Regional Development Composite Index
2016

Competitiveness with the highest level of interregional disparity among the three components of regional development

In 2016, according to the results of the *regional development composite index*, four out of the 25 Portuguese NUTS 3 level regions stood above the national average in terms of the overall regional development – the metropolitan areas of Lisboa and Porto, Região de Aveiro and Cávado.

The territorial image of the *competitiveness* index shows that the regions with more favourable performances are concentrated in the Portuguese mainland coast. Área Metropolitana de Lisboa was the leading region in the *competitiveness* index. Área Metropolitana do Porto, Região de Aveiro and Alentejo Litoral also stood above the national avarage. Within the three dimensions of regional development, the results for *competitiveness* revealed stronger territorial disparity across the NUTS level 3 regions.

As for *cohesion*, the results display a more balanced country than the one resulting from the *competitiveness* index, since in eight out of the 25 level 3 NUTS regions the *cohesion* index stood above the national average. In this dimension of regional development, the 2016 results suggested a more cohesive territory in the mainland centre and in the northern coastal regions, especially in Área Metropolitana de Lisboa, Cávado and Região de Coimbra.

Regarding the *environmental quality* index, the 2016 results highlight the inner mainland and the two autonomous regions. The national average was exceeded in 15 out of the 25 NUTS 3 regions and the territorial disparity was weaker than the one observed for the other components. Terras de Trás-os-Montes was, in 2016, the NUTS 3 region with the best performance in the *environmental quality* index.

The **Regional Development Composite Index** (ISDR) relies on a conceptual framework which benefits from a broad view of development that encompasses *competitiveness*, *cohesion* and *environmental quality*.

With the release of the 2016 results, Statistics Portugal continues the production cycle of ISDR's version 2, comprising a data series for the 2011-2016 period, in line with the organization of the level 3 NUTS regions set by the Commission Regulation (EU) No. 868/2014, August 8 (NUTS-2013).

The conceptual and computational methodological options as well as annual results data for the 2011-2016 period are available at www.ine.pt, in accordance with the technical note included in the end of this press release.
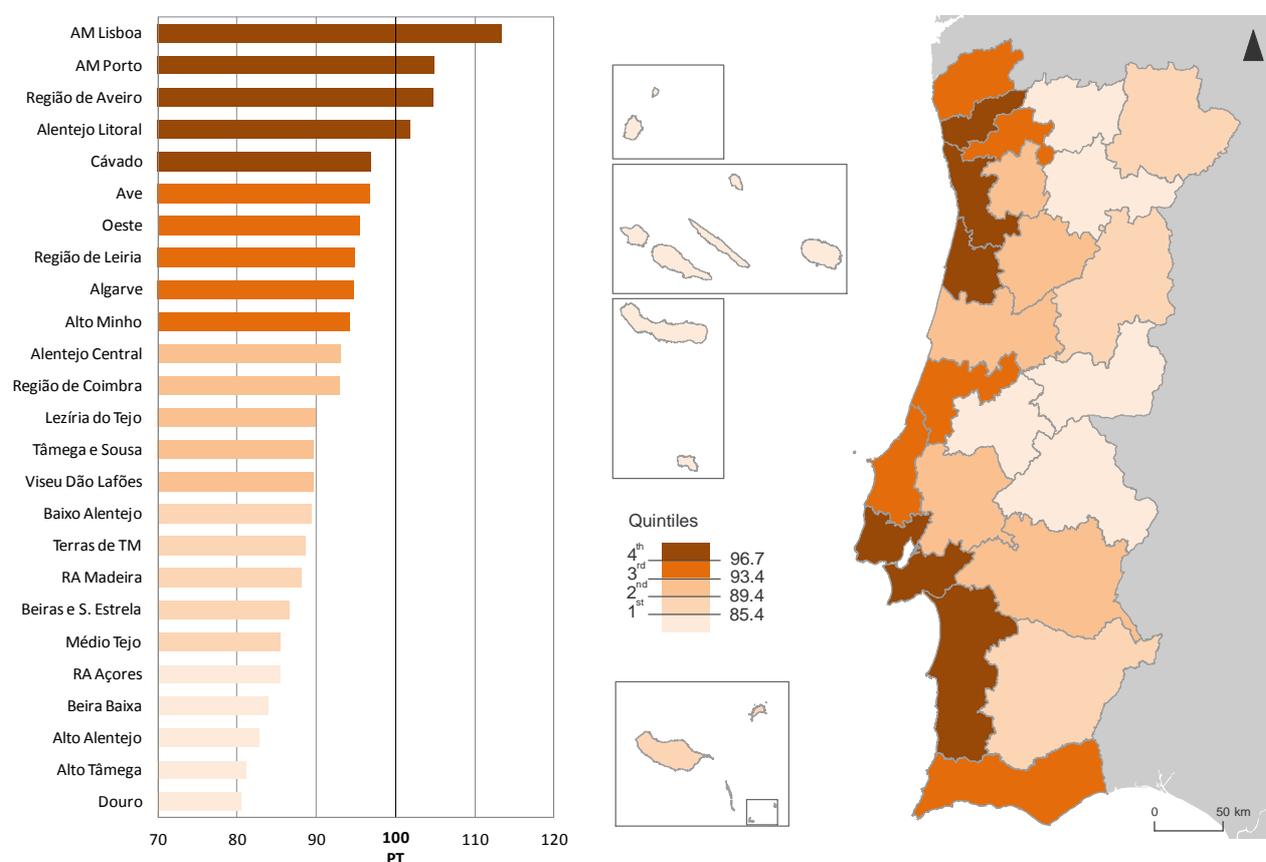
The NUTS 3 performance in 2016: *competitiveness*, *cohesion* and *environmental quality*

Competitiveness index

The **competitiveness** index aims to express the regional potential (both regarding human resources and physical infra-structures) for the performance in *competitiveness*, as well as the efficiency in the path being followed (measured by the educational, professional, entrepreneurial and productive profiles) and, also, the effectiveness in creating wealth and the ability to compete in international markets.

According to the 2016 results, the NUTS 3 regions with higher scores in the *competitiveness* index are concentrated in the Portuguese mainland coast and especially, in the south, in the Área Metropolitana de Lisboa and the Alentejo Litoral and, in the north, comprising a continuous territory formed by Cávado, Área Metropolitana do Porto and Região de Aveiro. Among the 25 NUTS 3 regions, only four scored above the national average – the two metropolitan areas, Região de Aveiro and Alentejo Litoral. Área Metropolitana de Lisboa was the leading region in the *competitiveness* ranking. The inner mainland and the two autonomous regions reached lower *competitiveness* scores as compared to coastal mainland. Within the three dimensions of development, the results for *competitiveness* revealed stronger territorial disparity according to the coefficient of variation[1].

Competitiveness (Portugal = 100), NUTS 3, 2016

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[1] In 2016, the coefficient of variation of the competitiveness index was 8.7%, for the cohesion index was 7.1%, and for environmental quality index this value was 5.4%
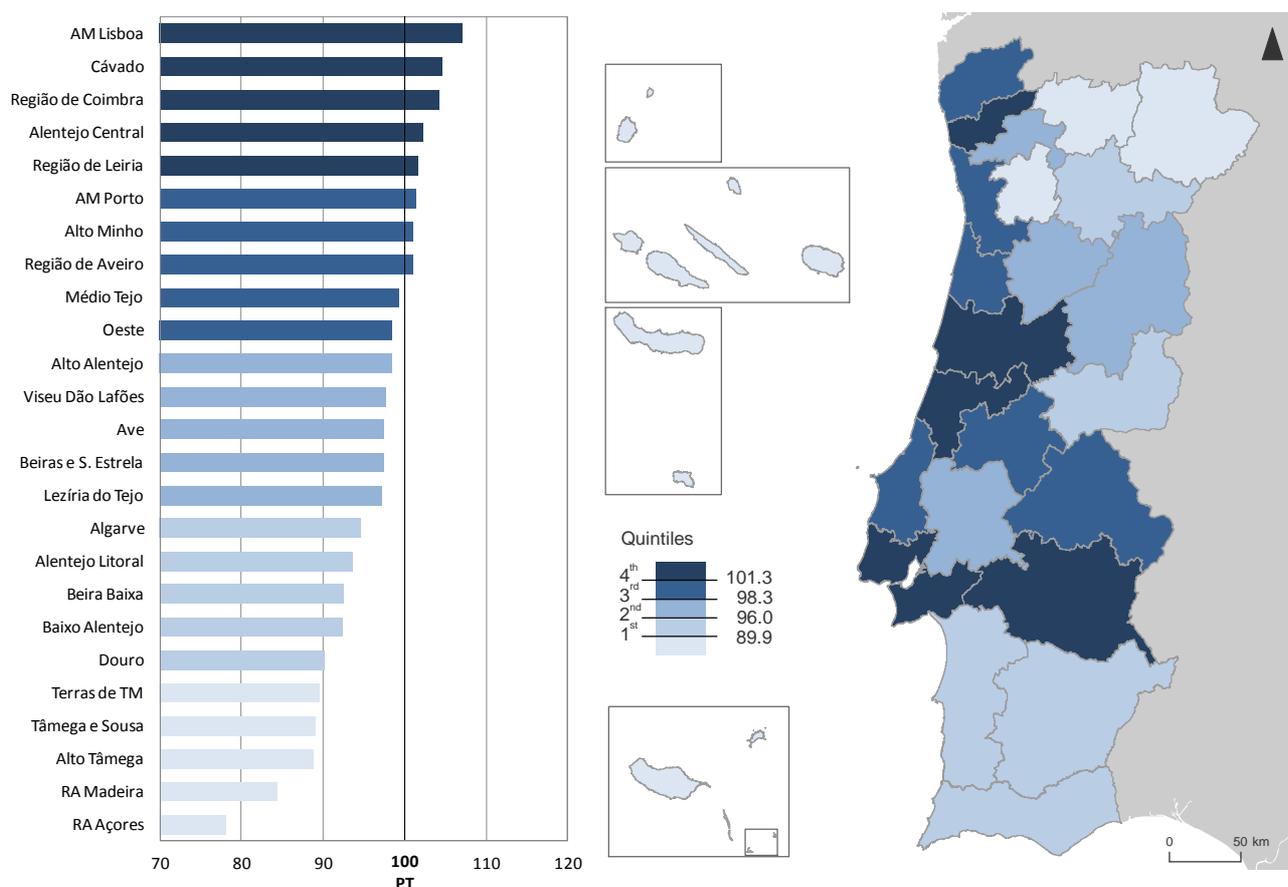
Cohesion index

The **_cohesion_** composite indicator regards the population accessibility to quality basic collective equipment and services, as well as the profiles that lead to a greater social inclusion and the effectiveness of public policies given by an increase in the quality of life and by a decrease in territorial disparities.

As for _cohesion_, the results display a more balanced country than the one resulting from the _competitiveness_ index, since in eight out of the 25 NUTS level 3 regions the _cohesion_ index stood above the national average.

In this dimension of regional development, the 2016 results suggested a more cohesive territory with lower disparities than the one evidenced by the _competitiveness_ component – specifically, the highest _cohesion_ score belong to the Área Metropolitana de Lisboa, but higher scores were also performed in the northern coast – Cávado –, in the central coast – on the territory formed by Região de Coimbra and Região de Leiria – and, further south, on Alentejo Central.

The autonomous regions of Açores and Madeira, the inner north territory, formed by Terras de Trás-os-Montes and Alto Tâmega, and also Tâmega e Sousa scored lower in the _cohesion_ index.

Cohesion (Portugal = 100), NUTS 3, 2016

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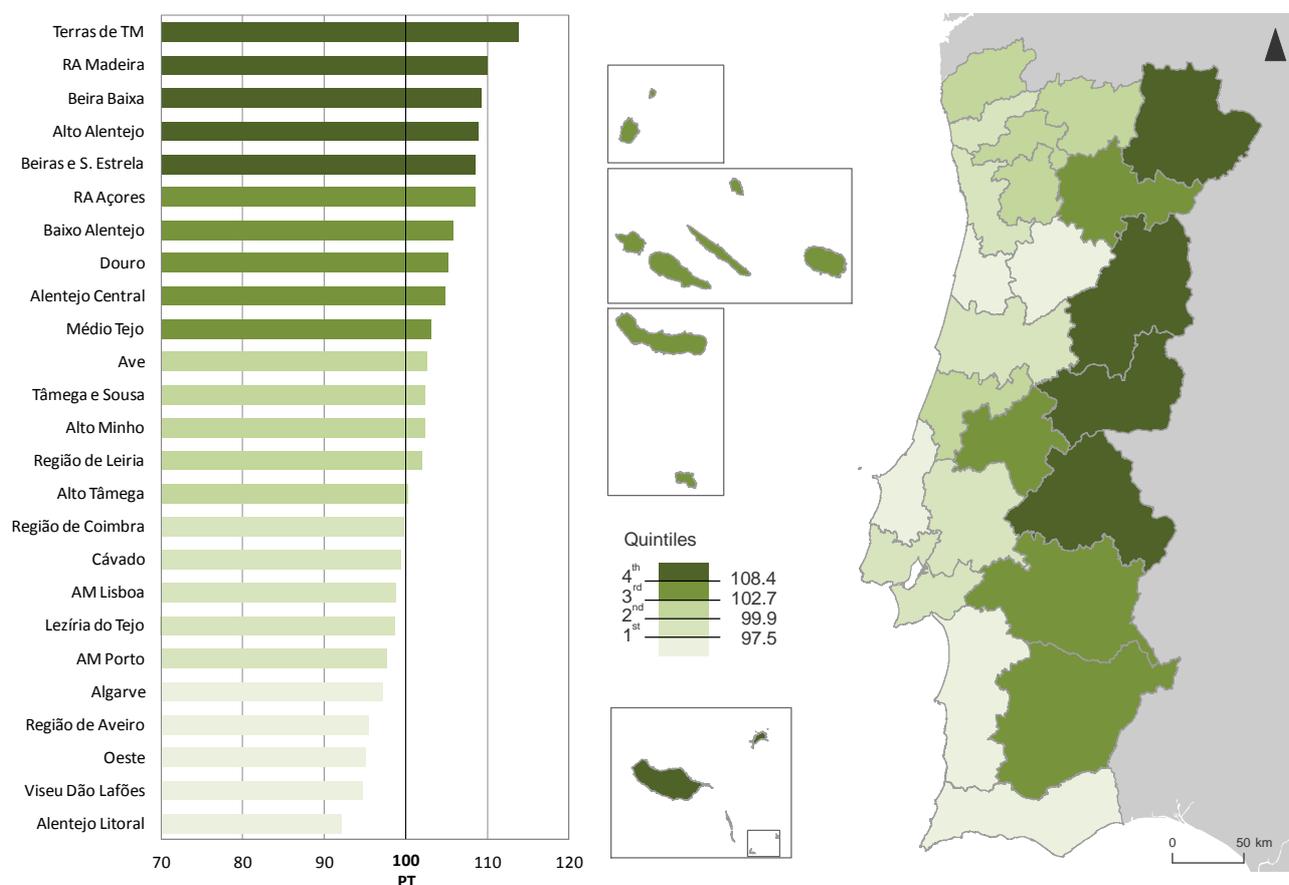STATISTICS PORTUGAL

Environmental quality index

The **environmental quality** index combines the pressure put on the environment by economic activity and social behaviour (extended to territorial qualification and planning), but also the corresponding effects on environment and the economic and social responses (both regarding individual behaviour and public policies).

The 2016 results reveal a reversed territorial pattern in relation to *competitiveness* as the inner mainland and the two autonomous regions showed, in general, better *environmental quality* with the territorial pattern of the results suggesting that *environmental quality* progressively increases from the coast towards the inner mainland. Nevertheless, Alto Minho and Região de Leiria, in the Atlantic strip, scored above the national average.

The national average in this dimension was exceeded in 15 out of the 25 NUTS 3 regions and the territorial disparities were weaker than the ones observed for the other components. Among the regions with an *environmental quality* below the national average, there were seven out of the 10 more competitive regions – Cávado, Área Metropolitana do Porto, Região de Aveiro, Oeste, Área Metropolitana de Lisboa, Alentejo Litoral and Algarve. Terras de Trás-os-Montes was, in 2016, the NUTS 3 region with the best performance in the environmental quality index.

Environmental quality (Portugal = 100), NUTS 3, 2016

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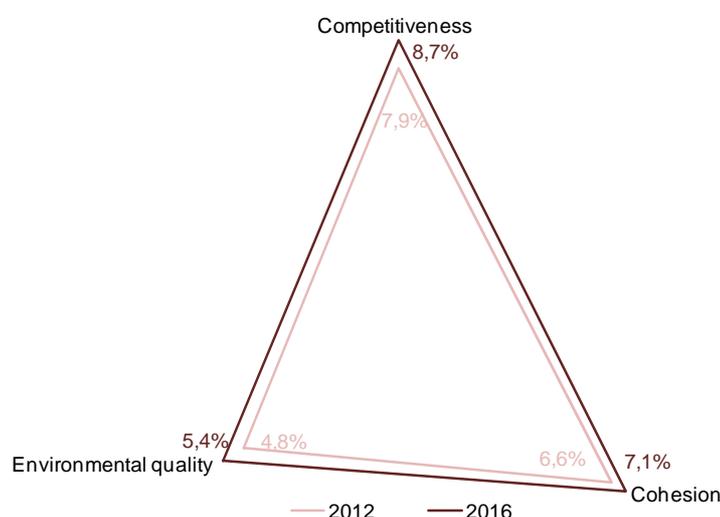
The joint analysis of regional development

Evolution of interregional disparities

Taking into account the available ISDR series (2011-2016) in 2012, was observed the lowest level of interregional disparity in the *competitiveness* and *cohesion index*; while in the case of the *environmental quality index* this situation occurred in 2011. On the other hand, the highest level of disparity between NUTS 3 regions was observed in 2015 for *cohesion* and *environmental quality indexes* and in 2014 for the *competitiveness index*.

Throughout the ISDR series, the *competitiveness index* presented successively the highest level of disparity between the three partial indexes of regional development, followed by the *cohesion index* and, with a lower disparity, the *environmental quality index*.

In 2016 there was an increase in the territorial disparity of the NUTS 3 regions in the three components of regional development compared to 2012, highlighting the evolution showed in the coefficient of variation calculated for the *competitiveness index*: 7.9% in 2012 and 8.7% in 2016.

Coefficient of variation of the partial indexes of competitiveness, cohesion and environmental quality, 2012 and 2016

Overall index of regional development of 2016

The *overall index of regional development* is the result of the joint performance in *competitiveness*, *cohesion* and *environmental quality*.

According to the 2016 ISDR results, four out of the 25 Portuguese NUTS 3 level regions scored above the national average – the metropolitan areas of Lisboa and Porto, Região de Aveiro and Cávado.

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Overall index of regional development (Portugal = 100), NUTS 3, 2016

Quintiles

4th	99.3
3rd	96.9
2nd	95.5
1st	93.7

In 2016, the *competitiveness* and *cohesion* indexes showed a positive correlation with the *overall index of regional development* (0.8, in both cases) while, in case of *environmental quality* there was a low and negative correlation (-0.3). At the component level, there is a positive association between the NUTS 3 regions' performance in the *competitiveness* index and in the *cohesion* index while the correlations between the *environmental quality* and the *competitiveness* index and between *environmental quality* component and *cohesion* were negative.

Correlation matrix, 2016

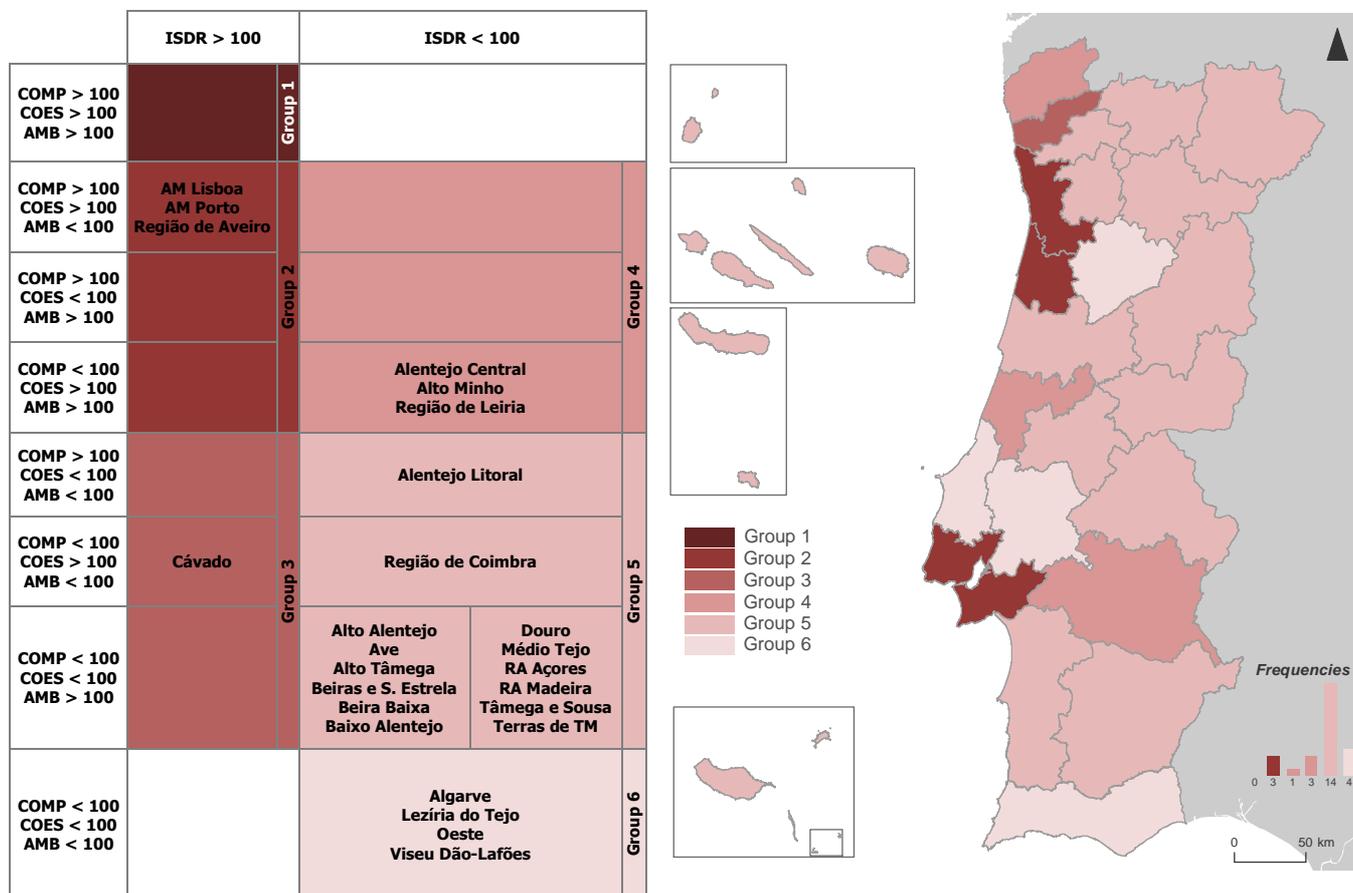|	Overall index	Competitiveness	Cohesion	Environmental quality
Overall index	-			
Competitiveness	0,8	-		
Cohesion	0,8	0,6	-	
Environmental quality	-0,3	-0,6	-0,5	-

The complexity of regional development, considering the multidimensional perspective that ISDR aims to reflect, leads to heterogeneous regional profiles.

In 2016, the four regions performing above the national average in the *overall index of regional development* shared the feature of staying below the national threshold in, at least, one partial index: on the one hand, Região de Aveiro and the metropolitan areas of Lisboa and Porto did not exceed the national average in the *environmental quality* index; on the other hand, Cávado was below the national reference in *competitiveness* and marginally in *environmental quality*.

Additionally, the NUTS 3 regions performing below the national average in the four indexes were Algarve, Oeste, Viseu Dão-Lafões, and Lezíria do Tejo.

The most common regional profile, covering 12 of the 25 NUTS 3 regions, consisted in an *environmental quality* index above the national average and results in *competitiveness* and *cohesion* indexes below the national value.

Overall index of regional development, competitiveness, cohesion and environmental quality: performance in relation to the national average (Portugal = 100), NUTS 3, 2016

	ISDR > 100		ISDR < 100	
COMP > 100 COES > 100 AMB > 100	Group 1			
COMP > 100 COES > 100 AMB < 100	**AM Lisboa AM Porto Região de Aveiro**	Group 2		Group 4
COMP > 100 COES < 100 AMB > 100				
COMP < 100 COES > 100 AMB > 100			**Alentejo Central Alto Minho Região de Leiria**	
COMP > 100 COES < 100 AMB < 100			**Alentejo Litoral**	Group 5
COMP < 100 COES > 100 AMB < 100	**Cávado**	Group 3	**Região de Coimbra**	
COMP < 100 COES < 100 AMB > 100			**Alto Alentejo Ave Alto Tâmega Beiras e S. Estrela Beira Baixa Baixo Alentejo** **Douro Médio Tejo RA Açores RA Madeira Tâmega e Sousa Terras de TM**	
COMP < 100 COES < 100 AMB < 100			**Algarve Lezíria do Tejo Oeste Viseu Dão-Lafões**	Group 6

Group 1
Group 2
Group 3
Group 4
Group 5
Group 6

Frequencies

0 3 1 3 14 4

0   50 km

Note: The acronym ISDR refers to the *overall index of regional development*, COMP to the *competitiveness index*, COES to the *cohesion index* and AMB to the *environmental quality index*.

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Technical note

The Regional Development Composite Index (ISDR) is a statistical study of annual frequency and national coverage. The observed statistical unit is the NUTS 3 level region, data collection is indirect and the variables used to compute the composite index result from administrative procedures and from statistical operations within the National Statistical System.

The pertinence of the statistical data guided the selection of the statistical indicators that supported the quantitative match to the concepts underlying the construction of the index – *competitiveness*, *cohesion* and *environmental quality* –, taking into account the 25 Portuguese NUTS 3 level regions (NUTS-2013). It is, however, worthwhile to stress the diversity of territorial contexts among these regions, of which the autonomous regions and the metropolitan areas are examples, as well as the heterogeneity regarding the size of the 25 Portuguese NUTS 3 level regions.

On the basis of a 65 statistical indicators matrix, for the 25 Portuguese NUTS 3 level regions, properly normalized (statistical standardization and *minmax* rescaling, with the minimum and maximum reference values extracted from the set of 65 standardized indicators for the time span available), distributed by three dimensions – *competitiveness*, *cohesion* and *environmental quality* – subsequently aggregated by a non-weighted average, for the dimensions level as well as from the dimensions level to the overall index level, four composite indicators are produced – *competitiveness*, *cohesion*, *environmental quality* and *overall index of regional development*. The four composite indicators are referenced to the national value (Portugal = 100), with the national value estimated by the NUTS level 3 regions indexes average, weighted by the resident population, and not directly obtained from the model which is exclusively applied to the NUTS 3 level regions. In the same way, the values for the NUTS 2 level regions are estimated by the corresponding NUTS 3 level regions average, weighted by the resident population, as a way to ensure that national values computed from each of the two geographical levels are the same.

Comparing with the results released in 2017 for the 2011-2015 period, the minimum and maximum reference values do not change, matching the same region and the same individual indicator – the minimum value corresponds to the *final energy intensity* observed in 2014 in Alentejo Litoral and the maximum corresponds to the *lodging capacity in hotel establishments with 3 or more stars per 1 000 inhabitants* observed in 2014 in Algarve.

This ISDR edition includes the update of the retrospective series (2011-2015) of two *(water consumption per inhabitant* and *Wastewater drained per inhabitant)* indicators based on the definitive results of the statistical operation 'Urban public systems of water services | Physical and operational components' (SPUSA|VFF) which support the operationalization of the environmental quality component. The values not available by municipality for these two indicators were estimated on the basis of the data series to ensure the calculation of the respective NUTS 3 aggregate.

At the same time, this ISDR edition did not benefit yet from the updating of the *physicians employed at official clinics per 1 000 inhabitants*, since the Official Clinics survey was suspended and its replacement by the use of administrated data has not been accomplished.

The conceptual and computational methodological options are presented in the methodological document *Índice Sintético de Desenvolvimento Regional, código 127 / versão 2.0, INE* (available at www.ine.pt, in Metadata, Metadata System, Methodological documentation).

Annual figures for the 2011-2016 period, in accordance with the 2.0 version of the methodological document, are available at www.ine.pt, in Statistical information, Statistical data, Database.