

# Reform of the Portuguese HE System – The Future of Portuguese Polytechnics

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# Evolution of Polytechnics, Fachhochschule, UAS & IoTs

- Later half of 20<sup>th</sup> century witnesses the significant development and evolution of Fachhochschule, Regional Technical Colleges, UAS and Polytechnics
- They develop and evolve in different countries for different reasons
  - Massification of undergraduate education
  - Support of local business skills needs
  - **Regional development**
  - Combination of the above

# Portuguese Polytechnics Contribution to Regional Development by Mission Area

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**Education:** Graduate Talent Pipeline, Upskilling and Reskilling, Novel Pedagogical Approaches and Supports



**R&I:** Applied Research, Technology Transfer, Business Support, Commercialisation



**Service to Society:** Societal Engagement, Regional Representation, Social Inclusion, Sport, Heritage, Culture etc.

# Current Development Trends in Polytechnic & UAS Systems across the EU

Country	Previous Status	Current/Future Status	Current Highest Level of Award	Future Highest Level of Award	Additional Investment
Portugal	Polytechnic	Polytechnic University	Masters and Associated PhDs with Universities	Transitioning to awarding PhDs	??
Holland	UAS	No Change	Masters	No change	Y (Valorization)
Austria	UAS	No Change	Masters	Up to PhD in limited areas	Y (Research)
Germany	UAS	No Change	Masters	Up to PhD in limited areas	Y (Research)
Finland	UAS	No Change	Masters	No change	Under Review
Belgium	UAS	No Change	Bachelor	No Change	N
Ireland	Institute of Technology (IoT)	Technological University (TUs)	Masters & PhDs in limited areas as IoTs	No limit on areas of PhD awards as TUs	Y (Research, Systems & Infrastructure)

# Transition of Polytechnics to Polytechnic Universities Yes or No?

- **Evolution is a natural process** which defines all our futures
- If Portugal wants its **regions to continue to evolve**; in terms of sustainable economic, social, cultural and environmental development; the **Polytechnic institutions** of Portugal **need to be allowed to evolve also** given their vital contribution to the development of their regions
- Their **designation as Polytechnic Universities** and the enhancement of their **capacity to deliver on regional development** is a positive, welcome and logical step

However; it  
is essential  
to remember

- This will be an **evolutionary step change** requiring an enhancement of capacity and is **not just a name change**
- A **process** is required to facilitate the evolution of Polytechnics to Polytechnic Universities
- The process should include an **assessment/evaluation**, the development of a **defined mission/functions** and **performance criteria/requirements** which are mission relevant for new Polytechnic Universities
- The process will require **legislative changes**, additional **investment**, an enhancement of existing **governance and management** arrangements and should consider **economic and demographic conditions**

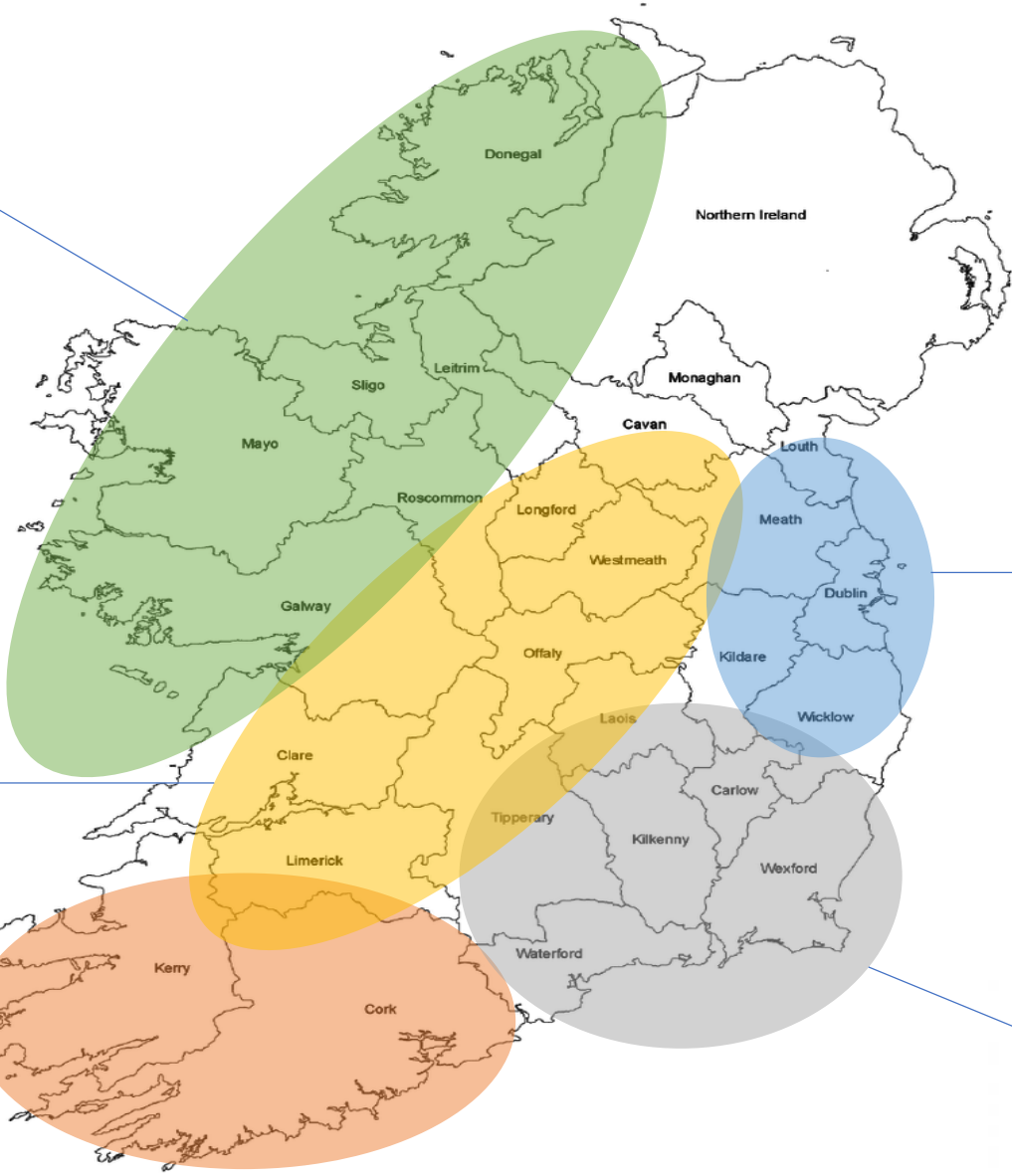
# Establishment of Technological Universities In Ireland

- The creation of a technological university required the **consolidation/merger of at least two institutes of technology** (Performance and capacity driven requirement).
- Each consortium applying for designation was required to **meet the designated criteria** and achieve high standards across a range of areas before being designated as technological universities.
- These included standards relating to the **qualifications of staff**, the quality of **research output**, the proportion of **students engaged in lifelong learning**, amongst other areas.
- **New legislation** was created to establish these **new Universities** which outlined their future functions, designation criteria, operation, governance and management



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Teicneolaíochta  
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Atlantic  
Technological  
University



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TECHNOLOGICAL  
UNIVERSITY DUBLIN



**TUS**

Ollscoil Teicneolaíochta na Sionainne:  
Lár Tíre, An tIarthar Láir  
Technological University of the Shannon:  
Midlands Midwest

[www.tus.ie](http://www.tus.ie)



**MTU**

Ollscoil Teicneolaíochta na Mumhan  
Munster Technological University



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Dr. R. Neavyn, HEA.



**SE  
TU**

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South East  
Technological  
University



# Significant Additional Investment

- **Technological University Transformation Fund** - €90m over 3 years to support the transition process
- Sector specific **capital infrastructure expansion** program – Circa. €500m
- Review of Technological University **Organisation, Career Paths and Academic Contracts** conducted by OECD Education Directorate/Higher Education Policy Team. A proposal to be introduced on a phased basis and supported by additional baseline funding
- NTUTORR – **recovery and resilience funding** to support flexible course provision and increased participation in higher education by under-represented groups alongside innovative approaches to addressing regional skills needs

# Lessons for Portugal

- **Legislative changes and additional investment** to affect the transition of Polytechnics to Polytechnic Universities should consider how to:
  - Reinforce **regional mission** and regional connectivity
  - Support Polytechnics in **achieving specific criteria** to be designated as Polytechnic Universities
  - Enhance their focus on the **talent pipeline & skills development** in partnership with regional stakeholders – e.g. Impulse programme outputs
  - Enhance their **R&I capacity** including provision of PhD awards in priority areas - FCT review found 25% of research centers Excellent or Very Good & 50% Good; 40 research centers applied for assessment.

Evolution  
Process  
Elements  
Portugal  
Might  
Consider

- **What are the mission and functions of a Polytechnic University?**
- **What criteria/requirements should be met by perspective applicants?**
- What evaluation/assessment should be considered before designation?
- What additional investment is required, and where should it be focused?
- Is a review process required to ensure Polytechnic Universities once established continue to deliver on their mission and functions?
- **Should mergers be considered as a requirement?**
- **The potential impact of demographic projections on the creation of the Polytechnic Universities and indeed the future of existing Universities**

# What Mission and Functions should a Polytechnic University have?

- The functions of a TU, will have particular regard to the **needs of the region** in which the campuses of the technological university are located
- TUs will **collaborate with business, enterprise, the professions, the community, local interests** and related stakeholders in the region in which the campuses of the technological university are located—
  - (i) to promote the **involvement of those stakeholders in the design and delivery of programmes** of education and training, and
  - (ii) to ensure that, innovation activity and **research undertaken by the technological university reflects the needs of those stakeholders** & includes research relevant at regional, national and international levels
- TUs will support **entrepreneurship, enterprise development and innovation** in business, enterprise and the professions

# What Performance Criteria Should be Set for Polytechnic University Designation?

Should obviously reference University requirements outlined in existing legislation

In addition, the:

- Provision of **short cycle programmes** relevant to **regional skills requirements** (TUs in Ireland provide provision at all NFQ levels from 6-10)
- Operation of a minimum of **two FCT recognized research centers** which would be capable of supporting PhD programmes
- Inclusion of a metric associated with learner engagement with **courses linked to industry, business or society** e.g. lifelong learning, micro-credentials.

**Q. How would existing Polytechnics perform based on the above criteria?**

# No of Study Cycles offered in 2021/22

All Public Polytechnic HE institutions

	Faculties/ Schools	bachelor's degrees	master's degrees	short cycles	
Polytechnics	Instituto Politécnico de Beja	4	16	18	17
	Instituto Politécnico de Bragança	5	52	41	30
	Instituto Politécnico de Castelo Branco	6	53	28	17
	Instituto Politécnico do Cávado e do Ave	5	23	26	31
	Instituto Politécnico de Coimbra	6	94	59	20
	Instituto Politécnico da Guarda	4	26	17	20
	Instituto Politécnico de Leiria	5	66	55	45
	Instituto Politécnico de Lisboa	8	81	75	0
	Instituto Politécnico de Portalegre	4	23	13	15
	Instituto Politécnico do Porto	9	77	99	33
	Instituto Politécnico de Santarém	5	29	18	17
	Instituto Politécnico de Setúbal	5	46	33	25
	Instituto Politécnico de Tomar	3	22	15	21
	Instituto Politécnico de Viana do Castelo	6	28	25	25
	Instituto Politécnico de Viseu	5	44	24	26
Non-Integrated Higher Education Schools	Escola Superior de Enfermagem de Coimbra	1	1	9	0
	Escola Superior de Enfermagem de Lisboa	1	2	8	0
	Escola Superior de Enfermagem do Porto	1	1	12	0
	Escola Superior de Hotelaria e Turismo do Estoril	1	15	9	0
	Escola Superior Náutica Infante D. Henrique	1	8	4	3
Universities affiliated with CCISP	Universidade dos Açores	2	2	0	3
	Universidade do Algarve	5	30	31	13
	Universidade de Aveiro	4	23	13	16
	Universidade de Évora	1	2	8	0
	Universidade da Madeira	2	2	1	14
Other universities with Polytechnic HE	Universidade do Minho	1	1	2	0
	Universidade de Trás-os-Montes	1	1	4	3
<b>Polytechnics &amp; Non Integrated Schools</b>		<b>85</b>	<b>707</b>	<b>588</b>	<b>345</b>
<b>CCISP Members</b>		<b>99</b>	<b>766</b>	<b>641</b>	<b>391</b>
<b>Total polytechnic public network</b>		<b>104</b>	<b>772</b>	<b>656</b>	<b>408</b>



**Table 4.3. FCT-funded R&D units co-ordinated by public polytechnic institutes**

Ratings received by R&D units co-ordinated by public polytechnic institutes (IP) in the 2017/18 FCT evaluation exercise and number of units (rated “good” and above) in receipt of FCT funding for the period 2020-23

Institution	Enrolment index 2020/21*	Insufficient	Weak	Good	Very good	Excellent	Total submitted	Total FCT funded
IP Porto **	100%		3	6		2	11**	8
IP Leiria	59%				5	1	6	6
IP Bragança (D)	44%			2		2	4	4
IP Cávado e do Ave (IPCA)	28%				2		2	2
IP Tomar (D)	12%			1	1		2	2
IP Viana do Castelo (D)	24%		1	2			3	2
IP Viseu (D)	29%			2			2	2
IP Coimbra	55%				1		1	1
IP Portalegre (D)	11%				1		1	1
IP Lisboa	69%			1			1	1
IP Santarém (D)	20%			1			1	1
IP Beja (D)	16%						0	0
IP Castelo Branco (D)	22%	1	3				4	0
IP Guarda (D)	17%						0	0
IP Setúbal	35%	1	1				2	0
<b>Total for public polytechnic institutes</b>		<b>2</b>	<b>8</b>	<b>18</b>	<b>5</b>	<b>5</b>	<b>40</b>	<b>30</b>

Note: \* Total enrolment in 2020/21 as a proportion of total enrolment at IP Porto. Public polytechnic institutes are presented in descending order of the number of R&D units receiving FCT funding and the rating received in the 2017/18 evaluation exercise. D: institutions in regions experiencing demographic decline. \*\* The data for the IP Porto include five R&D centres in the Instituto Superior de Engenharia do Porto (ISEP), which is an integral part of the IP Porto.

Source: FCT (2021<sup>[18]</sup>) *Financiamento Plurianual de Unidades de I&D para o período 2020-2023 (Multi-annual funding for R&D units for the period 2020-2023)*, <https://www.fct.pt/apoios/unidades/unidades.do.html> (accessed on 12 July 2022).

# Should Mergers be Considered in the Context of this Evolutionary Process?

- Mergers have many advantages including; facilitation of increased scale, capacity and a focusing of expertise.
- Mergers also have many disadvantages; they are highly complex, time consuming, can be divisive and costly.

**Q. What is the driver for mergers of HEIs...performance or demographics?**

**Q. Should mergers be a condition which is applied to all?**



# Future Demographic Considerations

- The population aged 20-29 that constitutes the bulk of current demand for higher education is projected to decrease in Portugal by 13.5% between 2020 and 2035, with the greatest decreases (of up to one-third) in Alentejo, the North Region (Norte) and Madeira.
- This contrasts with a projected 10% growth in this age cohort in the Lisbon metropolitan area in the same period.

RESOURCING HIGHER EDUCATION IN  
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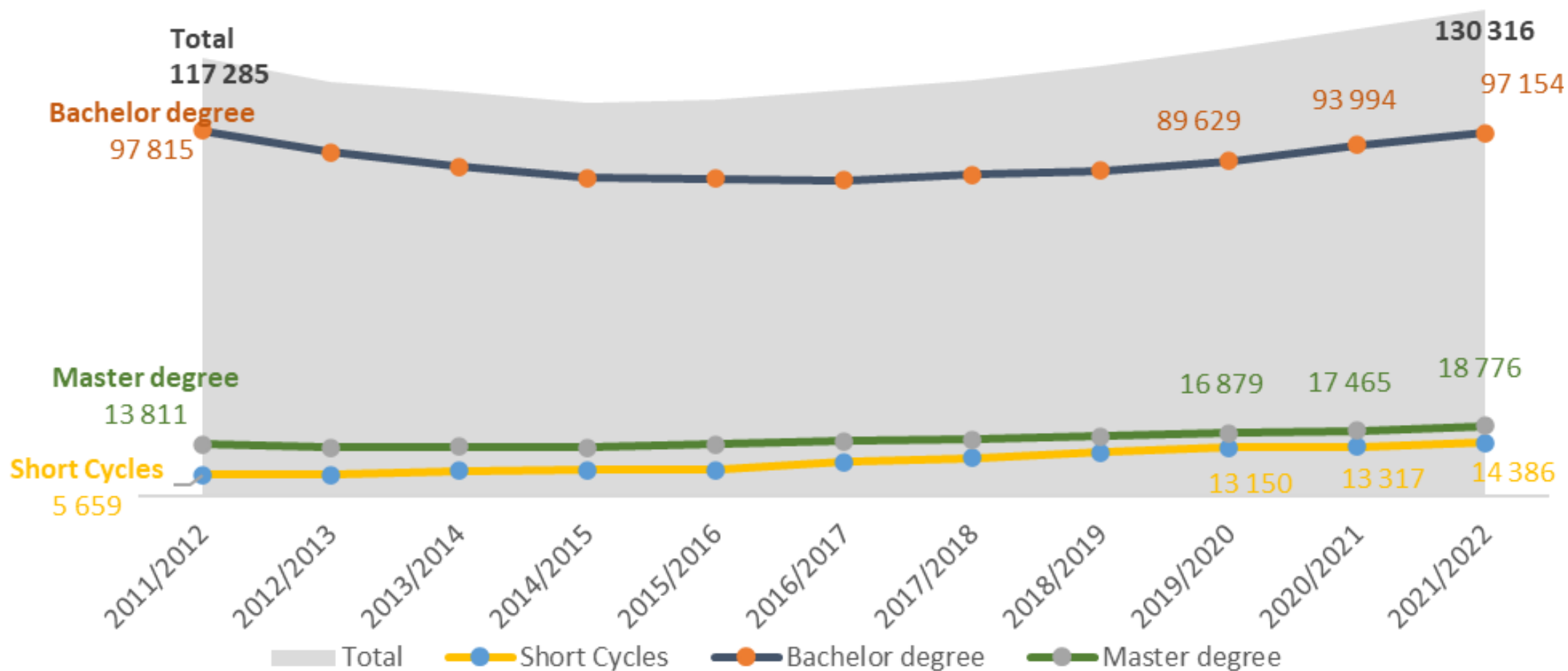
# Evolution of Total Students between 2017/18 to 2021/22

CCISP members only

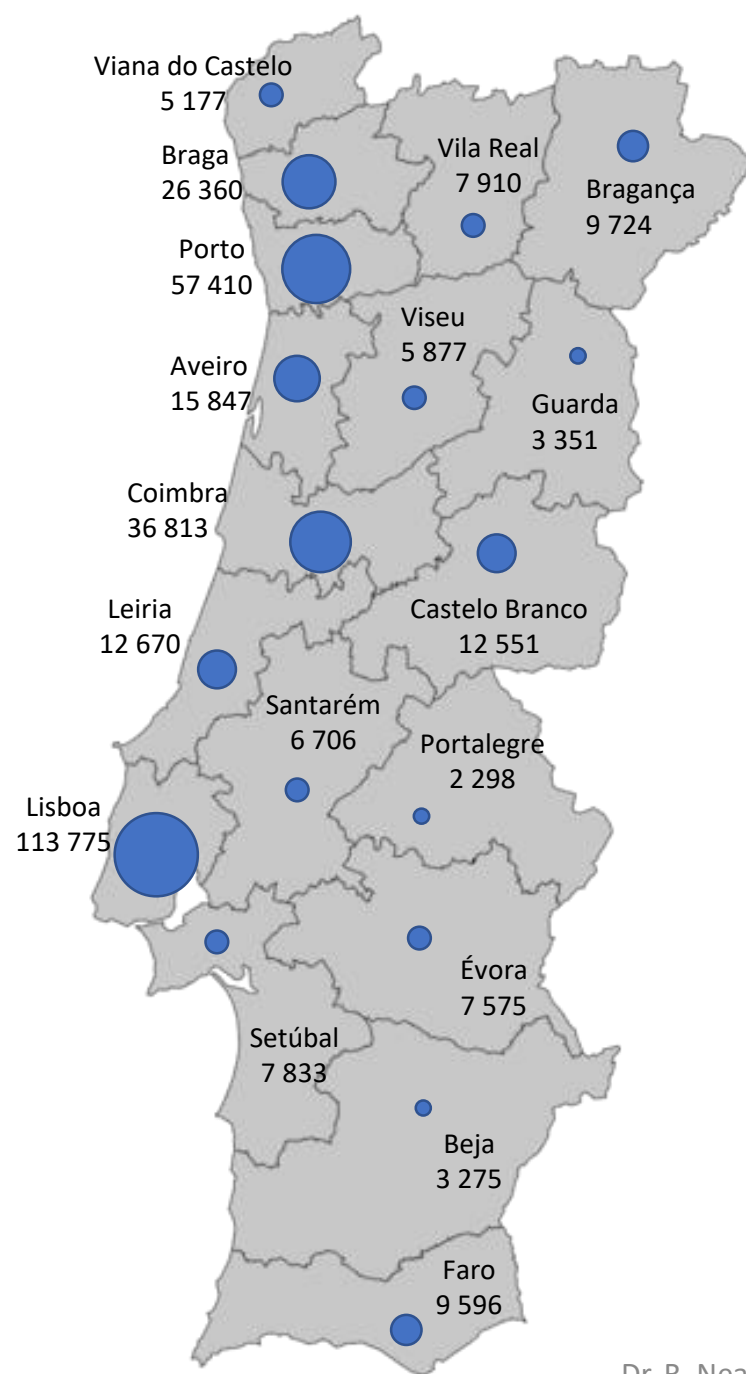
	2017/18	2018/19	2019/20	2020/21	2021/22	Varição 2017/18 e 2021/22
Instituto Politécnico de Beja	2603	2 721	3 094	3 193	3 212	23,4%
Instituto Politécnico de Bragança	7214	8 346	8 791	8 993	9 724	34,8%
Instituto Politécnico de Castelo Branco	4060	4 070	4 346	4 460	4 416	8,8%
Instituto Politécnico do Cávado e do Ave	3990	4 379	4 656	5 567	5 942	48,9%
Instituto Politécnico de Coimbra	10541	10 614	10 696	11 043	11 408	8,2%
Instituto Politécnico da Guarda	2687	2 819	3 492	3 276	3 294	22,6%
Instituto Politécnico de Leiria	10742	11 103	11 219	11 766	12 670	17,9%
Instituto Politécnico de Lisboa	13505	13 316	13 805	13 819	14 041	4,0%
Instituto Politécnico de Portalegre	1917	2 130	2 137	2 149	2 298	19,9%
Instituto Politécnico do Porto	18322	18 421	18 798	20 108	20 919	14,2%
Instituto Politécnico de Santarém	3489	3 790	4 026	4 072	4 409	26,4%
Instituto Politécnico de Setúbal	6132	6 422	6 527	7 162	7 833	27,7%
Instituto Politécnico de Tomar	2014	2 067	2 254	2 343	2 297	14,1%
Instituto Politécnico de Viana do Castelo	4117	4 161	4 451	4 858	5 142	24,9%
Instituto Politécnico de Viseu	4768	4 882	5 386	5 648	5 710	19,8%
Sub Total Politécnicos	96101	99 241	103 678	108 457	113 315	17,9%
Escola Superior de Enfermagem de Coimbra	1767	1 771	1 760	1 669	1 738	-1,6%
Escola Superior de Enfermagem de Lisboa	1463	1 499	1 460	1 445	1 403	-4,1%
Escola Superior de Enfermagem do Porto	1473	1 511	1 507	1 311	1 414	-4,0%
Escola Superior de Hotelaria e Turismo do Estoril	1852	1 849	1 795	1 856	1 810	-2,3%
Escola Superior Náutica Infante D. Henrique	691	713	737	717	749	8,4%
Sub Total Escolas Não Integradas	7246	7 343	7 259	6 998	7 114	-1,8%
Sub Total Politécnicos+ENI	103347	106 584	110 937	115 455	120 429	16,5%
Universidade dos Açores	413	422	409	397	430	4,1%
Universidade do Algarve	3802	3 876	3 930	4 216	4 409	16,0%
Universidade de Aveiro	3081	3 154	3 258	3 417	3 566	15,7%
Universidade de Évora	541	589	636	601	614	13,5%
Universidade da Madeira	259	369	488	690	868	235,1%
Sub Total Universidades	8096	8 410	8 721	9 321	9 887	22,1%
Total	111443	114 994	119 658	124 776	130 316	16,9%
Varição anual (%)		3,2%	4,1%	4,3%	4,4%	

# Students Enrolled by course type | 2011/12 to 2021/22

CCISP members only



# Distribution of HE Enrolments Across Portugal



Instituição	N.º de alunos inscritos
Universidade dos Açores	2 911
Universidade do Algarve	9 596
Universidade de Aveiro	15 847
Universidade da Beira Interior	8 091
Universidade de Coimbra	23 567
Universidade de Évora	7 575
Universidade Nova de Lisboa	23 426
Universidade do Minho	20 418
Universidade do Porto	34 879
Universidade de Trás-os-Montes e Alto Douro	7 910
Universidade da Madeira	3 536
Universidade Aberta	8 786
Universidade de Lisboa	50 482
Instituto Politécnico de Beja	3 275
Instituto Politécnico do Cávado e do Ave	5 942
Instituto Politécnico de Bragança	9 724
Instituto Politécnico de Castelo Branco	4 460
Instituto Politécnico de Coimbra	11 408
Instituto Politécnico da Guarda	3 351
Instituto Politécnico de Leiria	12 670
Instituto Politécnico de Lisboa	14 158
Instituto Politécnico de Portalegre	2 298
Instituto Politécnico do Porto	20 919
Instituto Politécnico de Santarém	4 409
Instituto Politécnico de Setúbal	7 833
Instituto Politécnico de Viana do Castelo	5 177
Instituto Politécnico de Viseu	5 877
Instituto Politécnico de Tomar	2 297
ISCTE - Instituto Universitário de Lisboa	11 132
Escola Superior de Enfermagem de Coimbra	1 838
Escola Superior de Enfermagem de Lisboa	1 410
Escola Superior de Enfermagem do Porto	1 612
Escola Superior Náutica Infante D. Henrique	749
Escola Superior de Hotelaria e Turismo do Estoril	1 810
Instituto Superior de Ciências Policiais e Segurança Interna	265
Instituto Universitário Militar	1 557
<b>Total</b>	<b>351 195</b>

# Should Mergers be Considered a Compulsory Component of the Evolution Process?

- **Probably not in all cases...**no added value in polytechnics who will meet the criteria on their own to engage in a merger. **Mergers need to be mutually beneficial.**
- Smaller institutions who find it **challenging to meet criteria** and located in areas of demographic decline **may need to consider a merger or a consortium approach** to achieve their ambition - Institutional choice
- **Transformation process** will most likely **involve a number of phases...**unrealistic for all Polytechnics to transform at the one time given existing range of performance levels.

# Is there an Alternative Approach?

- Should Portugal facilitate the creation of **regional polytechnic consortia** formed on the basis of your current regional landscape who would be supported in collectively meeting designation criteria?
- These consortia would ultimately seek to establish **Regional Polytechnic Universities** which would utilise a **federated governance model** thus facilitating the continuation of a significant level of autonomy at campus level among member institutions. e.g. California State University system



## In Conclusion

- The **evolution of Polytechnics** to Polytechnic Universities is a **positive step** and will benefit the Polytechnics, their regions and learners
- Evolution where possible, should proceed through **individual applications**, however, **merger or federated consortia applications** may need to be considered in order **to achieve performance criteria**
- Ability to meet **performance criteria** should be the **main consideration**; **demographic trends** may impact future performance but are **not a performance criteria**
- **Significant effort, investment** and legislative changes will be required
- The mission, functions and performance criteria of Polytechnic Universities need to **recognize the heritage** of Polytechnics and their **pivotal role in regional development**