5 - Digital Public Services	**66.68**	**66.33**	**0.53%**	**8**	**7**	**-1**
Sub-dimension 5.a - eGovernment	**76.13**	**75.7**	**0.58%**	**11**	**8**	**-3**
5.a.1 - Government users	59.87	69.60	-13.98%	15	10	-5
5.a.2 - Pre-filled forms	72.63	71.40	1.72%	9	8	-1
5.a.3 - Online service completion	87.57	86.10	1.71%	13	14	+1
5.a.4 - Digital public services for businesses	93.50	87.37	7.01%	5	13	+8
5.a.5 - Open data	77.00	76.43	0.75%	12	7	-5
Sub-dimension 5.b - eHealth	**28.87**	**28.87**	**0.00%**	**6**	**6**	=
5.b.1 - eHealth services	28.87	28.87	0.00%	6	6	=

Source: Authors' calculations.

Over the course of the period 2017-2018, the Basque Country's DESI indicator has improved by almost 5 points in comparison with 2017, increasing from 60.09% to 62.99%,[10] and moving up from the sixth to the fifth place. In addition, when examining the difference with the top performing

[10] Note about the table: indicator 5.b.1 for 2017, which was not included in the DESI 2017, could not be estimated for that year. Therefore it has been assigned the same value as in 2018.

Indicator 5.a.4, which also did not exist in the DESI 2017 but for which there is data for the other countries, has been estimated based on the data on Spain.

This also happens with the indicator 1.d.2. Indicator 1.d.1 has been obtained directly from the Ministry of Economy and Business, like the rest of coverage indicators.

countries, we find convergence with the group of four leading countries insofar as the gap is reduced by 2.26% (decreasing from 14.24% in 2017 to 11.98% in 2018).

In fact, a better performance is observed with respect to the previous year in all dimensions. The most positive evolution has occurred in integration of digital technology in companies, with 13.1%, followed by human capital, connectivity, and use of digital services, which increased by 4.5%, 4.3% and 2.5%, respectively. The use of digital public services has also seen an increase of slightly more than 0.5%.

Nonetheless, it is observed that these improvements have barely enabled the Basque Country to obtain higher scores in relation to the rest of the countries. Consequently, while the relative improvement in both connectivity and human capital enables the Basque Country to maintain its position, a slight improvement in the use of Internet services makes the Basque region move down three places, and the same occurs as the digitisation of public services slows down. Finally, a considerable improvement of 13.1% in integration of digital technology leads the Basque Country to gain a position in the EU.

These data and the comparative analysis of their evolution highlight not only the dynamism of each country in the digitisation of the European economy and society, but also reveal that this is a transforming and an agile process, and that it is essential to continue the already intense efforts.

Regarding ICT specialists, the labour market shows a marked improvement that implies a relative increase compared to the rest of European countries. However, there is a decline in the basic digital skills of citizens.

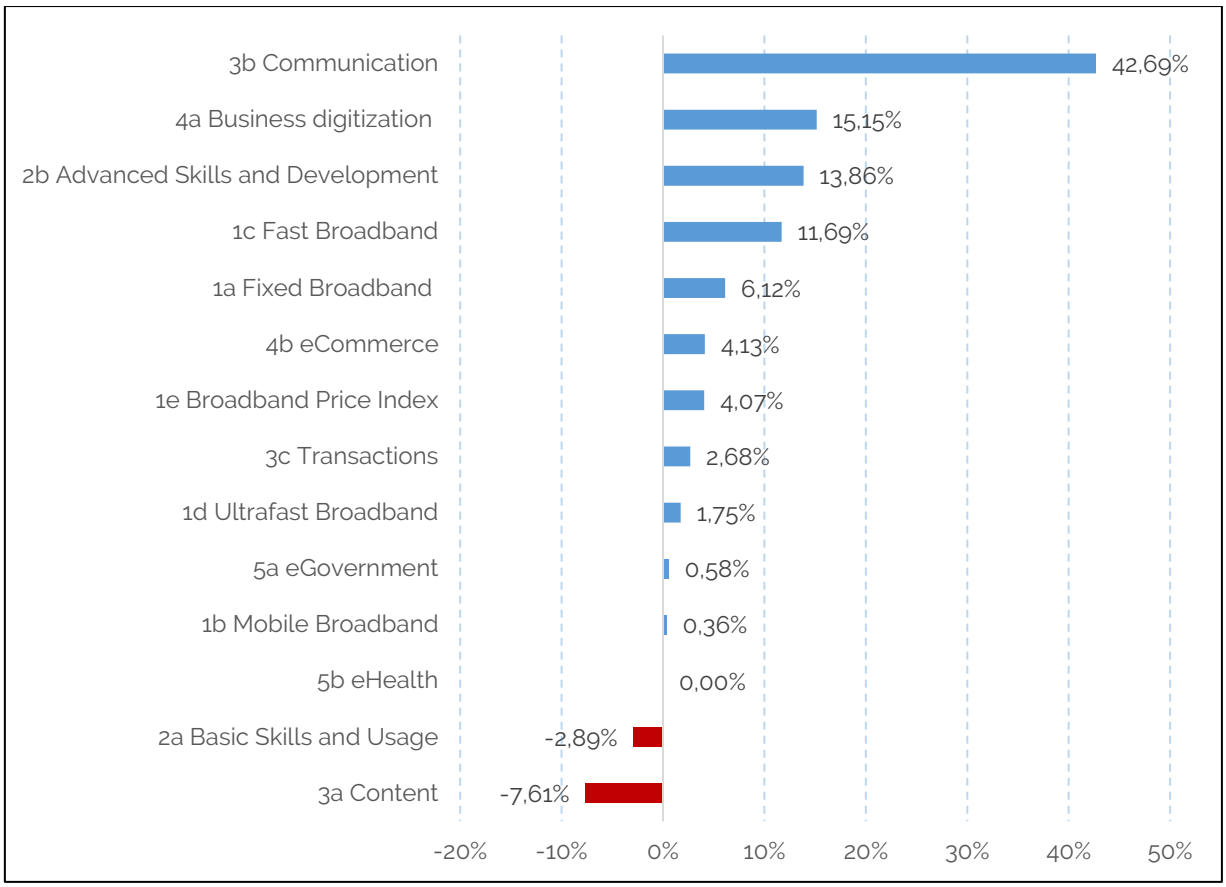
In the use of Internet-based services, the results show that little progress has been made, due to a similar behaviour in almost all the indicators, except for the consumption of videos on demand. It should be kept in mind that the results in the three sub-dimensions were not favourable in 2017, and hardly any of them have improved.

The digital transformation in companies in terms of adopting technology is advancing at a good pace, with improvements in virtually all indicators, thus allowing already positive positions to advance further in 2018. However, e-commerce still has significant limitations regarding its implementation and effect on business operations.

In the Basque public administration there have been gradual or small improvements in the provision of services, particularly in those aimed at companies. However, despite these developments, there has been a fall in the use of public digital services by citizens.

At the level of sub-dimensions, it is in communication that significant progress has been made (42.7%), mainly thanks to the increase in the use of video calls (23%). Other sub-dimensions with fair scores are those of business digitisation, advanced skills and fast broadband, which rose by 15%, 14% and 12%, respectively. The advance in business digitisation is boosted by the improvement in virtually all its indicators, among which radio frequency (RFID) is particularly relevant, increasing by 50%. On the other hand, the outstanding result of the advanced skills sub-dimension contrasts with that of the other sub-dimension related to human capital, basic skills, which falls by 3%.

Figure 8. Progress of sub-dimensions (2017-2018) (%)

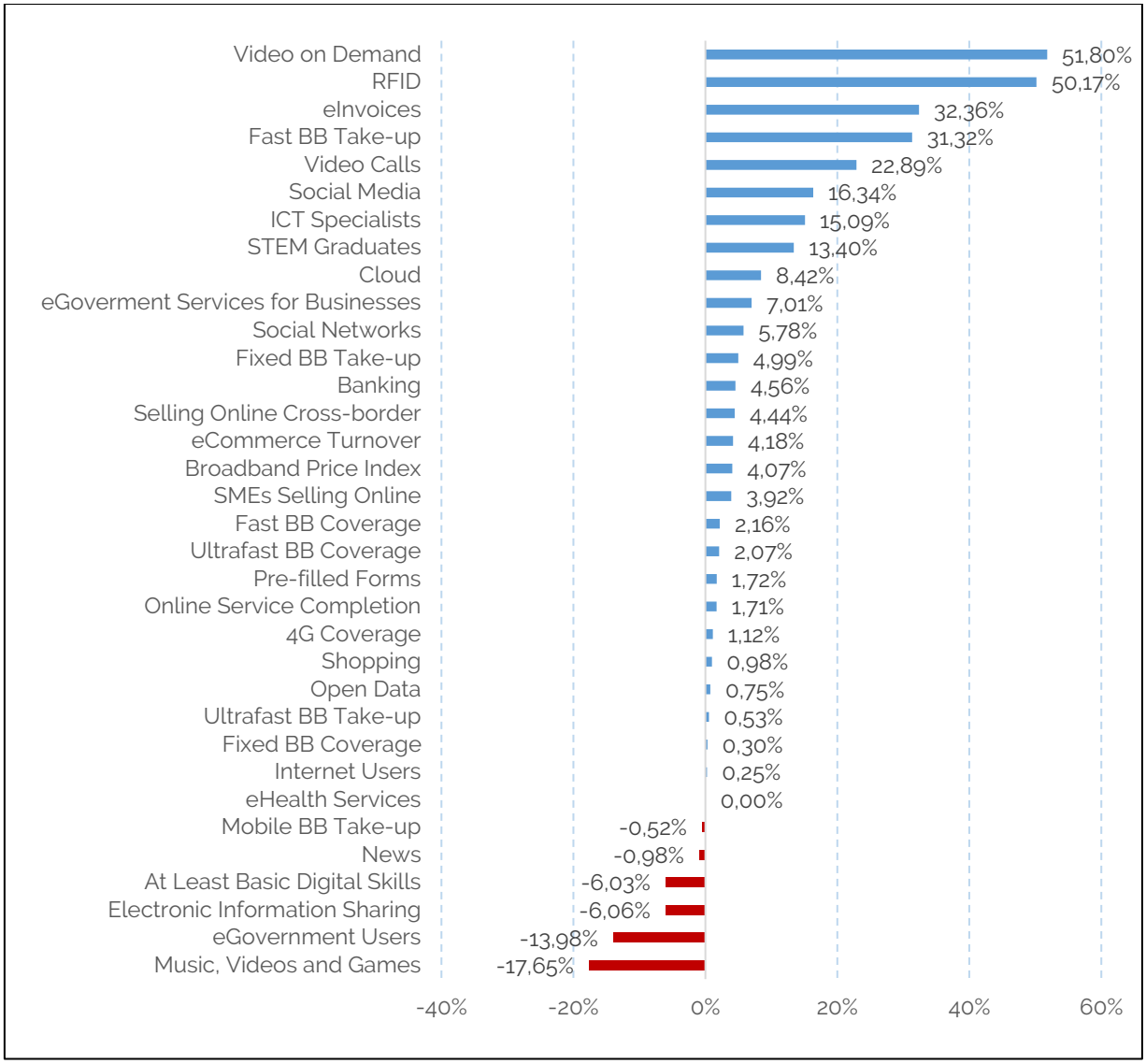


Source: Authors' calculations.

Of all the 14 sub-dimensions, the Basque Country has obtained higher scores in 11 and yet has only improved its position in 4 of them. Conversely, its position has fallen in 6 sub-dimensions, while in fact the absolute values have worsened in only of 2 of them. What this reveals is that considerable increases are necessary in order to improve relative positions at the sub-dimension level.

As described for the sub-dimensions, the results of the indicators have a different reading if they are contemplated at the level of absolute values than when their relative positions are examined; 27 of the 34 indicators have obtained better results as compared to 2017, while 6 have slowed down. However, from the point of view of the place occupied by the Basque region, in 10 of them it has progressed and in another 12 it has maintained its position, whereas in 12 it has lost positions.

Figure 9. Progress of the indicators (2017-2018) (%)



Source: Authors' calculations.

In terms of indicators, as shown in Figure 9, the greatest increments were in video on demand (51.80%), the use of RFID technologies (50.17%) and eInvoicing (32, 3.%) by companies, implementation of fast broadband (31.32%), use of video calls (22.89%) and social media in households (16.34%). ICT specialists in the labour market (15.09%) and STEM graduates (13.40%) also show a positive evolution. On the contrary, the biggest setbacks have occurred in the number of citizens with basic digital skills (-6.03%), electronic information sharing in companies (-6.06%), the share of users of eGovernment digital services (-13.98%) and in downloading music, videos and games (-17.65%).

Figure 10 shows a comparative analysis of the positions that each sub-dimension has in 2018 and the progress made since 2017. Three groups of sub-dimensions can be distinguished according to their behaviour. The first includes those which, while maintaining an outstanding position, have experienced relative progress in that position. In this group would be the business digitisation, fast broadband, advanced skills and development, and fixed broadband sub-dimensions and, potentially, the eHealth sub-dimension.

The second group includes the ultrafast broadband, mobile broadband, basic skills and Internet use, the use of digital content and eGovernment sub-dimensions. These sub-dimensions have fallen behind, although in 2018 they continue to be in the upper third of the EU-28 countries.

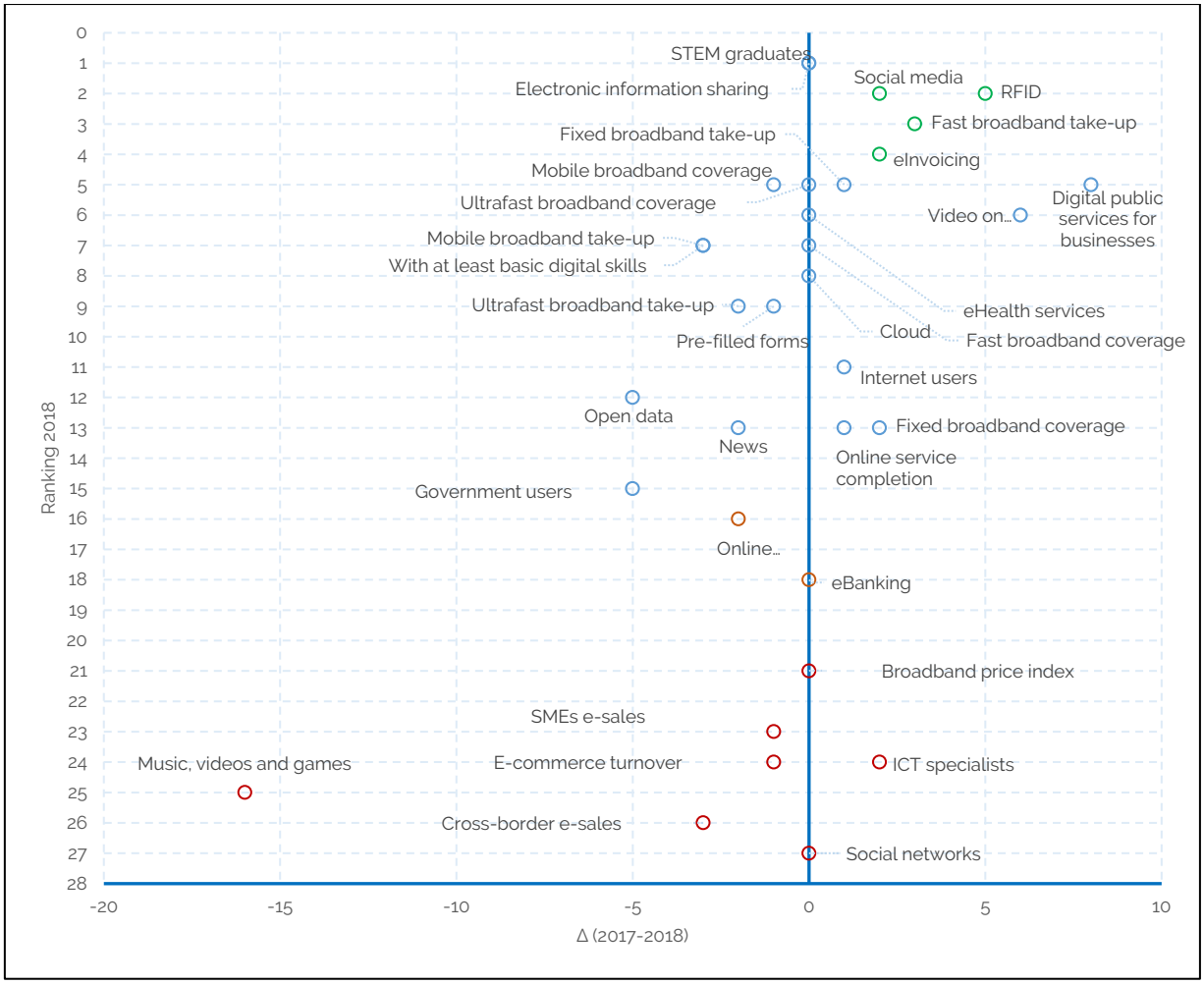
In a third group there are other sub-dimensions which, lagging behind within in the European framework, have in some cases actually regressed (e-commerce) or remain in the same position (use of economic transactions, the price of access to broadband or the use of digital services for communication).

Figure 10. Evolution of the sub-dimensions' ranking (2017-2018)

Source: Authors' calculations.

If we analyse the evolution of the indicators' rankings, four groups similar in size can be distinguished; the first one brings together the indicators in which the Basque Country reaches an outstanding position and which have maintained or improved their position with respect to 2017. The second group would include those indicators that are in the second highest four, having maintained their position or having experienced slight setbacks. Next to these, there is a third group of indicators beneath the average or with notable setbacks. The fourth group of indicators are those that obtain low scores in 2018. In this group are the indicators with positional setbacks (as is the case of music, videos and games), and maintaining or improving their position in some other case (ICT specialists).

Figure 11. Evolution of the indicators' ranking (2017-2018)



Source: Authors' calculations.

4. Conclusions

The Basque Country reaches an outstanding fifth position in the digitisation of its economy and society, based on the improvement of results, especially in the integration of technology in companies, human capital and connectivity. Denmark, Finland, The Netherlands and Sweden (2017) and Denmark, Sweden, Finland and the Netherlands (2018) continue to appear in the group of leading countries. Progress has been made in all dimensions, albeit with different intensity, which has made it possible for the Basque region to move up one position in relation to the data for 2017. However, this partial progress in certain indicators does not allow the Basque region to improve its relative position in comparison to the rest of the EU-28 Member States, as occurs in the case of the use of digital services over the Internet or digital public services.

It can be said that the Basque Country has outstanding connectivity capabilities, both in fixed and mobile broadband, and in fast and ultrafast broadband. The structure of the connectivity market has made it possible to improve by lowering the access prices; but, even so, it continues in positions that need further improvement. In spite of all this, given the high levels in the connectivity indicators, improvements in the upper range are increasingly complex and difficult.

The advance in the human capital results has not enabled our region to gain relative positions with regard to the rest of the EU-28 countries. There has been a setback in the basic skills of citizens coupled with an improvement in advanced skills. The increase of ICT specialists in the labour market does not prevent this score/figure from continuing to be very low. In contrast, digitisation in the economy as a whole can count on a good pool of graduates in STEM areas.

The use of Internet services has had a negative evolution in the last year, starting from a low position in 2017. The reduction in the download of music, videos and online games has hampered the issue of online content, which shows an increment in online video on demand. The level of usage of communication technologies by Basque citizens is still low, and the increases in the scores have not allowed the Basque Country to move up positions. The same applies to online banking and shopping, where progress has been made, but at a similar pace to that of the EU-28 as a whole. Beyond the fact that certain indicators could be unrepresentative of the digital behaviour of Basque society, the actual level of usage of digital services continues to be a barrier to/for/in the digitisation of Basque society.

The digitisation of companies continues to show two types of behaviour concerning the incorporation of technologies and their contribution to online sales. Virtually all of the indicators of technological integration have experienced a remarkable net growth. Conversely, the growth in e-commerce has been more modest, where no relative position has been gained and where the gap between the Basque Country and the rest of the European countries has actually widened. It is in this second area that certain developments are being held back, both in the degree of commercialisation through new digital channels, as well as in the invoicing and in the commercial opening to the rest of the European internal market.

In addition to this, the Basque Country has a fairly high degree of digitisation of health services which, together with a notable growth in eGovernment, have made gradual progress possible in the digitisation of public services. Despite the good results of these indicators, the lower level of usage of online public services has meant a net decline in this dimension, which, as in 2017, is scarcely above the European average.

In short, the areas of improvement already identified in 2017[11] continue to require special attention, such as the level of ICT specialisation, the use of digital services of a transactional nature, the

[11] See "Economía y sociedad digitales en Euskadi 2017" at http://www.orkestra.deusto.es/euskadigitala/

materialisation of business sales opportunities through online channels or citizen use of digital public services.

Bearing in mind that the measures do not have an immediate effect and their translation into results of the DESI indicators occurs over time, the focus should continue on promoting certain attitudes towards the digital culture under construction, such as online sales or the consumption of certain digital services that are already available through the new online channels. It is also worth highlighting the good results in connectivity and the progress in the share of ICT specialists.

5. Methodological Note

The methodological changes for DESI 2018 affect the dimensions of connectivity and digital public services.

In the connectivity dimension several changes have been introduced. Firstly, fast broadband take-up (indicator 1.c.2), which was previously measured as a percentage of total subscriptions, is now measured on the total number of households. Secondly, a new, more robust methodology is used for the indicator of the price index (1.e.1). The third change has to do with the incorporation of a new sub-dimension (1.d), related to ultrafast broadband. Like the rest of the broadband sub-dimensions, it consists of two indicators: ultrafast broadband coverage (1.d.1), which measures households with ultrafast broadband coverage, i.e. higher or equal to 100 Mbps, and ultrafast broadband take-up (1.d.2), which measures the share of ultra-fast broadband subscriptions over total households. This sub-dimension has a relative weight of 20% over the whole of the dimension (same as 1.c). Finally, the spectrum indicator in the DESI 2017 has been eliminated.

Regarding the dimension of digital public services, the calculation of indicator 5.a.1 has been modified with respect to last year: it is measured on the total number of people who needed to submit pre-filled forms to the public administration in the last 12 months instead of the total number of Internet users in the last 12 months. On the other hand, a new indicator has been added: digital public services for companies (5.a.4), which measures the share of public services needed to start a business or carry out regular business operations and that are available online for both domestic and foreign users. A new sub-dimension has also been included: eHealth (5.b), whose only indicator (5.b.1) measures the percentage of people who have used health services provided online without having to go to the hospital or the doctor. This sub-dimension has a relative weight of 20% compared to the sub-dimension of eGovernment, whose weight is 80%. Finally, the questionnaire used to prepare the open data indicator (5.a.5) is different from last year and is included in the *EDP Landscaping Insight Report 2017*.

Regarding the methodology followed for the calculation of indicators of pre-filled forms (5.a.2), completion of online services (5.a.3) and digital public services for companies (5.a.4)) for the Basque Country, the so-called *Life Events* are used. A *Life Event* is a specific event of daily life for which the citizen has to interact with the public administration and / or make use of its services. Each *Life Event* is divided into different steps, in which a service or procedure related to the public administration is detailed.

Life Events are measured every two years. The calculation by biennium implies that, for the calculation of an indicator in a year, the *Life Events* analysed for that year and for the immediately preceding year are used.

The latest data on the indicators for Spain corresponds to the 2017 indicators (prepared in 2018). These indicators have been obtained from the Life Events of 2016 and 2017. In order to compare the results of the Basque Country with those available for all of Spain, the same methodology has been followed. Thus, the following Life Events of 2016 and 2017 have been analysed

2017	- Regular Business Operations (ECO) - Starting a small claims procedure (JUS) - Moving (MOV) - Owning and driving a car (TRA)
2016	- Losing and finding a job (JOB) - Studying (STU) - Family Life (FAM) - Startups and Early Trading Activities (BUS)

The indicator of pre-filled forms (5.a.2) is obtained from one of the "Key Enablers" (KE) indicators of the eGovernment benchmark. In particular, to measure the extent to which personal data are pre-filled, the *Authentic Sources Key Enabler* indicator is used. In order to create it, the *Mystery Shopper* method is used, consisting of a person acting as an ordinary client who will perform the service and answer questions related to it. When it has not been possible to use this method, information provided by third parties has been used. The score of the indicator is obtained by calculating the average of the *Life Events*.

In services provided by the Provincial Councils, the three Provincial Councils have been analysed. In services provided by the City Councils, we selected the most relevant in terms of population of the three provinces: Bilbao, Vitoria, San Sebastián, Getxo, Barakaldo, Irún, Eibar and Llodio.

The indicator of completion of online services (5.a.3) is obtained from the *Online Availability* sub-indicator of the *eGovernment Benchmark*. This indicator consists of two sub-indicators: one for basic services and the other for extended services. The first has a weight of 80% in the indicator, while the second has a weight of 20%. They are calculated separately and, later, the synthetic indicator is obtained with the weighted average of each of them. The method to access the information is again that of the *Mystery Shopper*. The score of the indicator is obtained by calculating the average of the *Life Events*.

This year the digital public services indicator for companies (5.a.4) has been introduced for the first time. It is also obtained from the *Online Availability* sub-indicator of the *eGovernment Benchmark*. It must be calculated under two *Top-Level Benchmarks* (*User Centricity* and *Cross Border Mobility*); one is for the realization of services by nationals and the other by foreigners. This indicator consists of two sub-indicators: one for basic services and the other for extended services. The first has a weight of 80% in the indicator, while the second has a weight of 20%. They are calculated separately and, subsequently, the synthetic indicator is prepared with the weighted average of each of them.

Finally, the eHealth indicator (5.b.1) is also new and is obtained from the special Eurobarometer 460 (*Attitudes towards the impact of digitisation and automation on daily life*), calculated directly by the European Commission for all Member States. The data for the Basque Country has been estimated using the data on Spain (National Statistics Institute).

6. Annex – Indicators and definitions

Dimension	Sub-dimension	Indicator	Description	Breakdown	Unit of Measure	Source
1 - Connectivity	1.a - Fixed Broadband	1.a.1 - Fixed BB Coverage	Households covered by fixed broadband connection: xDSL, cable (basic and NGA) , FTTP or WiMax networks	Total number of households	% of households	Ministry of Economy and Business
1 - Connectivity	1.a - Fixed Broadband	1.a.2 - Fixed BB Take-up	Households that have a fixed broadband connection: xDSL, cable (basic and NGA), FTTP or WiMax networks	All households with at least one individual aged 16-74	% of households	INE (National Statistics Institute)
1 - Connectivity	1.b - Mobile Broadband	1.b.1 - 4G Coverage	Percentage of populated areas coverage by 4G - measured as the average coverage of telecom operators in each country	Total number of households	% of households	Ministry of Economy and Business
1 - Connectivity	1.b - Mobile Broadband	1.b.2 - Mobile BB Take-up	Mobile broadband take-up	Total number of fixed broadband subscriptions	Number of subscriptions per 100 people	CNMC (National Commission on Markets and Competition)
1 - Connectivity	1.c - Fast Broadband	1.c.1 - Fast BB Coverage	Households covered by NGA broadband >= 30 Mbps. Considered technologies are FTTH, FTTB, Cable Docsis 3.0 and VDSL	Total number of households	% of households	Ministry of Economy and Business
1 - Connectivity	1.c - Fast Broadband	1.c.2 - Fast BB Take-up	Share of fixed broadband subscriptions >= 30 Mbps	All households with at least one individual aged 16-74	% of households	CNMC (National Commission on Markets and Competition)
1 - Connectivity	1.d - Ultrafast Broadband	1.d.1 - Ultrafast BB Coverage	Households covered by ultrafast broadband >= 100 Mbps. Considered technologies are FTTH, FTTB and Cable Docsis 3.0	Total number of households	% of households	Ministry of Economy and Business
1 - Connectivity	1.d - Ultrafast Broadband	1.d.2 - Ultrafast BB Take-up	Share of ultrafast broadband subscriptions >= 100 Mbps	All households with at least one individual aged 16-74	% of households	CNMC (National Commission on Markets and Competition)
1 - Connectivity	1.e - Broadband Price Index	1.e.1 - Broadband Price Index	Price index of twelve representative broadband baskets as the percentage of household income. The baskets include three speed categories (12-30 Mbps, 30-100Mbps and at least 100 Mbps) and four types of products (standalone Internet, Internet + TV, Internet + fixed telephony and Internet + TV + fixed telephony)	All individual BB Internet access offers	Score (1-100)	EUROSTAT + INE (National Statistics Institute)
2 - Human Capital	2.a - Basic Skills and Usage	2.a.1 - Internet Users	Individuals whose frequency of Internet access is at least once a week	All individuals aged 16-74	% of individuals	INE (National Statistics Institute)
2 - Human Capital	2.a - Basic Skills and Usage	2.a.2 - At Least Basic Digital Skills	Individuals with skills such as using the electronic mail, editing tools, installing new devices, etc.	All individuals aged 16-74	% of individuals	IKANOS
2 - Human Capital	2.b - Advanced Skills and Development	2.b.1 - ICT Specialists	Individuals working in jobs such as ICT service manager, ICT professionals, ICT technicians, etc.	Total number of persons in employment	% of total employment	EUSTAT
2 - Human Capital	2.b - Advanced Skills and Development	2.b.2 - STEM Graduates	Individuals with a degree in science, technology, mathematics or engineering	Individuals aged 20-29	Number of STEM graduates per 1000 people (20-29 years old)	EUSTAT

3 - Use of Internet Services	3.a - Content	3.a.1 - News	Individuals who used the Internet to read online news sites, newspapers or news magazines	All individuals (aged 16-74)	% of individuals who used Internet in the last 3 months	INE (National Statistics Institute)
3 - Use of Internet Services	3.a - Content	3.a.2 - Music, Videos and Games	Individuals who used the Internet to play or download games, images, films or music	All individuals (aged 16-74)	% of individuals who used Internet in the last 3 months	INE (National Statistics Institute)
3 - Use of Internet Services	3.a - Content	3.a.3 - Video on Demand	Percentage of households subscribing to any form of Video on Demand	Total number of households with TV	% of individuals who used Internet in the last 3 months	EUSTAT
3 - Use of Internet Services	3.b - Communication	3.b.1 - Video Calls	Individuals who used the Internet to make telephone or video calls	All individuals (aged 16-74)	% of individuals who used Internet in the last 3 months	INE (National Statistics Institute)
3 - Use of Internet Services	3.b - Communication	3.b.2 - Social Networks	Individuals used the Internet to participate in social networks (create user profile, post messages or other contributions to facebook, twitter, etc.)	All individuals (aged 16-74)	% of individuals who used Internet in the last 3 months	INE (National Statistics Institute)
3 - Use of Internet Services	3.c - Transactions	3.c.1 - Banking	Individuals who used the Internet to use online banking	All individuals (aged 16-74)	% of individuals who used Internet in the last 3 months	INE (National Statistics Institute)
3 - Use of Internet Services	3.c - Transactions	3.c.2 - Shopping	Individuals who ordered goods or services online	All individuals (aged 16-74)	% of individuals who used Internet in the last 12 months	INE (National Statistics Institute)
4 - Integration of Digital Technology	4.a - Business Digitization	4.a.1 - Electronic Information Sharing	Enterprises who have ERP (Enterprise Resource Planning) software package to share information between different functional areas	All enterprises, without financial sector (10 persons employed or more)	% of enterprises	INE (National Statistics Institute)
4 - Integration of Digital Technology	4.a - Business Digitization	4.a.2 - RFID	Enterprises using Radio Frequency Identification (RFID) technologies for after sales product identification or as part of the production and service delivery	All enterprises, without financial sector (10 persons employed or more)	% of enterprises	INE (National Statistics Institute)
4 - Integration of Digital Technology	4.a - Business Digitization	4.a.3 - Social Media	Enterprises that use two or more types of social media: social networks, corporate blogs or microblogs, content sharing or tools based on wikis	All enterprises, without financial sector (10 persons employed or more)	% of enterprises	EUSTAT
4 - Integration of Digital Technology	4.a - Business Digitization	4.a.4 - eInvoices	Enterprises sending e-invoices suitable for automatic processing (EDIFACT, XML, etc.)	All enterprises, without financial sector (10 persons employed or more)	% of enterprises	INE (National Statistics Institute)
4 - Integration of Digital Technology	4.a - Business Digitization	4.a.5 - Cloud	Enterprises buying at least one the following Cloud Computing services of medium-high sophistication: data base hosting, accounting applications, CRM software, etc.	All enterprises, without financial sector (10 persons employed or more)	% of enterprises	INE (National Statistics Institute)
4 - Integration of Digital Technology	4.b - eCommerce	4.b.1 - SMEs Selling Online	SMEs selling online (at least 1% of turnover)	SMEs, without financial sector (10 persons employed or more)	% of SMEs	EUSTAT
4 - Integration of Digital Technology	4.b - eCommerce	4.b.2 - SMEs eCommerce Turnover	SMEs' total turnover from e-commerce	SMEs, without financial sector (10 persons employed or more)	% of total turnover	EUSTAT
4 - Integration of Digital Technology	4.b - eCommerce	4.b.3 - SMEs Selling Online Cross-border	SMEs that did electronic sales to other EU countries	SMEs, without financial sector (10 persons employed or more)	% of SMEs	EUSTAT
5 - Digital Public Services	5.a - eGovernment	5.a.1 - eGovernment Users	Individuals sending filled forms to public authorities, over the Internet, last 12 months	All individuals (aged 16-74)	% of individuals who used Internet (last	INE (National Statistics Institute)

					year) and need to submit filled forms	
5 - Digital Public Services	5.a - eGovernment	5.a.2 - Pre-filled Forms	Amount of data that is pre-filled in Public Services' online forms	All Life Events	Score (1-100)	eGovernment Benchmarking Report, adapted to the Basque Country
5 - Digital Public Services	5.a - eGovernment	5.a.3 - Online Service Completion	Share of the steps in a Public Service life event that can be completed online	All Life Events	Score (1-100)	eGovernment Benchmarking Report, adapted to the Basque Country
5 - Digital Public Services	5.a - eGovernment	5.a.4 - eGovernment Services for Businesses	Share of public services needed for starting a business and for conducting regular business operations that are available online for domestic as well as for foreign users	All Life Events	Score (1-100)	eGovernment Benchmarking Report, adapted to the Basque Country
5 - Digital Public Services	5.a - eGovernment	5.a.5 - Open Data	Score in the Open Data Maturity indicator. This composite indicator measures to what extent countries have an Open Data policy in place (including the transposition of the revised PSI Directive), the estimated political, social and economic impact of Open Data and the characteristics (functionalities, data availability and usage) of the national data portal	Aggregated Score	% of the maximum open data score	eGovernment Benchmarking Report, adapted to the Basque Country
5 - Digital Public Services	5.b - eHealth	5.b.1 - eHealth Services	Percentage of people who used health and care services provided online without having to go to the hospital or doctors surgery (i.e. by getting a prescription or a consultation on line)	All individuals (aged 16-74)	% of individuals	eGovernment Benchmarking Report, adapted to the Basque Country