

# ACTIVITY REPORT 2025



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## 1 - EXECUTIVE SUMMARY

The year 2025 was marked by the celebration of the School of Engineering's 50<sup>th</sup> anniversary, with a programme of diverse events designed to involve all stakeholders in commemorating a journey filled with successes and challenges overcome.

In terms of Education, in the 2025/2026 academic year, the School of Engineering of the University of Minho (EEUM) is responsible for a total of 88 programs in operation, distributed among 15 Bachelor courses (1<sup>st</sup> cycle), 14 Integrated Masters (the 1<sup>st</sup> year of the cycle of studies is not offered since 2024/2025), 40 Masters courses (2<sup>nd</sup> cycle) and 19 Doctoral/Doctoral Programmes (3<sup>rd</sup> cycle).

In terms of the number of students per study cycle, this group of courses includes 3369 Bachelor students, 250 Integrated Master's students, 2448 Master's students (2<sup>nd</sup> cycle) and 679 PhD students (3<sup>rd</sup> cycle), for a total of 6746 students.

Comparing the number of students enrolled in 2024/2025 with 2025/2026, there is a decrease of 0.86% of the total number of EEUM students, from 6805 students to 6746, although the total number of applicants for some 3<sup>rd</sup> cycle courses has not yet been fully determined, as they have different application stages.

With regard to research, the research centers of EEUM totaled 1130 scientific articles indexed in WoS/Scopus databases (919 in 2024), and 472 communications at national and international conferences (447 in 2024).

EEUM had 239 research projects underway during 2025 (176 in 2024), with a total budget of 35 M€ (average per year, 36 months projects), including 13 projects under the Erasmus+ Programme (Key Action 2) to which corresponds to a budget of more than 2 M€.

In 2025, 95 PhD theses were completed (114 in 2024). Regarding patents, 9 patent applications were submitted, 3 nationally and 6 internationally, and 16 patents were granted, 8 international and 8 national. With regard to internationalisation, the School of Engineering in 2025 saw 30 agreements of different kinds and purposes signed with higher education institutions and entities from various countries. EEUM received the visit of 4 delegations of international institutions, so new collaborations or the strengthening of existing cooperations are to be expected.

In terms of interaction with society, in 2025 the School of Engineering held 5 initiatives with companies within the scope of the *Tomorrow Needs You* agenda, bringing the academic community closer to companies. About 80 companies were present at the Employment Days with 4500 job opportunities. Also, within this framework, the 3<sup>rd</sup> edition of the Spin-offs, Start-ups and Interfaces Exhibition was organised, with the participation of 50 entities. The innovation in this edition was the creation of a space for the presentation of some national projects from the PRR's Mobilising Agendas.

As far as social networks are concerned, in general, the number of followers has increased on all the social media where EEUM is present, and so has the reach of its publications. Also, a total of 1429 news published in the mass media of 12 countries, representing 25.76 million views/impressions and €6.03 million in automatic advertising.

## 2 – MANAGEMENT BODIES AND OFFICES

### **Management Bodies:**

- School Council
- Scientific Council
- Pedagogical Council
- Management Council

The activity of the management bodies of the School of Engineering in 2025 can be consulted on the institutional website of the School of Engineering, at [www.eng.uminho.pt](http://www.eng.uminho.pt), in the menu School, submenu Institutional Information.

### **Support services to the Presidency:**

- Financial Implementation Support Office
- Informatic Support Office
- Internationalization Office
- Communication and Interaction with Society Office
- Presidency Secretariat
- School's Secretary
- School's Receptionist

### 3 – EEUM's NUMBERS

#### **6746 Students Enrolled**

1<sup>st</sup> cycle - 3369 Bachelor students + 250 Integrated Masters students

2<sup>nd</sup> cycle – 2448 Master's degree students

3<sup>rd</sup> cycle – 679 PhD's students (2024/2025)

#### **262 PhD Faculty**

9 Emeritus Professors

82 ETI Invited Faculty Professors

122 Non-Teaching Staff

#### **9 Departaments**

88 Training Programs (2025/2026)

1<sup>st</sup> cycle – 15 Bachelor Programs e 14 Integrated Masters Programs

2<sup>nd</sup> cycle– 40 Masters Degree Programs

3<sup>rd</sup> cycle - 19 PhD Programs

#### **9 Research Centres**

559 Integrated Researchers

7 Centres evaluated as Very Good and Excellent by FCT

95 Completed PhD

16 Patents granted

239 Research projects

35 M€ Total funding/year

1130 Scientific articles indexed in WoS/Scopus

9 Collaborative Laboratories

4 Associate Laboratories

#### **Internationalization**

30 Agreements established

4 International visits

180 Students, Non-teaching and Teaching Staff Mobility OUT

123 Students, Non-teaching and Teaching Staff Mobility IN

#### **Interaction With Society**

28 Protocols established

4500 Job Opportunities in EEUM's Job Days

81.7 Followers on social media

66K Institucional Website Unique Visitors

1850 Subscribers of EngiNews (external subscribers)

## 4 – EDUCATION

### 4.1 – National Competition for Access to Higher Education Results

With regard to the 1<sup>st</sup> cycle and the 1<sup>st</sup> placement phase for 2025/2026, the School of Engineering had 94.47 per cent of its vacancies (850) filled in the first phase of the National Competition for Access to Higher Education (see table 4.1.1).

Almost all degree courses saw a slight decrease in the number of places available, with the exception of Materials Engineering and Textile Engineering, which maintained the same number of places.

The Demand Satisfaction Index (DSI) was higher than 1 in four of the fifteen study cycles, with the highest value obtained for the Bachelor's Degree in Civil Engineering, at 1.47.

The course with the highest number of places was Informatics Engineering, with 162 places, followed by Information Systems Engineering and Management, with 138 places available.

Programs with the most 1<sup>st</sup> choice vacancies (with data referring to the 1<sup>st</sup> access phase): Engineering Physics (85%), Fashion Design and Marketing (79%), and Aerospace Engineering (77%).

The course in which the last-placed student had the highest classification was Aerospace Engineering (188.5), followed by Industrial Engineering and Management (169.5), Mechanical Engineering (159.8), Biomedical Engineering (156.8), and Fashion Design and Marketing (151.5).

#### 4.1.1 – National Competition for Access to Higher Education Results

Programme	Initial vacancies	Placed	Last place score (general contingent)	Remaining vacancies for 2nd phase
Aerospace Engineering	30	30	188.5	0
Biomedical Engineering	61	61	156.8	0
Chemical and Biological Engineering	39	30	128.8	9
Civil Engineering	32	32	148.3	0
Engineering and Management of Information Systems	138	138	137	0
Fashion Design and Marketing	28	28	151.5	0
Industrial Electronics and Computers Engineering	87	87	117.5	0
Industrial Engineering and Management	63	63	169.5	0
Informatics Engineering	162	162	135.5	0
Materials Engineering	27	26	116.3	1
Mechanical Engineering	77	77	159.8	0
Engineering Physics	33	33	133.5	0
Polymer Engineering	19	19	129	0
Telecommunications and Informatics Engineering	35	13	121.5	22
Textile Engineering	19	4	127.5	15
<b>Total</b>	<b>850</b>	<b>803</b>	-	<b>47</b>

#### 4.2 – 1<sup>st</sup> Cycle Programs

In the 2025/2026 academic year the School of Engineering offers 15 bachelor's degree programs and 14 integrated master's degree programs (the 1<sup>st</sup> year of the cycle of studies was not offered in 2024/2025), in which 3619 students are enrolled (3369 bachelor's degree and 250 integrated master's degree students). In the 1st cycle, high demand is confirmed, with most of the places at the School of Engineering filled in the 1st phase of the National Competition for Access to Higher Education, with the exception of 4 courses. Nine Bachelor degrees (submitted between October and December 2025) were submitted to evaluation by A3ES:

- Bachelor in Biomedical Engineering
- Bachelor in Industrial Engineering and Management
- Bachelor in Mechanical Engineering
- Bachelor in Chemical and Biological Engineering
- Bachelor in Materials Engineering
- Bachelor in Polymer Engineering
- Bachelor in Textile Engineering
- Bachelor in Civil Engineering
- Bachelor in Engineering Physics

##### 4.2.1 – Evolution of students enrolled – Bachelor degrees\*

<b>1<sup>st</sup> Cycle</b>	<b>2023/2024</b>	<b>2024/2025</b>	<b>2025/2026</b>
Aerospace Engineering	70	108	114
Biomedical Engineering	235	220	221
Chemical and Biological Engineering	129	134	138
Civil Engineering	234	215	210
Engineering and Management of Information Systems	495	534	506
Engineering Physics	139	132	129
Fashion Design and Marketing	109	100	103
Industrial Electronics and Computers Engineering	336	322	347
Industrial Engineering and Management	275	239	241
Informatics Engineering	726	706	712
Materials Engineering	83	70	68
Mechanical Engineering	277	313	349
Polymer Engineering	68	59	60
Telecommunications and Informatics Engineering	121	138	132
Textile Engineering	75	53	39
<b>Total</b>	<b>3372</b>	<b>3343</b>	<b>3369</b>

#### 4.2.2 – Evolution of graduate students - Bachelor degrees \*

1 <sup>st</sup> Cycle	2023	2024	2025
Aerospace Engineering			28
Biomedical Engineering	59	74	62
Chemical and Biological Engineering	33	42	36
Civil Engineering	39	47	51
Engineering and Management of Information Systems	106	110	154
Engineering Physics	25	41	28
Fashion Design and Marketing	26	34	26
Industrial Electronics and Computers Engineering	71	64	54
Industrial Engineering and Management	71	81	68
Informatics Engineering	125	177	151
Materials Engineering	19	27	17
Mechanical Engineering	38	80	69
Polymer Engineering	18	19	16
Telecommunications and Informatics Engineering	13	12	41
Textile Engineering	24	16	14
<b>Total</b>	<b>667</b>	<b>824</b>	<b>815</b>

\* Faced with the conversion of Integrated Masters into Bachelor's and Master's study cycles.

#### 4.2.3 – Enrolled Students Total Number – Integrated Masters

Program	2023/24	2024/25	2025/2026
Biological Engineering	4	2	0
Biomedical Engineering	58	31	17
Civil Engineering	19	11	9
Engineering and Management of Information System	206	112	62
Engineering Physics	15	13	7
Industrial Management and Engineering	18	12	10
Industrial Electronics and Computers Engineering	58	35	24
Informatics Engineering	105	58	34
Materials Engineering	35	16	4
Mechanical Engineering	158	115	57
Polymer Engineering	19	7	2
Telecommunications and Informatics Engineering	60	40	22
Textile Engineering	3	3	2
<b>Total</b>	<b>758</b>	<b>455</b>	<b>250</b>

Note: According to dispatch RT-27/2024, regarding the transition from Integrated Master's degrees to Bachelor's degrees, students who were enrolled in the 2020/2021 academic year have until the 2025/2026 academic year to complete their Integrated Master's degree.

#### 4.2.4 – Evolution of graduate students – Integrated Masters

Program	2023	2024	2025
Biological Engineering	1	2	1
Biomedical Engineering	28	22	14
Civil Engineering	2	3	1
Engineering Physics	5	0	4
Engineering and Management of Information Systems	58	71	41
Engineering and Management of Information Systems (AW)	9		
Industrial Electronics and Computer Engineering	50	16	6
Industrial Management and Engineering	29	7	1
Informatics Engineering	37	17	7
Materials Engineering	10	19	13
Mechanical Engineering	43	22	40
Polymer Engineering	7	8	4
Telecommunications and Computer Engineering	8	7	12
Textile Engineering	5	1	0
<b>Total</b>	<b>292</b>	<b>195</b>	<b>144</b>

#### 4.3 – 2<sup>nd</sup> Cycle Programs

The School of Engineering has 40 Masters programs in operation in the year 2025/2026, with a total of 2288 students enrolled.

During this year, the Master in Interactive Technologies was extinguished.

In addition, 16 master's degrees were submitted to evaluation by A3ES between October and December 2025:

- Master in Advanced Structural Analysis and Design using Composite Materials - FRP++
- Master in Biomedical Engineering
- Master in Biotechnology
- Master in Chemical and Biological Engineering
- Master in Civil Engineering
- Master in Engineering Physics
- Master in Engineering and Operations Management
- Master in Engineering Project Management
- Master in Engineering and Quality Management
- Master in Food Science and Technology
- Master in Industrial Engineering and Management
- Master in Materials Engineering
- Master in Mechanical Engineering
- Master in Polymer Engineering
- Master in Product Engineering
- Master in Textile Engineering

4.3.1 – Total number of students enrolled per program - Master's Degree

Program	2023/24	2024/25	2025/26
Advanced Computing			15
Advanced Structural Analysis and Design using Composite Materials - FRP++			
Aerospace Engineering	23	18	31
Artificial Intelligence			30
Bioinformatics	58	46	57
Biotechnology	50	44	44
Building Information Modelling - BIM A+	18	16	14
Cybersecurity			32
Cities Challenges	28	6	5
Data Science and Engineering			26
Design and Marketing of Textile Products, Apparel and Accessories	18	11	4
Engineering and Operations Management	134	138	130
Engineering and Quality Management	32	34	43
Engineering of Computer Networks and Telematic Services	6	3	1
Engineering Project Management	52	57	54
Fashion Communication Design	41	52	65
Food Science and Technology	20	33	33
Human Engineering	18	12	5
Informatics Engineering	405	435	380
Information Systems	56	59	62
Interactive Technologies		1	
International Cybersecurity and Cyberintelligence			39
Mechatronics Engineering	221	20	9
Micro/Nano Technologies	2	2	
Product Engineering	46	46	45
Risk Assessment and Management of Civil Infrastructures			24
Systems Engineering	36	33	31
Structural Analysis of Monuments and Historical Construction	12	17	18
Structural Engineering	6	4	2
Sustainable Construction and Rehabilitation	9	18	20
Sustainable Built Environment	3	3	1
Urban Engineering	20	11	1
<b>Total</b>	<b>1314</b>	<b>1116</b>	<b>1215</b>

4.3.2 – Total number of students enrolled per program - Continuing Masters

<b>Program</b>	<b>2023/24</b>	<b>2024/25</b>	<b>2025/26</b>
Biomedical Engineering	102	160	172
Chemical and Biological Engineering	65	66	60
Civil Engineering	91	108	117
Engineering and Management of Information Systems	171	218	239
Industrial Electronics and Computers Engineering	181	159	155
Industrial Engineering and Management	138	139	136
Materials Engineering	16	38	42
Mechanical Engineering	109	134	151
Engineering Physics	73	74	52
Polymer Engineering	43	47	39
Telecommunications and Computer Engineering	30	36	48
Textile Engineering	54	42	22
<b>Total</b>	<b>1073</b>	<b>1221</b>	<b>1233</b>

#### 4.3.3 – Master's Dissertations

Program	Dissertation Admissions			Concluded Dissertations		
	2022/23	2023/24	2024/25	2022/23	2023/24	2024/25
Structural Analysis of Monuments and Historical Construction	7	4	7	5	4	7
Bioinformatics	31	22	18	18	22	15
Biotechnology	33	20	22	33	17	24
Sustainable Construction and Rehabilitation	9	5	14	10	4	4
Fashion Design and Communication	21	16	14	15	2	13
Aerospace Engineering		9	9		4	7
Cities Challenges		5	5		1	2
Design and Marketing of Textile Products, Apparel and Accessories	11	1	9	9	5	2
Engineering of Computer Networks and Telematic Services	8	4	1	1	1	
Systems Engineering	19	14	12	16	9	9
Product Engineering	23	15	19	13	13	9
Engineering and Quality Management	20	16	9	19	14	2
Human Engineering	10		6	5	2	9
Engineering and Operations Management	35	49	60		32	45
Informatics Engineering	14	148	174	83	105	115
Mechatronics Engineering	5	4	13	5	3	4
Urban Engineering		10	8	6	7	7
Engineering Project Management	25	17	20	5	14	20
Micro/Nano Technologies	4		2	4	1	
Building Information Modelling - BIM A+	10	18	13	10	17	16
Information Systems	17	18	45	10	8	10
Sustainable Built Environment			1			1
Interactive Technologies		1		2		1
Food Science and Technology	8	3	2	7	4	1
Advanced Structural Analysis and Design using Composite Materials - FRP++	3	5	6	3	5	4
Risk Assessment and Management of Civil Infrastructures - NORISK			6			5
<b>Total</b>	<b>313</b>	<b>404</b>	<b>495</b>	<b>279</b>	<b>294</b>	<b>332</b>

#### 4.3.4 – Continuing Master's Dissertations \*

Program	Dissertation Admissions		Concluded Dissertations	
	2023/24	2024/25	2023/24	2024/25
Biomedical Engineering	63	60	49	8
Chemical and Biological Engineering	32	26	23	1
Civil Engineering	23	37	13	2
Engineering Physics	37	27	18	4
Engineering and Management of Information Systems	73	89	15	29
Industrial Electronics and Computers Engineering	62	55	45	8
Industrial Engineering and Management	59	47	58	2
Materials Engineering	4	14	1	12
Mechanical Engineering	56	43	29	36
Polymer Engineering	22	18	17	3
Telecommunications and Computer Engineering	4	19	1	12
Textile Engineering	21	22	13	
<b>Total</b>	<b>456</b>	<b>457</b>	<b>282</b>	<b>117</b>

\* With the transition from Integrated Masters to Undergraduate Degrees, students did not start submitting their dissertation plan until the 2021/2022 academic year.

#### 4.4 – 3<sup>rd</sup> Cycle Programs

The School of Engineering had 21 Doctoral Programmes/PhD Programs in operation in the academic year 2024/2025, with a total of 679 students enrolled.

Due to the application phases still ongoing at the time of writing this activity report, it is not possible to determine the number of students enrolled in the 19 doctoral courses/programmes that will be running in the 2025/2026 academic year.

In the Doctoral Programmes (3<sup>rd</sup> cycle), the vacancies are still higher than the demand.

In 2025 there was a decrease in the number of completed PhD theses (95), compared to the previous year (114 theses).

Ten Doctoral/PhD Programmes have been submitted between October and December 2025 to evaluation by A3ES:

- Doctorate in Chemical and Biological Engineering
- Doctorate in Solid Waste Management and Treatment
- Doctorate in Biomedical Engineering
- Doctoral Program in Industrial and Systems Engineering
- Doctorate in Mechanical Engineering
- Doctorate in Textile Engineering
- Doctorate in Polymers and Composites Engineering
- Doctorate in Materials Engineering
- Doctoral Program in Direct Digital Manufacturing for Polymer and Tooling Industries
- Doctoral Program in Food Science and Technology and Nutrition

4.4.1 – Total number of students enrolled in 2024/2025

Program	Total Enrolled
	2024/25
Biomedical Engineering	28
Food Science and Technology and Nutrition	32
Civil Engineering	125
Materials Engineering	31
Polymers and Composites Engineering	17
Electronics and Computer Engineering	57
Industrial and Systems Engineering	59
Mechanical Engineering	33
Chemical and Biological Engineering	60
Textile Engineering	26
Solid Waste Management and Treatment	7
Informatics	47
Computer Science (MAP-i)	43
Direct Digital Manufacturing for Polymer and Tooling Industries	6
Sustainable Built Environment	23
Information Systems and Technology	46
Telecommunications MAP-tel	9
Fashion Design	16
Advanced Engineering Systems for Industry	14
<b>Total</b>	<b>679</b>

## 4.5 – Departments' Activities

### 4.5.1 – Department of Biological Engineering

Created in 1993, Department of Biological Engineering (DEB) is a dynamic sub-unit of the School of Engineering that currently comprises 6 employees and 17 career professors (including one Emeritus Professor). DEB is dedicated to providing students with access to internationally recognized teaching excellence, led by professors recognized as leaders in their respective research field. DEB actively contributes to undergraduate and postgraduate education through its involvement in the Bachelor in Biomedical Engineering, the Bachelor in Chemical and Biological Engineering, and five Master's programs: Bioinformatics, Biotechnology, Biomedical Engineering, Chemical and Biological Engineering and Food Technology and Science (the latter in collaboration with the Faculty of Sciences of the University of Porto).

DEB places a strong emphasis on outreach activities, participating in several initiatives tailored for secondary students to inspire future generations in STEM fields. Its commitment to fostering student engagement extends to partnerships and collaborations with companies, public institutions, and national and international higher education entities, facilitating exchange programs and internships. These opportunities enrich students' experiences with multicultural and multidisciplinary dimensions, making DEB's training programs highly attractive.

Moreover, DEB regularly engages with the broader community through forums, fairs, exhibitions, and events to promote its educational offerings. Its faculty members are deeply involved in research, blending fundamental science with engineering disciplines to develop high-value biotechnological products and processes for the Food, Chemical, Health, Biotechnology and Environmental industries.

#### Staff

Category	Total
Emeritus professor	2
Full professor	4
Associate professor with Habilitation	6
Associate professor	2
Assistant professor with Habilitation	1
Assistant professor	5
<b>Total</b>	<b>20</b>

Category	Total
Senior technician	1
IT specialist	0
IT technician	0
Technical assistant	3
Operational assistant	1
<b>Total</b>	<b>5</b>

## Events

Event	Date	Type
XXVIII Jornadas de Engenharia Química e Biológica	11-13/11/2025	Conference
Bioinformatics Open Days 2025	26-28/03/2025	Workshop
Hands-on-Phage Biotechnology Course	16-20/06/2025	Course workshops, lectures, etc.

## Link to Society Projects

Project	Description
Little CEBientists - Biotechnology for Kids	Science and Biotechnology Activities for Primary School Students at Colégio D. Pedro V in Braga, within the Framework of the Celebration of Science and Technology Week.
VEM – Vamos Experimentar a UMinho	<p>DEB and CEB participated in the VEM – Let's Experience UMinho programme, an initiative designed to bring 11th and 12th grade students closer to the academic and scientific environment of the University of Minho, promoting direct contact with research and higher education.</p> <p>As part of this initiative, two workshops run simultaneously from 9:30 a.m. to 12:30 p.m., under the theme Engineering for a Better Future.</p> <p>The workshops were:</p> <ul style="list-style-type: none"> <li>Engineering for a Better Future – Health and Well-being</li> <li>Viruses That Kill Bacteria</li> <li>Sustainable Alternatives to Detergents</li> </ul>
Verão no Campus	<p>DEB was involved in the initiative Summer on Campus that took place at the University of Minho during July. This programme aims to encourage the academic learning of secondary school students and to be a space to promote the spirit of teamwork, and bonds of friendship and mutual trust, through various pedagogical, recreational, and cultural activities developed in a university environment. The proposed activities were the following:</p> <ul style="list-style-type: none"> <li>Workshop 1   BB Industry   What Do Yeasts “Eat” and What Do They Produce?</li> <li>Workshop 2   BB Industry   Textile Modification;</li> <li>Workshop 3   BB Health   Biofilms: The City of Microbes;</li> <li>Workshop 4   BB Environmental   Microbial Communities in Waste Valorization;</li> <li>Workshop 5   BB Food   Microalgae Production and Their Potential for Human Consumption</li> </ul>

### Most relevant 2<sup>nd</sup> cycle dissertations

Student	Supervisor 1	Supervisor 2	Thesis Title	Program	Company Involved
Filipa Bouça Mano	Maria Alcina Pereira	Gilberto Martins	Feasibility study of phosphorus recovery from wastewater in the Grupo Águas do Norte WWTP	Master in Chemical and Biological Engineering	Águas do Norte
Joana Maria Alves Lopes	Michele Ribeiro Cerqueira	Miguel Ângelo Cerqueira	Use of bioinks and electrohydrodynamic jet printing for the development of smart packaging	Master in Chemical and Biological Engineering	INL
Patrícia Barbosa da Costa	Carla Marinho da Silva	Artur Jorge Ribeiro	Designing recombinant seed storage proteins for textile applications	Master in Chemical and Biological Engineering	
Inês Weijde	Luis de Melo	Diana Priscila	Characterization of phages isolated from dogs infected with multidrug resistant <i>Staphylococcus pseudointermedius</i>	Master in Biomedical Engineering	
Filipa Campos	Silvio Santos	Diana Priscila	Harnessing Bacteriophages for Targeted Control and Rapid Detection of <i>Klebsiella pneumoniae</i>	Master in Biomedical Engineering	
Mariana Sousa	Débora Ferreira	Lígia Rodrigues	Novel therapeutic options for chemotherapy-resistant triple negative breast cancer cells	Master in Biomedical Engineering	
Ana Beatriz Sá Barbosa	Clarisse Nobre	Lucilia Domingues	Burger of the Future: Development, Characterization and Comparison of an Insect Burger with Other Protein Sources	Master in Biotechnology	Corial
Dircelene Ilda Cruz dos Reis	José António Teixeira	Ricardo Spencer	Development of a COSMOS ORGANIC certified facial moisturizing emulsion	Master in Biotechnology	UniBio
Leonor Batista Gandarela	Débora Ferreira	Lígia Rodrigues	Extracellular Vesicle-Mediated Drug Delivery in Triple Negative Breast Cancer	Master in Biotechnology	
Inês Pinto Azevedo Mota	Armando Dias Venâncio	António da Silva Ferreira	Analysis of the Impact of Environmental Variables in the Production of Trichloroanisole in Cork Granules.	MSc Food Science and Technology	Cork Supply Portugal

#### 4.5.2 – Department of Civil Engineering

Civil Engineering is the branch of Engineering that encompasses the design, construction and maintenance of all structures and infrastructures necessary for the well-being and development of society and the preservation of the built and natural environment. Since 1980, the Department of Civil Engineering integrates the School of Engineering of the University of Minho. Its mission is the development of Civil Engineering according to three vectors: graduate and postgraduate teaching, research and development activities, and partnerships with industry and society.

The Master in Civil Engineering is the main teaching project and aims to train technicians with appropriate skills for their integration in a job market in permanent change and able to contribute to the wealth of companies in the sector and the country. Its recognition has led to the creation of a scholarship and school merit program supported by companies interested in student success.

Also noteworthy in the training offer are the Masters in Sustainable Construction and Rehabilitation, the Masters in Urban Engineering, Master in Structural Engineering and the three International Masters: Building Information Modelling, Structural Analysis and Design using Composite Materials and Structural Analysis of Historic Monuments and Constructions. The latter is recognised by the European Commission with the "Erasmus Mundus" seal of excellence. The Department also collaborates in the Master in Engineering Project Management. The research and development activities are framed in the Centre for Territory, Environment and Construction and in the Institute for Sustainability and Innovation in Engineering Structures.

#### Staff

Category	Total
Emeritus professor	4
Full professor	4
Associate professor with Habilitation	7
Associate professor	7
Assistant professor with Habilitation	4
Assistant professor	16
<b>TOTAL</b>	<b>42</b>

Category	Total
Senior technician	4
IT specialist	0
IT technician	1
Technical assistant	3
Operational assistant	0
Technical Coordinator	1
<b>TOTAL</b>	<b>9</b>

## Events

Event	Date	Type
XIII Jornadas de Engenharia Civil	09-10/04/2025	Days
Alliance 4XR Workshop “Empowering Students and Educators: XR training at UMINHO”	30/05/2025	Workshop
2nd CircularB Training School - Circular Businesses On-Site Training	08-10/09/2025	Training
EuroELECS 2025 - VI Encontro Latino-Americano e Europeu sobre	01-03/10/2025	Conference

## Link to Society Projects

Project	Description
Wireless Transportation Infrastructure Safety Evaluation (WISE)	Civil infrastructure provides essential functions to society, enabling the provision of critical services, protection and support for economic development. Transport systems, waste and water management, telecommunications, electricity, rural or urban buildings are some of the structures considered civil infrastructure. To this end, technology will be developed that is capable of integrating and recognising critical situations related to transport infrastructure management in real time.
Robotic, Automated and Digital solutions for improving building renovation and New Construction Efficiency (RADIANCE)	RADIANCE is a project that aims to increase the efficiency, safety and sustainability of the construction sector by automating the construction of new buildings and the renovation and maintenance of European real estate, using advanced robotics and automated and digital technologies.
Entrevista Caderno Pais Positivo	Entrevista ao Caderno Pais Positivo, “Infraestruturas Críticas, Desafios de Gestão e Sustentabilidade Global”, a 9 de maio de 2025
Entrevista Revista Concreto IBRACON	Entrevista à Revista Concreto IBRACON, Personalidade Entrevistada, 20 de março de 2025

### Most relevant 2<sup>nd</sup> cycle dissertations

Student	Supervisor 1	Supervisor 2	Thesis Title	Program	Company Involved
Pedro Manuel Gomes Cunha	José Campos e Matos	Son Dang	Implementação de Asset Information Modelling na Digitalização de Obras de Arte Existentes	Master in Civil Engineering - Structures and Geotechnics	Câmara Municipal de Viana do Castelo
Joana Sofia Gomes Peixoto	Maria Isabel Valente		Análise Estrutural de Pórticos Metálicos de Sinalização	Master in Civil Engineering - Structures and Geotechnics	Ascendi
José Pedro Ferreira Pereira da Silva	Hugo Dias da Silva		Análise de Desempenho e Condições de Produção de Misturas Betuminosas com Alta Taxa de Reciclagem	Master in Civil Engineering - Cities, Territory and Transport Infrastructures	DST Group
Lucas André Nicolau Araújo	Paulo Gomes Ribeiro		Análise da Rede de Transporte Público e da Vulnerabilidade de Acessibilidade em Braga: Caminhos para uma Mobilidade Flexível	Master in Urban Engineering	
Marco António Alves Monteiro	Rui Rodrigues Ramos		Análise espacial da localização e disponibilidade residencial na Trofa face à deslocação para o centro do Porto por comboio e metro	Master in Urban Engineering	
João Vieira Batista	Joel Martins Oliveira		Desenvolvimento de uma Solução de Reabilitação Sustentável para o Pavimento da Estrada Desclassificada EN306 em Barcelos	Master in Urban Engineering	
Akdana Kalakova	José Sena Cruz	Rudolf Seracino	Bond behaviour of CFRP prestressing strands to concrete	European Master in Advanced Structural Analysis and Design using Composite Materials - FRP++	NCSU
Thammaiah Naganda Subbaiah	José Sena Cruz	Amirhossein Mohammadi	Durability assessment and prediction of fibre polymer composites using artificial intelligence	European Master in Advanced Structural Analysis and Design using Composite Materials - FRP++	
Seifeldin Ashraf Mahmoud Gamaleldin Mohamed Osman	Joaquim Barros	Hugo Silva	Influence of hot asphalt overlay on the flexural strengthening effectiveness of RC slabs with NSM-CFRP laminates	European Master in Advanced Structural Analysis and Design using Composite Materials - FRP++	
Aditya Kumar Varma	Monica Santamaria	Rabia Rashdi	Risk Assessment and Preservation for Cultural Heritage Buildings Using INSAR Monitoring	International Master in Risk Assessment and Management of Civil Infrastructures - NORISK	SpotLite

Student	Supervisor 1	Supervisor 2	Thesis Title	Program	Company Involved
Ramin Osti	Jose Turmo	Jose Antonio Lozano	Artificial intelligence-based bridge inspection protocols using multispectral, thermal, and visual drone images with automated data fusion on digital twins	International Master in Risk Assessment and Management of Civil Infrastructures - NORISK	TBT
Kelly Camarena	Flora Faleschini		Climate Change Effects on the Structural Reliability of Reinforced Concrete Buildings in the Veneto Region	International Master in Risk Assessment and Management of Civil Infrastructures - NORISK	
Pablo Ignacio Santiago Camus Rojas	José Luis Duarte Granja		AI-Driven Assistant for LOIN in BIM Workflows	European Master in Building Information Modelling - BIM A+	Undurraga Deves Arquitectos
Oxana Barsukova	Bruno Ferreira Figueiredo	Filipe Brandão	AI and Photogrammetry for HBIM: Automating Historic Building Classification and Modelling	European Master in Building Information Modelling - BIM A+	BuiltColab
Esra Karatepe	José Basto Lino		Standardising Information Requirements for BIM-Based QA/QC: A Contractor Oriented Approach	European Master in Building Information Modelling - BIM A+	BESIX
Inês Filipa dos Santos Nunes	Anabela Pereira Tereso		Application of Hybrid Methodologies in the Management of APQP (Advanced Product Quality Planning) on Critical Components with Time Constraints in the Automotive Industry	Master in Engineering Project Management	BorgWarner Inc
Márcia Raquel Cardoso Carneiro	Ângela Silva		Digital transformation in a wood and furniture company: Implementation of a Manufacturing Execution System	Master in Engineering Project Management	BEC-Carpintaria, Unipessoal Lda.
Lucas Mendes Gonçalves	Anabela Tereso	João Pedro Couto	Case Study on the Application of Project Management Methodologies in a Construction Company: practices and impacts	Master in Engineering Project Management	Grupo Casais
Samuel Manuel Sanjambela Vieira	Aires Camões		Efeito da Incorporação de Pigmentos no Desempenho de Misturas Cimentícias	Master in Sustainable Construction and Rehabilitation	
Damião Filó de Lurdes Panzo	Aires Camões		Betão com Incorporação de Pó Cerâmico como Material Cimentício Suplementar	Master in Sustainable Construction and Rehabilitation	
Edgar Benedito Tomás Nunda	Manuela Almeida		Patologias não Estruturais nos Edifícios de Luanda -	Master in Sustainable	

Student	Supervisor 1	Supervisor 2	Thesis Title	Program	Company Involved
			Estudo, Catalogação e Propostas de Reabilitação	Construction and Rehabilitation	
Rui Jorge Pimenta Paulus Cerdeira	João Vicente Sarmento	Francisco Aguiar Fernández	Migrações e Políticas Públicas em Portugal e Espanha - Perspetivas de Imigrantes nas Cidades de Braga e Vigo	Master in Cities Challenges	
Tiago Fernando Gonçalves Azevedo	Lígia Torres Silva	Ramón López Rodríguez	A importância dos espaços verdes públicos e a sua transformação. Estudo de caso da cidade de Vizela	Master in Cities Challenges	
Leonardo Ogando Insuela Camargo	Cándido López González	Ana Monteiro de Sousa	Da Degradação à Regeneração - Planeamento de Soluções Baseadas na Natureza para Controle de Inundações e Gestão Hídrica. Estudo de Caso: Cidade de Feira de Santana, Bahia-Brasil	Master in Cities Challenges	
Devina Shedde	Paulo B. Lourenço	Georgios Vlachakis	Numerical modelling of the out-of-plane dynamic behaviour of blocky masonry structures	Advanced Masters in Structural Analysis of Monuments and Historical Constructions	
Donna Al Sououb	Matteo Salvaggio	João Pereira	Blast and Seismic Loading Effects on Heritage Masonry Structures: A Finite Element Analysis of Aleppo's Citadel	Advanced Masters in Structural Analysis of Monuments and Historical Constructions	
Kamryn Wiesner	Jorge Branco	Hélder Sousa	Guidelines for post-tensioning timber elements and systems	Advanced Masters in Structural Analysis of Monuments and Historical Constructions	

#### 4.5.3 – Department of Industrial Electronics

Created in 1989, the Department of Industrial Electronics (DEI) is a department of the School of Engineering located in the two campuses of the University of Minho (Azurém campus in Guimarães and Gualtar campus in Braga). The DEI is composed of an experienced and highly qualified teaching staff, consisting of 27 PhD Professors who develop activities in close collaboration with the scientific community and the business fabric. The main objective of DEI is to offer high quality teaching and research projects in its four Disciplinary Areas: - Electronic Instrumentation and Microsystems; - Control, Automation and Robotics; - Industrial Informatics and Embedded Systems; - Power and Energy Electronics.

DEI participates in teaching projects of the School of Engineering of the University of Minho that contemplate training in several areas, always with a high practical and laboratorial component, having as fundamental objective to train highly qualified Engineers capable of an autonomous work of development and innovation. The participation of DEI in the training of Engineers contributes to the creation and use of new technologies, which improve competitiveness and sustainability in vast areas such as Industrial and Service Robotics, Factory Automation, Electrical Installations, Energy Efficiency, Electrical Machinery, Renewable Energy, Electrical Mobility, Consumer Electronics, Microtechnologies and Microelectronics, Dedicated Microprocessors and Compilers, Software and Multimedia Industry, Information Systems Security, Mobile Cell Networks, Wireless Sensor Networks, Optical Communications Systems and Automotive Electronics.

#### Staff

Category	Total
Emeritus professor	1
Full professor	3
Associate professor with Habilitation	5
Associate professor	4
Assistant professor with Habilitation	1
Assistant professor	14
<b>TOTAL</b>	<b>28</b>

Category	Total
Senior technician	0
IT specialist	1
IT technician	1
Technical assistant	4
Operational assistant	0
Technical Coordinator	1
<b>TOTAL</b>	<b>7</b>

#### Events

Event	Date	Type
Exhibition of projects and prototypes from the UC Integrative Project	06/02/2025	Exhibition
7ª edição das Jornadas de Engenharia Eletrónica (NEEICUM)	17-20/02/2025	Days
RoboParty 2025	5-7/03/2025	Competition
Exhibition of IoT System Prototypes of Bachelor's Degree in Telecommunications and Computer Engineering	29/05/2025	Exhibition

## Link to Society Projects

Project	Description
Electronic Toys Adaptation for Children with Cerebral Palsy	Adaptation of toys so they can be used by children with cerebral palsy. Over a period of 3–4 days, students from the Automation and Robotics Laboratory adapt electronic toys, which are then delivered to the children. This year, the initiative took place from December 15 to 18, and around 50 toys were adapted.
RoboParty 2025	This is an event dedicated to primary, secondary and vocational schools from across the country, and it also welcomes teams from abroad (Spain, Brazil, China, etc.). The event aims to motivate young people towards technological fields and to teach them how to build and program a mobile and autonomous robot. Around 500 young participants take part in the event. This year, it took place from March 5 to 7.
STEAMigPOWER - STEAM approaches at higher education for mIGrants, refugees and asylum seekers' empowerment	Considering the large number of migrants that the European Mediterranean countries are receiving, especially since the migration crisis in 2015, and strongly believing that Higher Education Institutions (HEIs) should have a fundamental role and responsibility in their socioeconomic integration, the project proposes to develop the STEAMigPOWER Program, composed by several STEAM courses focused on Environment and Fight against Climate Change but also covering topics like EU Civic Integration and Digital Storytelling. The STEAMigPOWER Program will be delivered online and in person to migrants, refugees, and asylum seekers resettled in partner countries, with priority given to refugee women and pupils.
ALIANÇA de Pós-Graduação – Competências para o futuro PRR / Next Generation EU – Impulso Adultos	“Curso de Formação Especializada Sistemas Mecatrónicos I4.0 (SMI4.0)” – Participação de docentes do DEI no Curso de Formação Especializada Sistemas Mecatrónicos I4.0 (SMI4.0), promovido pela Universidade do Minho, dirigido a membros da empresa ZF, que pretendem obter e/ou atualizar conhecimentos na área de sistemas elétricos e eletrónicos.

### Most relevant 2<sup>nd</sup> cycle dissertations

Student	Supervisor 1	Supervisor 2	Thesis Title	Program	Company Involved
Daniel Joaquim Martins Rodrigues	Estela Bicho Erhagen	Gianpaolo Gulletta	Human-like Motion Planning for Uni and Bimanual Anthropomorphic Robotics Assistants	Master in Industrial Electronics and Computers Engineering	SONAE MC (through project PT SMART RETAIL)
Ana Carolina Coelho Lopes	António Fernando Ribeiro	Agostinho Teixeira Lopes	Multi-Camera Localisation System on Soccer Robots with Neural Networks	Master em Industrial Electronics and Computers Engineering	
João Miguel Gomes Dias	José Gabriel Pinto	Luis Magalhães de Barros	Development of a battery pack with integrated BMS for a competition electric vehicle	Master em Industrial Electronics and Computers Engineering	
Mário Pedro Magalhães Marinho	Sérgio Monteiro	Sérgio Lopes	SLAM through sensor fusion with odometry and Wi-Fi-based trilateration to improve mobile robot localization	Master in Telecommunications and Informatics Engineering	
Tiago Filipe Correia Lobão	José Cabral	Sérgio Lopes	Automatização de Processos Operacionais em E-commerce: Uma Solução Web de Backoffice	Master in Telecommunications and Informatics Engineering	
Diogo José Ferreira Cerqueira	José Cabral	Marcos Martins	Acoustic Communication System for Underwater Environments	Master in Telecommunications and Informatics Engineering	
Filipe Maurício dos Santos Ferreira	Susana Catarino	Rui Lima	Sistema microflúidico multiplexer para mistura e transporte de amostras salivares (Multiplexer microfluidic system for mixing and transport of salivary samples)	Master in Micro and Nanotechnologies	
Hugo Miguel Moreira Lopes	Paulo Mateus Mendes	Hugo Dinis	Development and testing of a millimeter wave system for brain tissue classification	Master in Biomedical Engineering	
Andreia Martins	Carlos Lima		Designing new quality metrics for colonoscopy video using explainable AI techniques	Master in Biomedical Engineering	
Inês Costa Duarte	Alexandre Ferreira da Silva	Alina Kohler	Wireless Electrical System Integration into a Stent	Master in Biomedical Engineering	
Pedro Nuno Reis Andrade	Alexandre Ferreira da Silva		Development and integration of sun sensors pyramidal arrays on PROMETHEUS-1 for attitude determination	Master in Aerospace Engineering	

<b>Student</b>	<b>Supervisor 1</b>	<b>Supervisor 2</b>	<b>Thesis Title</b>	<b>Program</b>	<b>Company Involved</b>
Hugo Manuel Ferreira Novais	Paulo Novais (DI)	Alexandre Ferreira da Silva	Iberian Peninsula Tree Specie Mapping using Machine Learning Methods on Earth Observation Satellite Images	Master in Aerospace Engineering	GeoSat
Dara Cristina Fidelis Sabino Machado	Susana Oliveira Catarino	Diana Domingues de Pinho	Design and development of a 2D clinostat for microgravity simulation in Lab-on-a-Chip devices	Master in Engineering Physics	
Ricardo Jorge Osório Machado	Eliana Fernandes Vieira		Otimização de ligas não convencionais de Ge-Sb-Se-Te para metalentes no infravermelho	Master in Engineering Physics	
André Cruz Viegas	Paulo Mateus Mendes	Hugo da Costa Dinis	Design and Characterization of a Mobile Objects Tracking Device Based on MMW Technologies	Master in Engineering Physics	

#### 4.5.4 – Department of Mechanical Engineering

The Mechanical Engineering Department (DEM) is a structural sub-unit of the School of Engineering of the University of Minho. Its mission is the development of the main areas of Mechanical Engineering through three vectors: graduate and post-graduate teaching, research and development, partnerships with industry. Its main teaching project is the Integrated Master in Mechanical Engineering which represents approximately 60% of the teaching activity of DEM.

It also participates in other relevant projects such as the Integrated Masters in Biomedical Engineering and Materials Engineering. All these projects are structured according to the Bologna Protocol.

The DEM is associated with 3 subject areas: Thermofluidics and Energy Technologies; Design, Automation and Mechanical Technology; Metallurgy and Materials Mechanics. The research activities are framed in the METRICS and CMEMS research centres.

The Department collaborates actively with the CVR - Centre for the Valorisation of Waste (the President of the Board of Directors is a professor at DEM - Prof. Cândida Vilarinho).

#### Staff

Category	Total
Emeritus professor	0
Full professor	4
Associate professor with Habilitation	3
Associate professor	5
Assistant professor with Habilitation	0
Assistant professor	10
<b>TOTAL</b>	<b>22</b>

Category	Total
Senior technician	4
IT specialist	0
IT technician	0
Technical assistant	3
Operational assistant	0
Technical Coordinator	0
<b>TOTAL</b>	<b>7</b>

#### Events

Event	Date	Type
“Builder’s day”	26/03/2025	Lesson
“Industrialisation and Product Development”	28/03/2025	Lecture
Open Day - Promoting Formula Student and DEM	28/03/2025	Days
Mechanical Engineering Days	31/03 - 01/04/2025	Days
Product Development Workdays	30/05/2025	WorkDays

## Link to Society Projects

Project	Description
Study Visit to Enercon GmbH	As part of the Materials and Structures for Aerospace Applications course in the Aerospace Engineering degree programme, a visit was made to Enercon GmbH in Viana do Castelo.
Study Visit to Firmago	As part of the Materials Selection course, part of the Master's Degree in Mechanical Engineering, specialising in Mechanical Construction Design, a study visit was made to the company Firmago.
Study Visit to Nexteam	Study Visit to Nexteam. Students from the Materials and Structures for Aerospace Applications course, from the Aerospace Engineering program at the University of Minho, carried out a study visit to Nexteam, in Arcos de Valdevez, a leading company in the high-precision machining of aluminum components and composite materials for the aeronautical, aerospace, and industrial sectors.
Presentation	Students from the Master's program in Mechanical Engineering at EEUM presented demonstrators of technologies related to clean energy and land and aerospace propulsion.
Presentation	Final Presentation of Group Projects for the UC (Course Unit) Signal Acquisition and Processing.

### Most relevant 2<sup>nd</sup> cycle dissertations

Student	Supervisor 1	Supervisor 2	Thesis Title	Program	Company Involved
Tiago Reis Cunha	Óscar Carvalho	Nuno Fernandes	Desenvolvimento e Parametrização de Estruturas Celulares para Controlo de Transmissão de Cargas Dinâmicas	Integrated Master in Mechanical Engineering	
Joaquim Tiago da Costa Cunha	Pedro Lima Marques	Vitor Rebelo Lopes	Projeto Mecânico Estrutural de um Transformador de Potência: Simulação e Validação	Master in Product Engineering	
Gabriela Oliveira Couto	Óscar Carvalho	António Vilela Pontes	Desenvolvimento de um Metamaterial Reticulado para Atenuação Acústica e Ventilação utilizando Impressão 3D	Master in Product Engineering	
Giuseppe Lanza	Mosè Rossi,	Luís Martins	EU Energy Transition: Scenarios and Alternative Strategies for Portugal and Italy Using EnergyPLAN	Master in Mechanical Engineering	Universita' Politecnica Delle Marche Facoltà di Ingegneria
Carlos Miguel Oliveira Araújo	Luís Martins		Pressure-Reducing Station in the Former Drinking-Water Reservoir at Eicherknëppchen in Luxembourg City	Master in Mechanical Engineering	Ville de Luxembourg, Service Eaux
Margarida Santos Pereira	Francisco Brito	Luís Martins	Energy Analysis and Potential Synergies between a Biogas Production Plant and a Feed Factory	Master in Mechanical Engineering	Technologies New Energy - TNE
Ana Beatriz Magalhaes Gomes	Nuno Valel (FMUP)	Eurico Seabra	Pharmacokinetics of Tamoxifen in Breast Cancer and Osteoporosis: A PBPK Model Approach	Integrated Master in Biomedical Engineering	Faculdade de Medicina da Universidade do Porto
Beatriz Gonçalves Soares de Aguiar	Nuno Dourado		Numerical and Experimental Study of the Fatigue Behaviour of Cortical Bone Tissue Under Mode II Loading	Integrated Master in Biomedical Engineering	
Maria Helena Martins Paiva Matos Pereira	Elisabete Fernandes (INL)	Diana Pinho	Advancing Early Detection of Gastric Cancer: Saliva Biomarkers and Point-of-Care Technology	Integrated Master in Biomedical Engineering	INL – International Iberian Nanotechnology Laboratory
Pedro Nuno Reis Andrade	Alexandre Ferreira da Silva	Estela Bicho Erlhagen	Development and integration of sun sensors pyramidal arrays on PROMETHEUS-1 for attitude determination	Master in Aerospace Engineering	
João Pedro Sá Gomes	Gustavo Rodrigues Dias	Francisco Pimenta Brito	Preliminary Design of a Hybrid Rocket Engine	Master in Aerospace Engineering	
André Fernando Cruz Costa	Francisco Pimenta Brito	Francisco Brojo	Avaliação de Desempenho de um Motor a Pistão de uma Aeronave".	Master in Aerospace Engineering	

Student	Supervisor 1	Supervisor 2	Thesis Title	Program	Company Involved
Hugo Manuel Ferreira Novais	Alexandre Ferreira Silva	Paulo Oliveira Novais	Thematic forest species map in the iberian peninsula using artificial intelligence and remote sensing	Master in Aerospace Engineering	GEOSAT
Bernardo Domingues dos Santos	Nuno Maia Peixinho	Nuno Matos	Topology and Layup Optimization of a Medium Altitude and Long Endurance Unmanned Aerial Vehicle Fuselage Structure	Master in Aerospace Engineering	TEKEVER
Filipa Ramos da Silva	Vanessa Fernandes Cardoso		Desenvolvimento de scaffolds multimateriais biossustentáveis para aplicação em engenharia de tecido	Master in Materials Engineering	
Tânia Daniela Cardoso Bastos	Anibal Guedes		Comportamento à Corrosão e ao Desgaste de Ligas de Alta Entropia CoCrFeNi-x (x = Mn, Cu)	Master in Materials Engineering	

#### 4.5.5 – Department of Polymer Engineering

The Polymer Engineering Department (DEP) was founded in 1978 to support the national plastics industry through a specific degree and the creation of a body of experts in polymer engineering. Since then, training actions at various levels have been developed, research on various topics of Polymer Science and Engineering through the Research Centres to which its teachers belong (IPC - Instituto de Polímeros e Compósitos) and cooperation with national and foreign companies.

This intense activity has allowed the implementation of well-equipped laboratories dedicated to the characterisation of materials at various scales, processing, measurement of properties, digital manufacturing and numerical modelling. The global quality and relevance of the activity are recognized nationally and internationally.

Currently, the teaching staff is composed of 13 members, all with PhD degrees and belonging to the discipline area Science and Engineering of Polymers and Composites. The activity is supported by 5 administrative/technical staff.

#### Staff

Category	Total
Emeritus professor	1
Full professor	1
Associate professor with Habilitation	1
Associate professor	3
Assistant professor with Habilitation	2
Assistant professor	5
<b>TOTAL</b>	<b>13</b>

Category	Total
Senior technician	3
IT specialist	0
IT technician	0
Technical assistant	2
Operational assistant	0
<b>TOTAL</b>	<b>5</b>

#### Events

Event	Date	Type
Jornadas Engenharia de Polímeros 2025	22/04/2025	Days
DEP Open Day 2025	06/02/2025	Days
Presentation of the Individual Project by students of the Master's Degree in Polymer Engineering	12/12/2025	Presentation
Dia aberto do DEP	02/04/2025	Days
Dia aberto do DEP	23/04/2025	Days

## Link to Society Projects

Project	Description
Ciência Viva Clubs with Middle/High Schools	The Department of Polymer Engineering has agreements with almost 20 Middle/High Schools from the North of Portugal to promote joint activities related to Polymer Science and Engineering, and to support their students interested in these areas of knowledge.
Agreement the Plastic and Mould Industry	The Department of Polymer Engineering has an ongoing agreement with the Plastics and Moulds industry to cover the tuition fees of all students admitted to the Bachelor in Polymer Engineering program. The agreement also includes a tutor from the associated company and internships for students during the summer holidays.

## Most relevant 2<sup>nd</sup> cycle dissertations

Student	Supervisor 1	Supervisor 2	Thesis Title	Program	Company Involved
Guilherme da Costa Marques	Júlio Machado Viana		A relação entre as variáveis operatórias e a qualidade da peça.	Integrated Master in Polymer Engineering	
Samuel Moreira Araújo	Zlatan Zlatev Denchev	Nadya Dencheva	Imobilização de Pectinases em Micropartículas de Poliamida para Aplicação na Clarificação de Mostos de Vinho Rosé	Integrated Master in Polymer Engineering	
Diogo Francisco Mesquita Silva Moreira	Carla Correia Martins	Eng. Manuel Castro	Reciclagem mecânica de POM para aplicações na indústria automóvel	Integrated Master in Polymer Engineering	Fico Cables
Rui Miguel Simões Dias	Olga de Sousa Carneiro		Moldação por injeção de componentes com gradiente de transparência	Master in Polymer Engineering	
Camila Fernandes Pereira	Carla Correia Martins		Estudo de aditivos organoléticos e repelentes de insetos para produtos plásticos rotomoldados	Master in Polymer Engineering	
Gabriel do Nascimento Silva	Olga de Sousa Carneiro	Dr. <sup>a</sup> Ana Carla Figueiredo Eng. <sup>a</sup> Inês Ribeiro	O impacto dos materiais reciclados numa indústria de embalagens plásticas	Master in Polymer Engineering	Plastirso
Fernanda de Almeida de Carvalho	Sacha Trevelyan Mould	Eng. <sup>a</sup> Ana Cortez	Leak Testing in Plastic Components	Master in Polymer Engineering	Celoplás
João Lages Coelho	Maria da Conceição Paiva	Dr. <sup>a</sup> Silvia Santos	Estudo e caracterização de resinas epóxi com elevada condutividade térmica	Master in Polymer Engineering	Vishay Eletrónica Portugal, Lda
Rui André Vieira da Silva	Carla Correia Martins		Integração de resíduos industriais no uso sustentável de borrachas para solas de calçado	Master in Polymer Engineering	

Student	Supervisor 1	Supervisor 2	Thesis Title	Program	Company Involved
Francisco José da Silva Pereira	Carla Correia Martins		Seleção e caracterização de materiais plásticos para reservatório interior de tanques de hidrogénio tipo IV	Master in Polymer Engineering	
Carlos Manuel Machado Pereira	António Gaspar Cunha		Projeto de moldes de injeção usando técnica de inteligência artificial: integração de modelação numérica, técnicas de análise de dados e otimização multiobjetivo	Master in Polymer Engineering	
Daniel Santos da Cunha	Carla Correia Martins	Braian Buitrago Uribe	Liner-boss adhesion analysis for applications in high-pressure hydrogen storage reservoirs	Master in Polymer Engineering	
Paulo Diogo Almeida Freitas	Maria da Conceição Paiva	Eng. Óscar Brosque	Avaliação da possibilidade da implementação de um procedimento de reciclagem primária na produção de peças injetadas em POM	Master in Polymer Engineering	OLI
Inês Carreira Pedrosa	Ana Vera Nóbrega	Eng.ª Catarina Dias	Qualificação de novo produto segundo o Regulamento de Produtos de Construção (CPR)	Master in Polymer Engineering	NKT
João Pedro Carvalho Gomes	Braian Buitrago Uribe	Carla Correia Martins	Revestimento interno de liners termoplásticos produzidos por moldação rotacional para aplicações em reservatórios de alta pressão	Master in Polymer Engineering	
José Guilherme da Silva Maia	Loic Gilles Hilliou	David do Vale Melo	Desenvolvimento de um couro sintético em TPE otimizado à formação de defeitos superficiais	Master in Polymer Engineering	TMG Automotive
Magda Gil Gonçalves Soares	Sacha Trevelyan Mould	Daniel Dias	Impacto do reprocessamento do ABS nas propriedades de produtos para o setor automóvel	Master in Polymer Engineering	Sarreliber
Sofia Silva Martins	Júlio Machado Viana	Eng. Pedro Pereira e Tiago Cerqueira	Redução de Desperdícios na Produção de Componentes para o Sector Automóvel	Master in Polymer Engineering	COPEFI

#### 4.5.6 – Department of Textile Engineering

The Department of Textile Engineering (DET) was founded in 1976, with the aim of meeting the needs of the Portuguese textile industry, becoming the reference in Higher Education in Portugal with regard to the textile sector. The training provided through the courses offered by DET addresses the latest and most innovative subjects, thanks to the close collaboration with 2C2T, to which its teachers belong as integrated researchers, providing adequate knowledge and skills to deal with current challenges to its graduates.

Currently DET offers training in the area of textile engineering through its degree and master's degree in Textile Engineering, with two specializations, as well as training in the area of design for fashion, with a degree in Fashion Design and Marketing and master's degrees in Communication Design for Fashion and Design and Marketing of Textile Products, Apparel and Accessories. The courses involve teaching methods based on integrative projects, inspiring students to develop innovative textile products, relating the knowledge acquired in the different technological areas, to respond to the increasingly demanding needs of the sector.

DET also collaborates in the master's courses in Product Engineering, Quality Engineering and Management, Human Engineering, and in the degrees of Industrial Management and Engineering, Product Design, Visual Arts and Chemistry.

DET actively participates with society, through dissemination actions of various natures, such as lectures, workshops, visits and receptions of secondary schools, days in collaboration with the student groups associated with the courses it offers, fashion shows, providing students and making known to the community what is done within the scope of DET.

#### Staff

Category	Total
Emeritus professor	0
Full professor	1
Associate professor with Habilitation	0
Associate professor	7
Assistant professor with Habilitation	0
Assistant professor	7
<b>TOTAL</b>	<b>15</b>

Category	Total
Senior technician	3
IT specialist	0
IT technician	0
Technical assistant	2
Operational assistant	0
<b>TOTAL</b>	<b>5</b>

## Events

Event	Date	Type
V Jornadas Engenharia Têxtil - O Poder do Têxtil	19-21/03/2025	Days
10ª edição do UModa - Teatro Jordão, Átrio das Salas de Bandas de Garagem	06/06/2025	Presentation
Concurso Eco-Design 25: criatividade, sustentabilidade e partilha! parceria com o El Corte Inglés Portugal	11/07/2025	Contest
Exposição no Espaço Guimarães - MODA (RE)FEITA - Projetos Design Moda 3º ano	14-23/06/2025	Exhibition
Do Campus da UMinho para o Mundo Têxtil	29/05/2025	Workshop

## Link to Society Projects

Project	Description
Scholarship by AcTex - Academia do Têxtil   TexFuture	On October 10, 1st year Textile Engineering student Mariana Teles was awarded a scholarship by AcTex - Academia do Têxtil. This scholarship includes summer internships at AcTex's partner companies. This collaboration between the Textile Academy and the University of Minho is fundamental for the professional development of our students and strengthens the link between academia and industry
Fashion Design and Marketing degree course students create sustainable uniforms	As part of a protocol between the University of Minho and El Corte Inglés Portugal, the second edition of the competition has been launched during 2025 for third-year students on the Fashion Design and Marketing degree course. The challenge? To create sustainable uniforms for the restaurant sector using recycled textiles.
Colégio São Gonçalo, from Amarante, visit DET	On April 3rd, the Department of Textile Engineering received 44 students and 3 professors for a morning dedicated to sustainability in the textile industry. The students were then divided into groups and explored, in an interactive way, various sustainable projects and activities developed in our department
Experts participation in lawsuits	The Dep. Textile Engineering designates a significant number of experts for evaluations integrated in lawsuits. This year, experts participated in 5 new lawsuits and another 3 still ongoing since previous years.
Fashion Design Project I: Performative Fashion Inspired by Luis Sepúlveda	This annual project demonstrates DET's commitment to offering training that combines theory and practice, challenging students to think "outside the box" and integrate different disciplines. Each year, the choice of new narratives provides a renewed experience, allowing students to explore different perspectives and themes in fashion design.

### Most relevant 2<sup>nd</sup> cycle dissertations

Student	Supervisor 1	Supervisor 2	Thesis Title	Program
Helena Prado Felgueiras	Andrea Zille		Extraction of matter from cotton textile wastes and its application in the reinforcement of spun fibers	Master in Textile Engineering, Engenharia Têxtil, Area of Specialisation Advanced Materials and Technologies
Rita Barros Böttcher	Diana Pereira Ferreira	Sofia Soares da Costa	Development of algae-based formulations for functionalizing and dyeing textiles	Master in Textile Engineering, Engenharia Têxtil, Area of Specialisation Advanced Materials and Technologies
Duarte Rodrigues Brás	Diana Pereira Ferreira	Ana Catarina Silva	Eco-design of clothing with recycled fibers from post-industrial and pre-consumer waste	Master in Textile Engineering, Engenharia Têxtil, Area of Specialisation Advanced Materials and Technologies
Catarina João Cardoso da Costa	Ana Cristina Broega	Paulo Jorge Salgado	Audiovisual Narratives: Fashion Advertising Campaigns for Sustainability	Master in Fashion Communication Design
Maria Inês Mota Barros	André Paulo Catarino	Paulo Jorge Salgado	Visual Merchandising and its Impact on Plus Size Consumers' Purchasing Decisions: Boutique da Tereza Case Study	Master in Fashion Communication Design
Sara Alexandra Lopes Lança	Maria Graça Guedes		The communication of Fashion Weeks: A case study on Paris Fashion Week	Master in Fashion Communication Design
Daniela Alexandra Duarte Castro	Joana Cunha		Modular Design in the Fashion Industry	Master in Design and Innovation of Textile Products and Accessories
Tatiana Fernandes Alves	Maria da Graça Guedes		The role of design in the preservation and valorisation of culture in the fashion industry, within the context of sustainability	Master in Design and Innovation of Textile Products and Accessories

#### 4.5.7 – Department of Informatics

The mission of the Department of Informatics of the University of Minho (DIUM) is the dissemination of knowledge (foundations, methods and applications) in the areas of Computer Science and Software Engineering, with a particular emphasis on Computer Programming, Verification and Security, Artificial Intelligence, Distributed and Reliable Systems, Information Security and Cryptography, High-Performance Computing, Software Engineering, Logic and Formal Methods, Data Science, Intelligent Systems, and Communications and Computer Networks. It promotes a rigorous approach to computer problem solving based on the adoption of formal models and systematic methods of analysis and development. It fulfills its mission by teaching undergraduate, graduate and postgraduate courses – at master and doctorate levels– and carrying out research and development projects in articulation with different research centers, namely the Center Algoritmi and INESC TEC.

The excellence of the different academic degrees offered by DIUM is witnessed by their ever-increasing attractivity nationwide, as well as by exceptional and continuous demand of DIUM graduates by national and foreign employers. DIUM degrees are backed by an internationally recognised research record carried on in the research structures mentioned above, and several partnerships with external institutions from the International Iberian Nanotechnology Laboratory (INL) to the United Nations University (UNU-EGOV). This makes DIUM a huge training and research ecosystem involving academic staff, researchers, several doctoral students and post-doc fellows. The department is managed by a director and a deputy director, supported by a team of directors of studies and representatives in course directorates, and in close articulation with the students' associations.

#### Staff

Category	Total
Emeritus professor	1
Full professor	6
Associate professor with Habilitation	8
Associate professor	8
Assistant professor with Habilitation	2
Assistant professor	31
<b>TOTAL</b>	<b>56</b>

Category	Total
Senior technician	2
IT specialist	2
IT technician	1
Technical assistant	2
Operational assistant	0
<b>TOTAL</b>	<b>7</b>

## Events

Event	Date	Type
Jubilation ceremony of José Nuno Oliveira and Pedro Henriques	14/11/2025	Jubilation
CESIUM 30th anniversary	29/03/2025	Anniversary
Semana da Engenharia Informática (SEI)	11-14/02/2025	Days
Bioinformatics Open Days	26-28/03/2025	Days
Hackathon	13-15/02/2025	Hackathon

## Link to Society Projects

Project	Description
Escola Secundária Padre Benjamim Salgado, V. N. de Famalicão	Visit from High School Padre Benjamim Salgado, from Vila Nova de Famalicão, to the Department of Informatics, on january 2025.
Escola Secundária Emídio Navarro, de Viseu	Visit from High School Emidio Navarro, from Viseu, to the Department of Informatics, on march 2025.
Escola Secundária Francisco de Holanda, de Guimarães	Visit from High School Francisco de Holanda, from Guimarães, to the Department of Informatics, on may 2025.
Escola Secundária D. Afonso Henriques (AEDAH), de Vila das Aves	Visit from High School D. Afonso Henriques (AEDAH), de Vila das Aves, to the Department of Informatics, on november 2025.
3º Edição do Coder Camp	Volunteer group teach children and young people how to programme in a fun way during the summer holidays.

## Most relevant 2<sup>nd</sup> cycle dissertations

Student	Supervisor 1	Supervisor 2	Thesis Title	Program	Company Involved
Christian Philipe de Barros da Silva Neitzel	Óscar Manuel Dias	Hugo Oliveira	Leveraging Artificial Intelligence to Predict Anti-CRISPR Proteins in Bacteriophage Genomes	Master in em Bioinformatics	
Joana Margarida Antunes Lopes	Ana Cristina Braga		Análise de fatores de risco e previsão da doença periodontal com recurso a Machine Learning	Master in em Bioinformatics	
Ricardo Félix Oliveira	Miguel Pereira Rocha		Enhancing Explainability in Machine and Deep Learning Models for Molecular Activity Prediction	Master in em Bioinformatics	OmniumAI Lda
Ana Patrícia Rodrigues Costa	Dalila Alves Durães	Paulo Jorge Novais	Developing AI-driven Virtual Assistants with Large Language Models to Improve Athlete Performance	Master in Biomedical Engineering – Medical Informatics	
Inês Margarida Sousa Mendes	António Silva Abelha	Hugo Abreu Peixoto	Development of Machine Learning Models for Optimizing Amblyopia Screening in the Portuguese National Health System	Master in Biomedical Engineering – Medical Informatics	
Mariana de Almeida	Hugo Abreu Peixoto		Backend Development and Infrastructure Management for a Mobile App Facilitating a Global Volunteer Network	Master in Biomedical Engineering – Medical Informatics	

Student	Supervisor 1	Supervisor 2	Thesis Title	Program	Company Involved
Bruna Filipa Martins Salgado	Renato Neves		Metric lambda-calculus with conditionals: quantum, probabilities and beyond	Master in Engineering Physics – Information Physics	
Gabriel Sora Costa	Luís Paulo Santos	André Sequeira	Reinforcement Learning with Parameterized Quantum Circuits	Master in Engineering Physics – Information Physics	
Diogo Alexandre Silva Ramos	Luís Paulo Santos	André Sequeira	Parametrized Quantum Circuits for Estimating BRDFs	Master in Engineering Physics – Information Physics	
Afonso Miguel Matos Bessa	Paulo Jorge Novais		Using Deep Learning Models to Improve Decision-Making Process in Wastewater Treatment Plants	Master in Informatics Engineering	
Luis Alberto Barreiro Araújo	Victor Rodrigues Alves	Tiago Gil Oliveira	Structural and Functional Analysis of Brain Maps in Alzheimer's Disease	Master in Informatics Engineering	
Mariana Filipa da Silva Rodrigues	José Junqueira Almeida		Ecosystema European Digital Identity Wallet - subsistema rQES (remote Qualified Electronic Signature)	Master in Informatics Engineering	
Inês Gonçalves Faria	Victor Rodrigues Alves	Nicolás Francisco Lori	Otimização da Pipeline e do Modelo para Prever a Recorrência de Metástases Cerebrais após Tratamento com Radioterapia	Integrated Master in Biomedical Engineering - Medical Informatics	
Mariana Dias Fernandes	José Ferreira Machado	José Dias dos Reis	Aplicação Web Interoperável para Avaliação do Dano Corporal baseada em openEHR	Integrated Master in Biomedical Engineering - Medical Informatics	
Morgana Sacramento Ferreira	Víctor Manuel Rodrigues Alves	Jana Berit Nieder	Abordagens de aprendizagem máquina para um novo tipo de técnica de microscopia de imagiologia médica baseada na utilização de fontes laser ultra-rápidas	Integrated Master in Biomedical Engineering - Medical Informatics	INL – International Iberian Nanotechnology Laboratory - Braga
Ana Elisa Sá Araújo	Adriano Jorge Moreira	Filipe Miguel Meneses	Qualidade, integridade e confiabilidade de soluções para Smart Home	Integrated Master in Telecommunications and Informatics Engineering	
Filipe Emanuel Vilaça Oliveira Peixoto	Maria João Nicolau	António Duarte Costa	Cooperative Simulation Framework for V2X-Based Collective Perception Applications	Integrated Master in Telecommunications and Informatics Engineering	
Tiago José Alves de Sousa	Maria João Nicolau	Vinicius Ferreira	Arquitetura de Conectividade Multi-Tecnologia para mobilidade urbana	Integrated Master in Telecommunications and Informatics Engineering	

#### 4.5.8 – Department of Production and Systems

The Production and Systems Department (DPS) is an organic subunit of the School of Engineering of the University of Minho, having its origin in the Production and Systems area created in 1976. DPS has a highly qualified and committed PhD teaching staff that assure the quality of the teaching/learning process. The Production and Systems Area was pioneer in the teaching of Industrial Engineering and Management in Portugal, known at the time as Production Engineering, in courses that had as main objective to train Engineers able to deal with the problems of optimization and rationalization of resources in small and medium size industry. The Department is currently responsible for a first degree in Industrial Engineering and Management followed by a second-degree course in the same area. Furthermore, DPS holds four second degree teaching projects, integrates the board of another second cycle teaching project and holds a PhD program in Industrial and Systems Engineering.

At present, the DPS' mission is to generate, disseminate and apply scientific and technological knowledge in the fields of Systems Engineering and Industrial Processes and Management and Technology, thus contributing to the achievement of the mission of the School and the University of Minho. The main objective of the courses taught is to train staff, not only with technical and scientific skills in the area of Industrial Engineering and Management (production organization, production planning and control, quality, logistics, costs, optimization, information systems, hygiene and safety, project management, computer-assisted manufacturing, etc.), but also with transversal skills (team work, leadership, conflict management, communication, etc.), capable of guaranteeing a competitive performance for the productive systems of the companies where they are inserted.

#### Staff

Category	Total
Emeritus professor	0
Full professor	2
Associate professor with Habilitation	6
Associate professor	10
Assistant Professor with Habilitation	2
Assistant professor	22
<b>TOTAL</b>	<b>42</b>

Category	Total
Senior technician	1
IT specialist	1
IT technician	1
Technical assistant	3
Operational assistant	0
Technical Coordinator	1
<b>TOTAL</b>	<b>7</b>

## Events

Event	Date	Type
Project Management Workshop 2025 MGPE	10/01/2025	Workshop
25th International Conference on Computational Science and Applications (ICCSA 2025)	30/06/2025 - 03/07/2025	Workshop
2nd Edition of the Quality Conference	19/02/2025	Conference
Summer School on Quality and Organizational Excellence	02-04/07/2025	Summer School
Workshop of the Doctoral Programme in Industrial and Systems Engineering	05/06/2025	Workshop

## Link to Society Projects

Project	Description
Prémio SPINUM 2025 TecMinho	First-year LEGI students won the prize for best pitch in the TecMinho SPinUM competition. They presented the idea they developed in PIEG11 to remanufacture discarded footwear into car mats.
Erasmus+ Staff Mobility week on Innovation and Entrepreneurial Ecosystems	Provide participants with the knowledge and tools to understand, develop and implement effective innovation and entrepreneurial ecosystems in their universities and learn from sharing the experience and the vision of the participants on such ecosystems, promoting the creation of synergies, partnerships and networking in this domain.
European Green Capital 2026 - Guimarães	Director of the Department of Production and Systems at the School of Engineering, Professor Paulo Sampaio, along with Professor Nelson Costa, Professor Celina Pinto Leão and Professor Rui Lima, were invited to join the Scientific Committee for Guimarães European Green Capital 2026.
Masterclass "Non-Artificial Intelligence, building the future" with Nuno Reis	Let's explore everything a little: from engineering to sales psychology, from AI to Blockchain, from hackathons to unicorns, from universities to Wall Street... And above all, let's focus on those things that are almost never taught in class, but that will make all the difference.
Sessão de divulgação científica	F. Alvelos, Mathematics Afternoons – Odd Conversations, 'How to attack in the right places: optimisation in forest fires', Portuguese Mathematical Society, UC Exploratory, 12 July 2025.

## Most relevant 2<sup>nd</sup> cycle dissertations

Student	Supervisor 1	Supervisor 2	Thesis Title	Program	Company Involved
Inês Filipa dos Santos Nunes	Anabela Pereira Tereso		Aplicação de Metodologias Híbridas na Gestão do APQP (Advanced Product Quality Planning) em Componentes Críticos com Restrições de Tempo na Indústria Automóvel	Master in Engineering Project Management	BorgWarner Inc
Márcia Raquel Cardoso Carneiro	Ângela Silva		Transformação digital numa empresa do setor da madeira e mobiliário: integração de um Manufacturing Execution System	Master in Engineering Project Management	BEC-Carpintaria, Unipessoal Lda.
Lucas Mendes Gonçalves	Anabela Pereira Tereso	João Pedro Couto	Estudo de Caso sobre a Aplicação de Metodologias de Gestão de Projetos numa Empresa de Construção: práticas e impactos	Master in Engineering Project Management	Grupo Casais
Diana Félix de Castro	Nélson Costa	Barbara Estudillo	Integração de fatores organizacionais na segurança do trabalho: uma abordagem sistémica no setor do retalho alimentar.	Master in Human Engineering	ERASMUS
Beatriz Isabel Carvalho Ferreira	Paula Carneiro	Ana Colim	Avaliação ergonómica de posturas e movimentos para prevenção de LMERT	Master in Human Engineering	

Student	Supervisor 1	Supervisor 2	Thesis Title	Program	Company Involved
João Miguel Martins Costa	Rui Lima		Análise e Melhoria da Logística Interna na Produção de Equipamentos de Esterilização e Desinfecção Hospitalar	Master in Engineering and Operations Management – Industrial Management	PROHS
Ana Rita Rebelo Caleiro Da Costa	Elsa Silva		Otimização de Rotas para o Transporte de Equipamentos e Materiais com Frota Heterogénea numa Empresa de Construção Civil	Master in Engineering and Operations Management – Logistics and Distribution	DST Group
Margarida de Melo Antunes	Anabela Pereira Tereso	Mario Vanhoucke	Melhoria de Cartões de Projeto no Contexto de uma Abordagem Integrada de Gestão de Projetos	Master in Engineering and Operations Management - Project and Innovation Assessment and Management	ERASMUS
Leonor Coelho Ribeiro	Elsa Silva		Otimização do Problema de Roteamento de Veículos com Frotas Heterogéneas e Restrições de Carregamento Integrado com Aprendizagem Automática	Master in Systems Engineering	
Lucie Fernandes Dantas	Carina Pimentel	Ana Oliveira Antunes	Melhoria dos Processos do Desenvolvimento de Novos Produtos na Indústria da Moda	Master in Systems Engineering	ATEPELI
Irina Maria Capitão Moreira de Sá	Rui Lima		Aplicação da Metodologia Lean Six Sigma no Desenvolvimento de um Chatbot de Apoio aos Colaboradores no Setor de Retalho	Master in Industrial Engineering and Management	Worten – Equipamentos para o Lar S.A.
Luís Miguel da Silva Pereira	Maria Sameiro Carvalho	Carina Pimentel	Desenvolvimento de um Sistema de Qualificação e Avaliação de Fornecedores na Construção Industrializada: Uma Abordagem Multicritério	Master in Industrial Engineering and Management	DST Group
Maria Costa Afonso Coelho Lima	Carina Pimentel	Filipe Alvelos	Modelação Preditiva, Sequenciamento da Produção e Automação de Processos numa Empresa da Indústria Têxtil	Master in Industrial Engineering and Management	LTPLabs

Student	Supervisor 1	Supervisor 2	Thesis Title	Program	Company Involved
Samuel Cruz de Oliveira	Anabela Alves	Paula Carneiro	Melhoria de Processos de Remanufatura Usando Princípios Lean Numa Empresa de Assistência Técnica	Master in Industrial Engineering and Management	Grupo Petrotec
Maria Rosalina de Jesus Gonçalves Matias Correia	José Pedro Domingues		A norma ISO 9001:2015 no contexto da transformação digital: proposta de diretrizes	Master in Quality Engineering and Management	
Diana Raquel de Almeida Ribeiro	Eusébio Nunes	Sérgio Dinis Sousa	Aplicação de ferramentas Lean Six Sigma na melhoria de desempenho de um laboratório acreditado pela norma ISO/IEC 17025	Master in Quality Engineering and Management	
Luana Bavaresco Mello	Isabel Lopes		O papel do Kaizen na melhoria contínua em serviços automotivos	Master in Quality Engineering and Management	

#### 4.5.9 – Department of Information Systems

The Department of Information Systems offers degree programs and training focused on information systems and technologies. Such programs address competencies for a wide range of professional functions that embrace the three pillars of engineering and management of information systems: information technologies, the information processed by those technologies; and the human and social endeavors and situations that encompass the processing of information.

The emerging complexity of the relevant phenomena and professional activities justify the use of systems thinking and systemic approaches. These approaches, combined with other problem-solving strategies like design thinking, are used for the analysis, understanding and redefinition of human activity situations and for the analysis, design and construction of computer-based artifacts. The recognition of the quality of the programs offered by the department is evidenced by the large number of their students and by the abundant and continued demand from domestic and foreign employers for their graduates.

The department seeks to contribute to the advancement of the professional practices in engineering and management of information systems through the development of solutions for information systems and technologies problems and challenges, and through the development of approaches, methods, techniques, and tools for addressing those problems and challenges.

#### Staff

Category	Total
Emeritus professor	0
Full professor	4
Associate professor with Habilitation	7
Associate professor	4
Assistant Professor with Habilitation	1
Assistant professor	16
<b>TOTAL</b>	<b>32</b>

Category	Total
Senior technician	2
IT specialist	0
IT technician	1
Technical assistant	3
Operational assistant	0
Technical Coordinator	0
<b>TOTAL</b>	<b>6</b>

## Events

Event	Date	Type
26 <sup>th</sup> Anniversary of DSI	29/10/2025	Anniversary
Retiro DSI@2025	23/07/2025	DSI Community Day
Practical demonstration of IoT (Internet of Things) system prototypes by students	29/05/2025	Demonstration
TSI2MARKET 2025	08-10/04/2025	Days
XIII Edição Jornadas Comunica+ 2025	31/03/2025 - 02/04/2025	Student's

## Link to Society Projects

Project	Description
The Computer Museum and the Smartphone Museum	Preserving history, promoting equipment and giving them the real importance they had in our lives. At the University of Minho, there are two museums that bring together authentic gems of information technology and smartphones.
Software Engineering Community of Practice (CPES)	CPES aims to promote interdepartmental collaboration in the creation and implementation of joint and complementary objectives based on different teaching units and active learning practices. CPES is a community open to UM lecturers and society at large.
Collaborative development of AI capabilities in SMEs	CoDeAI: aims at extending higher education institutions (HEIs) curricula by an AI capability perspective will help to bridge the innovation gap between higher education and businesses and foster collaboration between HEIs will equip universities with knowledge and important tools to design learning programs aimed to identify and teach skills directly relevant for the job market to their students
Literacy for the digital transformation of family farming	Understand the digital asymmetries of family farmers; develop the digital literacy of family farmers, especially those from the most disadvantaged groups; develop a data collection tool using crowdsourcing techniques; promote the use of technological tools to make the work of family farmers more efficient.
Community of Practice for Programming Education (CoPEP)	The main objective is to achieve a more consistent and widespread improvement in the teaching and learning experience of computer programming courses, both for teachers and students.

### Most relevant 2<sup>nd</sup> cycle dissertations

Student	Supervisor 1	Supervisor 2	Thesis Title	Program
Ricardo Farinha Mateus	Adriano Moreira	Ivo Silva	Algoritmos de navegação pedestre aplicados no contexto dos campi da UMinho	Integrated Master in Telecommunications and Informatics Engineering
Sandro Teixeira Ribeiro	Filipe Meneses	Adriano Moreira	Integração de sensores e atuadores numa plataforma publish/subscribe para Smart Cities	Integrated Master in Telecommunications and Informatics Engineering
Ana Elisa Sá Araújo	Adriano Moreira	Filipe Meneses	Qualidade, integridade e confiabilidade de soluções para Smart Home	Integrated Master in Telecommunications and Informatics Engineering
Ana Catarina Cunha Cerqueira	José Nascimento Silva		Desafios e Oportunidades para a Utilização Secundária de Dados em Saúde: O Contexto Nacional e Europeu	Master in Systems Engineering
Marcelo André Marques Barbosa	Francisco Monteiro Duarte		Desenvolvimento de uma aplicação Mobile-Gestor de tarefas para as assistências aos postos de combustíveis	Master in Systems Engineering
Vasco Cerqueira Vieira	Henrique Manuel Dinis dos Santos		Automatização dos processos de Marketing Digital com recurso a Inteligência Artificial e Prompt Engineering	Master in Systems Engineering
Guilherme José de Sousa Barbosa	Paulo Alexandre Ribeiro Cortez		Um Sistema Inteligente de Planeamento e Otimização de Rotas Multimodais Sustentáveis para Utilizadores Urbanos	Master in Engineering and Management of Information Systems
Leticia Magueija Santos	João Eduardo Quintela Alves de Sousa Varajão		Partilha de Conhecimento como Fator Determinante do Sucesso de Projetos de Sistemas de Informação	Master in Engineering and Management of Information Systems
Tiago Antunes Aguiar Martins	Filipe Miguel Lopes Meneses		Desenvolvimento de uma solução móvel para a promoção da saúde mental positiva	Master in Engineering and Management of Information Systems
João Paulo Rodrigues Afonso	Pedro Abreu Ribeiro		Digitalização de um Modelo de Planeamento no Chão de Fábrica	Master in Engineering Project Management
Diogo António Linhares da Quinta	João Álvaro Carvalho		Projeto CiRM Social - Gestão de Relacionamento	Integrated Master in Engineering and Management of Information System

<b>Student</b>	<b>Supervisor 1</b>	<b>Supervisor 2</b>	<b>Thesis Title</b>	<b>Program</b>
Miguel Alexandre Magalhães Coelho Guise Caldas	Paulo Ribeiro Cortez		Facilitar a Exploração de Dados utilizando Modelos de Linguagem em Grande Escala	Integrated Master in Engineering and Management of Information System
Paulo Jorge Sousa Costa	Henrique Dinis dos Santos		Métricas de segurança de hosts em ambientes industriais	Integrated Master in Engineering and Management of Information System
João Francisco de Araújo e Silva Gomes	Ricardo Magalhães Machado		Desenvolvimento de Arquiteturas de Micro-Serviços para Plataforma de Gestão da Mobilidade de Veículos de 2 Rodas	Integrated Master in Engineering and Management of Information System
Francisca Gonçalves de Freitas Pereira Coelho	Jorge Oliveira e Sá		Data Storytelling e Visualização de Dados: Uma Narrativa Visual para a Tomada de Decisão	Integrated Master in Engineering and Management of Information System
José Pedro Carvalho Saraiva	António Amaro Costa Vieira		Mapeamento e Monitorização Inteligente de Equipamentos Industriais	Integrated Master in Engineering and Management of Information System

## 5 – INNOVATION AND RESEARCH

### 5.1 – FCT Evaluation

Of the nine research centres at the engineering school, seven were rated Excellent and/or Very Good in the latest assessment carried out by the Foundation for Science and Technology in 2023/2024.

**Excellent** – CEB | INESC TEC (HasLab) | IISIE

**Very Good** – 2C2T | ALGORITMI | CMEMS | IPC

**Good** – CTAC | METRICS

### 5.2 – Collaborative and Associate Laboratories

Through its research centres the School of Engineering of the University of Minho collaborates with 9 collaborative laboratories and 4 Associate Laboratories.

<b>Collaborative Laboratories</b>
ADVID Vine and Wine Cluster - CoLAB Vines&Wines
BIOREF - Collaborative Laboratory for Biorefineries
BUILT CoLAB - Digital Built Environment
CECOLAB - Circular Economy
CoLab4Food - Collaborative Laboratory for Innovation in the Agri-Food Industry
DTx - Digital Transformation Colab
L.C.S.D. - Data Colab Association - Collaborative Laboratory for Data-Driven Innovation Services
Rail CoLAB - Collaborative Laboratory for the Future Railway System
VORTEX CoLAB - Collaborative Laboratory in Cyberphysical Systems and Cybersecurity
<b>Associate Laboratories</b>
ARISE - Advanced Production and Intelligent Systems
INESC-TEC Institute for Systems and Computer Engineering, Technology and Science
LABBELS - Associate Laboratory in Biotechnology
LASI - Associate Laboratory for Intelligent Systems

### 5.3 – Interfaces

The School of Engineering of the University of Minho hosts a set of Interfaces, based at the Azurém Campus, which maintain a close working relationship with the School of Engineering, most of them established over a long period. These units constitute dedicated structures for engagement with the socio-economic environment, playing an active role in knowledge transfer and in fostering collaboration with external organisations.

<b>Interfaces</b>
CCG/ZGDV Innovation Institute
CVR - Centre for Waste Valorisation
FIBRENAMICS - Institute for Innovation in Fiber and Composites Materials
PIEP - Centre for Innovation in Polymer Engineering
TecMinho - University-Industry Association for Development

### 5.3 – Research Centre’s Activities

#### 5.3.1 – Centre of Textile and Science Technology – 2C2T

The Centre for Textile Science and Technology (2C2T) is recognized for excellent research in the field of Fibrous Materials Engineering and Design and aims to help society tackle the biggest and most pressing problems and to provide the knowledge base for the continuing viability of the textile value chain for global competition. Nowadays, the Unit involves 47 collaborators and 31 Integrated Researchers organized into two research groups, namely the Fibrous Materials Engineering group and the Fibre-based Product Design group. The Unit's Activity Plan for the next five years is based on a renewed strategy. The new organizational structure of the Unit has a circular and inclusive dimension of three key areas:

i) Sustainability, ii) Digitalization and iii) High-performance applications that include 5 thematic groups: 1) High-Performance Engineered Textiles; 2) Advanced Textile Processes; 3) Sustainable and regenerative fibrous materials; 4) Textile Design & Fashion; 5) Smart Textiles. The concept behind the merger of the research groups with the thematic lines is to foster real and complete inclusiveness and interactivity between the thematic groups to encourage genuine scientific collaboration between the group members.

#### Staff

	Internal	External	Total
PhD full members	17	14	31
PhD associated members	<b>Total</b>		
	2		
Technical staff	<b>Total</b>		
	3		

#### Publications

##### Journals and proceedings (SCOPUS)

Indexed journals (Scimago quartil)	Q1	Q2	Q3	Q4	Non-rated (@ SCOPUS)	Total
	47	22	3	1	2	75
Indexed proceedings	6					

##### Books

Type	International	National	Total
Authoring	-	-	-
Edition	-	-	-
Book of proceedings	1	-	-
Outreach book	-	-	-
Educational book	-	-	-
Non-indexed (@SCOPUS) book	4	0	4

##### Other publications

Non-indexed journals	-
Non-indexed proceedings	27

## PhD

Year	Number of students	Number of doctorates	Number of Pos-Doc
2025	42	33	2

Theses and dissertations	Number
PhD theses completed	3

## Distinctions and dissemination

### Scientific dissemination and Knowledge transfer

National patents	Submitted	Granted	Total
	1	0	1
International patents	Submitted	Granted	Total
	2	0	2

## Achievements

Major achievements	Identification		
Flagship projects	<b>BE@T – Bioeconomia para Têxtil e Vestuário para Reforço da Bioeconomia Nacional</b>	<b>AGENDA GREENAUTO - GREEN INNOVATION FOR THE AUTOMOTIVE INDUSTRY</b>	<b>Antimicrobial and halochromic fiber-based wound dressings using novel pyrimidine-derived molecules</b>
	Project for the development of a sustainable bioeconomy, seeking a paradigm shift for the sector and the creation of high value-added products from biological resources, as an alternative to fossil-based materials.	Aims to transform the national automotive industry in the context of the current transition to low-emission vehicles. The University of Minho's participation is aimed at developing technical textiles, airbag modules and HMI steering wheels for the vehicle.	The main objective of this project is to produce a new generation of smart fiber-based nonwoven wound dressings by the incorporation of novel and biocompatible pyrimidine-derived molecules with both halochromic and antimicrobial properties.
Scientific recognition	<b>Three Researchers from 2C2T Among the Top 2% Most Cited Worldwide</b>	<b>EEUM Diploma of Recognition for Meritorious Scientific Publication 2025</b>	<b>2C2T rated as Very Good by FCT Evaluation</b>
	Helena Felgueiras, Andrea Zille and Raúl Figueiro are among the most cited scientists in the world. They're are among the 69 scientists from UMinho who rank within the top 2% most cited worldwide over the past year, according to a study by Stanford University (USA) and the Elsevier publishing group.	Diana Sara Pereira Ferreira Conceição  Helena Prado Felgueiras  Raúl Manuel Esteves Sousa Figueiro	The University of Minho has seen the quality of its research recognized, after the Foundation for Science and Technology (FCT) announced the provisional results of the evaluation of national R&D Units.
Scientific leadership	<b>Shanghai Global Ranking of Academic Subjects 2025</b>	<b>MAT&amp;S.Lab – Advanced Materials Technologies and Systems Laboratory</b>	<b>Fibrenamics - Institute of Innovation in Fiber-based Materials and Composites</b>
	In the ShanghaiRanking's Global Ranking of Academic Subjects 2025, UMinho achieved its highest-ever ranking in Textile Engineering, securing 22nd place worldwide beign the first European University.	2C2T is founding partner of MAT&S.Lab, a research infrastructure at the Famalicão INHUB dedicated to the development, prototyping, and testing of innovative materials and systems with strong industry ties.	Presidency of Fibrenamics - Institute of Innovation in Fiber-based Materials and Composites

Flagship publications	<b>Enhancing the Structural Health Monitoring (SHM) through data reconstruction: Integrating 1D convolutional neural networks (1DCNN) with bidirectional long short-term memory networks (Bi-LSTM)</b>	<b>Algae-powered innovation: A critical review of sustainable textile dyeing and functionalization strategies</b>	<b>Long-term hydrophilic PDMS surfaces using Brij L4: A simple and robust approach for biomedical applications</b>
	Minh, T. Q., Van, T. N., Nguyen, H. X., & Nguyễn, Q. (2025). <i>Engineering Structures</i> , 340, 120767.	Rocha, V., Pontes, V., Costa, S. M., Figueiro, R., & Ferreira, D. P. (2025). <i>Materials Today Sustainability</i> , 101209.	Gonçalves, I. M., Pinho, D., Borges, J., Vaz, F., Zille, A., Hori, T., ... & Lima, R. (2025). <i>Applied Surface Science Advances</i> , 30, 100904.

### 5.3.2 – ALGORITMI Centre - ALGORITMI

The ALGORITMI is a Research Unit of the School of Engineering, UMinho, that develops R&D activity in Information and Communications Technology and Electronics (ICT&E), spreading into six major fields: (1) Computer Science and Technology (CST); (2) Information Systems and Technology (IST); (3) Computer Communications and Pervasive Media (CCPM); (4) Industrial Electronics (IE); (5) Industrial Engineering and Management (IEM); (6) Systems Engineering and Operational Research (SEOR). This centre is a multi-disciplinary Research Unit, with a heterogeneous international activity, maintaining active exchange programs with universities and research centres all around the world.

The majority of PhD-level researchers of the Centre are also Faculty members of four departments of the School of Engineering, namely: Industrial Electronics (DEI), Information Systems (DSI), Industrial Engineering & Management (DPS) and Informatics (DI). Furthermore, the MSc and PhD projects supervised by those Faculty members are developed at ALGORITMI. ALGORITMI Research Centre focuses its activity on projects that explore a strong link with the community, namely, the industry and the public administration.

Highlights of achievements:

- Aggregation and organization of human and material resources with the necessary quality and dimension to respond to the specific objectives of national scientific and technological policy.
- Response to public policies and scientific challenges, with innovative, technological, economic, social, environmental and wellbeing-related integrated solutions;
- Response to challenges of industry and organizations combining advanced manufacturing processes, smart technologies.
- Promotion of scientific careers for doctorate holders.
- International boost of science and technology activities

#### Staff

	Internal	External	Total
PhD full members	106	15	121
PhD associated members	<b>Total</b>		
	131		
Technical staff	<b>Total</b>		
	4		

#### Publications

##### Journals and proceedings (SCOPUS)

	Q1	Q2	Q3	Q4	Non-rated (@ SCOPUS)	Total
Indexed journals (Scimago quartil)	168	117	25	18	7	335
Indexed proceedings	378					

### Books

Type	International	National	Total
Authoring	-	-	-
Edition	-	-	-
Book of proceedings	-	-	-
Outreach book	-	-	-
Educational book	-	-	-
Non-indexed (@SCOPUS) book chapters	33	-	33

### Other publications

Non-indexed journals	32
Non-indexed proceedings	4

### PhD

Year	Number of students	Number of doctorates	Number of Pos-Doc
2025	104	252	12

Theses and dissertations	Number
PhD theses completed	27

### Distinctions and dissemination

#### Scientific dissemination and Knowledge transfer

National patents	Submitted	Granted	Total
	-	-	0
International patents	Submitted	Granted	Total
	-	2	2

#### Participation in collaborative laboratories

DTx - Digital Transformation Colab
L.C.S.D. - Data CoLab Association - Collaborative Laboratory for Data Drive Innovation Services
ProChild

## Achievements

Major achievements	Identification		
Flagship Publications	<b>Drug–drug interaction extraction-based system: An natural language processing approach</b>	<b>Solid-state transformer: The catalyst for resilient and sustainable smart grids</b>	<b>A novel human-centered methodology for assessing manual-to-collaborative safe conversion of workstations</b>
	Machado, J.; Rodrigues, C.; Sousa, R.; Gomes, L.M.; Expert Systems Vol.42 n°1 (DOI 10.1111/exsy.13303)	Coelho, S; Dionizio, A.; Cunha, J; Monteiro, V; Afonso, J.L.; Monteiro, V.; Energy Vol. 327 (DOI: 10.1016/j.energy.2025.136321)	Cardoso, A.; Colim, A.; Bicho, E.; Braga, A.C.; Arezes, P.; Safety Science Vol.181 (DOI 10.1016/j.ssci.2024.106685)
Major achievements	Identification		
Flagship projects	<b>PT SMART RETAIL: Portugal como referência para a nova geração de retalho autónomo e inteligente</b>	<b>Be.Neutral</b>	<b>ATE - Aliança para a Transição Energética</b>
	This Agenda is aimed at developing, demonstrating and industrialising technologies to support a new generation of retail, with the adoption of process dematerialisation solutions applied to the sector that provide a seamless and ultra-comfortable experience for its users, with significant economic and environmental efficiency and considerable internationalisation potential.	The BE. Neutral Agenda aims to accelerate the development and industrialisation of a new generation of zero carbon mobility products and services from Portugal [zero carbon buses; BEN4Us light vehicle; 6E Microcar; modular 2-wheel vehicle], connected with data and connectivity platforms and energy systems.	Development of power electronics solutions, specifically laboratory prototypes and digital control systems, which will be articulated in agreement with the other project partners.
Scientific recognition	<b>EEUM Diploma of Recognition of Merit for Scientific Publication</b>	<b>World's Top 2% Scientists 2025</b>	<b>Best Paper Award no International Young Engineers Forum on Electrical and Computer Engineering 2025</b>
	António Fernando Macedo Ribeiro João Eduardo Quintela Alves Sousa Varajão João Luis Afonso José Manuel Ferreira Machado Maria Leonilde Rocha Varela Paulo Alexandre Costa Araújo Sampaio Paulo Alexandre Ribeiro Cortez Paulo Jorge Freitas Oliveira Novais Paulo Sérgio Lima Pereira Afonso Sandro Emanuel Salgado Pinto Tiago Manuel Ribeiro Gomes Vitor Duarte Fernandes Monteiro	Anabela Alves João Luís Afonso João Varajão Paula Ferreira Paulo Cortez Sandro Pinto Vitor Monteiro	Pedro Loureiro, a master's student in Industrial and Computer Electronics Engineering who developed his dissertation at GEPE, was honoured for his paper 'Planar Transformer Design for an LLC DC-DC Converter with Variable Input and Wide Output Voltage Range'.

Scientific leadership	<p><b>European Confederation of Artificial Intelligence Research Laboratories (CAIRNE)</b></p>	<p><b>Sociedade Portuguesa de Robótica (SPR)</b></p>	<p><b>Guimarães Space Hub - CEiiA</b></p>
	<p>Paulo Novais is the coordinator of the Portuguese HUB of CAIRNE, a non-profit association created in 2018, with headquarters in The Hague (Netherlands) and branches in Brussels (Belgium), Oslo (Norway), Paris (France), Prague (Czech Republic), Rome (Italy), Zurich (Switzerland), Saarbrücken (Germany) and, now, Guimarães (Portugal).</p>	<p>Fernando Ribeiro is the president of the Robotic Portuguese Association (SPR)</p>	<p>Jorge Cabral is the presidente of the Guimarães Space Hub, a partnership between the University of Minho, the Guimarães City Council, and CEiiA (Center for Engineering and Product Development). This structure brings together students, researchers, and companies within the scope of the Atlantic Constellation, the largest Portuguese space project, dedicated to Earth Observation satellites.</p>

### 5.3.3 – Centre of Biological Engineering – CEB

CEB was created 30 years ago at the University of Minho, being recognized as a national reference research unit on Biotechnology and Bioengineering.

CEB combines key expertise in fundamental science with engineering sciences, covering the molecular, cellular and process scales, to obtain value-added products or processes in the Food, Chemical, Biotech, and Environmental sectors. CEB develops its research activities in 4 Research Thematic Lines:

- Industrial Biotechnology & Bioengineering – key area holding the potential to revolutionize the way chemicals and energy are currently produced by employing microorganisms as biocatalysts and industrial by-products and wastes as secondary raw materials.
- Food Biotechnology & Bioengineering – aiming to enhance the functionality, quality, safety and nutritional value of food.
- Environmental Biotechnology & Bioengineering - focused on remediation processes for contaminated environments and to valorize recalcitrant and bio-waste materials by converting them into liquid and gaseous bioenergy carriers, bioelectricity, bulk chemicals or new catalysts.
- Health Biotechnology & Bioengineering - comprises biofilm science, virulence of pathogenic fungi, bioactive peptides/proteins, biomaterials and polymers for drug delivery and regenerative medicine and systems and synthetic biology approaches.

#### Staff

PhD full members	Internal	External	<b>Total</b>
	73	3	<b>76</b>
PhD associated members	<b>Total</b>		
	<b>2</b>		
Technical staff	<b>Total</b>		
	<b>14</b>		

#### Publications

##### Journals and proceedings (SCOPUS)

Indexed journals (Scimago quartil)	Q1	Q2	Q3	Q4	Non-rated	<b>Total</b>
	172	40	4	3	-	<b>219</b>
Indexed proceedings	3					

##### Books

Type	International	National	Total	
Authoring	11	-	11	<b>13</b>
Edition	1	-	1	
Book of proceedings	1	-	1	
Outreach book	-	-	0	
Educational book	-	-	0	
Non-indexed (@SCOPUS) book	-	-	<b>0</b>	

**Other publications**

Non-indexed journals	-
Non-indexed proceedings	67

**PhD**

Year	Number of students	Number of doctorates	Number of Pos-Doc
2025	75	76	<b>30</b>

Theses and dissertations	Number
PhD theses completed	15

**Distinctions and dissemination****Scientific dissemination and Knowledge transfer**

National patents	Submitted	Granted	Total
	-	2	2
International patents	Submitted	Granted	Total
	-	-	0

**Participation in collaborative/associate laboratories**

CECOLAB
BIOREF
ADVID - CoLAB Vines&Wines
CoLab4Food
LABELLS - ASSOCIATE LAB

## Achievements

Major achievements	Identification		
Flagship publications	Directed evolution of phages in biofilms enhances <i>Pseudomonas aeruginosa</i> control through improved lipopolysaccharide recognition.	Development of novel functional thickened drinks enriched with vitamin D3 for the older adult population – behaviour under dynamic in vitro digestion.	Solar-assisted thermal pre-treatment of waste activated sludge in a tubular photoreactor: Operational and economic insights.
	Meneses, Luciana; Valentová, Lucie; Santos, Sílvio B.; Erdmann, Jelena; Crabbé, Aurélie; Plevka, Pavel; Häussler, Susanne; Pires, Diana P.; Coenye, Tom; Azeredo, Joana. <i>Nature Communications</i> , 16(10219), 2025.	Fernandes, Jean-Michel; Vieira, Jorge M.; Gonçalves, Raquel F.S.; Martins, Joana T.; Vicente, António A.; Pinheiro, Ana Cristina. <i>Food Hydrocolloids</i> , 158(110572), 2025.	Monteiro, Joana; Silva, Tânia F.C.V.; Cruzeiro, Catarina; Duarte, Maria Salomé; Pereira, M. Alcina; Vilar, Vítor J.P. <i>Chemical Engineering Journal</i> , 521(166416), 2025.
Flagship projects	<b>REACTORS 5.0 - Sustainable REACTOR and microreactor designS for boosting green and digital innovation</b>	<b>IngredientIA - Ingredients, microbiome and digestion models for health through the application of Artificial Intelligence</b>	<b>Scientific and technological synergies for the development of the vine and wine chain in the Northern Region</b>
	REACTORS_5.0 at UMinho will develop sustainable reactor and microreactor technologies linking molecular to reactor scales, advancing green innovation, digitalization, and global scientific excellence.	IngredientIA unites OmniumAI, NIUM, UMinho, and INL to develop advanced solutions integrating the study of interactions between food ingredients and the gut microbiota.	Portugal, a top EU wine producer, faces climate challenges. This project develops sustainable, innovative strategies to boost vineyard resilience, wine quality, and environmental sustainability.
Scientific recognition	<b>EEUM Diploma of Recognition for Meritorious Scientific Publication 2025</b>	<b>ShanghaiRanking's Global Ranking of Academic Subjects 2025</b>	<b>Top 2% Most Cited Worldwide according to a study from Stanford University and Elsevier</b>
	António Vicente Artur Cavaco Paulo Cristina Rocha Soares Vicente Francisco Portela Gama Isabel Pires Belo José António Teixeira Maria Teresa Jesus Simões Campos Tavares Marlene Alexandra Silva Lopes Ricardo Nuno Correia Pereira Rui Miguel Martins Rodrigues	The CEB areas that stood out the most in the Shangay's Global Ranking of Academic Subjects 2025, in the University of Minho, were: Food Science and Technology (Top 100), Biomedical Engineering (Top 200), Biotechnology (Top 200), and Chemical Engineering (Top 400).	António Vicente Artur Cavaco Paulo Diana P. Pires Eduardo Gudiña Hugo Oliveira José António Teixeira Joana Azeredo Lígia Rodrigues Lucília Domingues Madalena Alves Mariana Henriques Miguel Gama Nuno Cerca Ricardo Pereira Russell Paterson Sónia Silva

Major achievements	Identification		
	<p align="center"><b>SPM and SPBT Grant Career Awards</b></p>	<p align="center"><b>LEAF Bronze Level Certification</b></p>	<p align="center"><b>Laboratory for the Production of Therapeutic Phages</b></p>
<p>Scientific leadership</p>	<p>The Portuguese Societies of Microbiology and Biotechnology honored Nelson Lima and José António Teixeira with career awards for their outstanding contributions to science in Portugal.</p>	<p>The CEB is proud to announce that 16 research laboratories have obtained the LEAF (Laboratory Efficiency Assessment Framework) Bronze Level certification, recognizing their commitment to more sustainable laboratory practices.</p>	<p>CEB is leading the establishment of a Laboratory for the Production of Therapeutic Phages, a pioneering initiative that aims to develop innovative solutions to address antibiotic resistance.</p>

### 5.3.4 – Centre for Microelectromechanical Systems – CMEMS

CMEMS was established in December 2013 and supports a research team with high degree of multidisciplinary members, from different backgrounds (engineering, physics, medical) and from academic and industrial fields. CMEMS members include senior researchers, national and internationally distinguished collaborators, post-doctoral investigators, PhD and Master students, as well industrial partners. The focus is on modelling computation, development and micro/nano fabrication of devices and components for two major domains: industrial applications (automotive, aerospace, energy, textile) and biomedical applications (neuroengineering, microendoscopy, surgery, rehabilitation).

CMEMS mission includes the integration of research teams with national and regional key players for new technological developments, being aware that excellence can only be achieved through international cooperation. In this way, CMEMS supports research at international level with European, American, Asia, Australia, and Brazilian Universities in the field of micro/nano fabrication and biomedical applications, leading to a significant number of published works that are produced with international investigators (approximately 40%), as well as with industrial partners.

The vision of the CMEMS can be stated as being that of an interdisciplinary and multidisciplinary Centre of excellence pioneering high international impact research and innovation in the development of smart microsystems and biomedical systems and maintain active exchange programs with universities, research centres and other laboratories around the world in the field of micro-nano fabrication and biomedical applications.

From 2021, CMEMS became a foundational member of the Associate Laboratory LABBELS, together with CEB.

#### Staff

PhD full members	Internal	External	<b>Total</b>
	35	-	<b>42</b>
PhD associated members	<b>Total</b>		
	5		
Technical staff	<b>Total</b>		
	2		

#### Publications

##### Journals and proceedings (SCOPUS)

Indexed journals (Scimago quartil)	Q1	Q2	Q3	Q4	Non-rated (@ SCOPUS)	<b>Total</b>
	108	38	-	-	3	<b>149</b>
Indexed proceedings	-					

**Books**

Type	International	National	Total
Authoring	131	1	132
Edition	4	-	4
Book of proceedings	11	-	11
Outreach book	1	-	1
Educacional book	1	-	1
Non-indexed (@SCOPUS) book chapters	-	-	0

**Other publications**

Non-indexed journals	-
Non-indexed proceedings	-

**PhD**

Year	Number of students	Number of doctorates	Number of Pos-Doc
2025	59	15	2

Theses and dissertations	Number
PhD theses completed	11

**Distinctions and dissemination****Scientific dissemination and Knowledge transfer**

National patents	Submitted	Granted	Total
	-	4	4
International patents	Submitted	Granted	Total
	-	5	5

**Participation in collaborative/associate laboratories**

RAIL COLAB
LABELS - ASSOCIATE LAB

## Achievements

Major achievements	Identification		
Flagship publications	<b>Advanced Materials: Synergistic effect of Hypoxic Conditioning and Cell-Tethering Colloidal Gels enhanced Productivity of MSC Paracrine Factors and Accelerated Vessel Regeneration</b>	<b>Small: Transducer Systems Integrated into Organ-on-a-Chip Devices: From Detection to Fabrication</b>	<b>ACS Applied Materials and Interfaces: Capillary-Enhanced Biomimetic Adhesion on Icy Surfaces for High-Performance Antislip Shoe-Soles</b>
	Lee, Myung Chul et al, 10.1002/adma.202408488	Ferreira, Gabriel M. Sousa, Patrícia C. Catarino, Susana O. Minas, Graça 10.1002/sml.202510425	Richhariya, Vipin Tripathy, Ashis Carvalho, Oscar Gomes, Jose Nine, Md JulkerSilva, Silva, Filipe Samuel
Flagship projects	<b>Horizon Europe - VINNY: Advanced nano encapsulation of bio-based pesticides and fertilisers for a circular and sustainable viticulture.</b>	<b>Advancing Space Applications through 3D Voxel-based Multi-material Laser Powder Bed Fusion (SpaceFuse)</b>	<b>IMAGINE – Next generation imaging technologies to probe structure and function of biological specimen across scales in their natural context</b>
	4-year European Commission funded Project dedicated to transforming viticulture into a fully sustainable agriculture by developing eco-friendly nanobiopesticides and nanobiofertilizers from grapevines and organic industrial by-products.	European Space Agency: Development of hybrid 3D printed multi-material rockets	Horizon Europe: The mission is to develop the technologies needed to bridge the molecular scale of structure with the organismal scale of function and to bring those technologies to highly specialised central facilities and standard laboratory models, but also out in the field, at Europe's coastline and on the ocean.
Scientific recognition	<b>World's Top 2% Scientists 2025</b>	<b>EEUM Award for Merit in Scientific Publication</b>	<b>Prémio de Publicação Científica António Guimarães Rodrigues</b>
	Filipe Marques Filipe Samuel Silva Júlio Souza Flávio Bartolomeu Paulo Flores	João Paulo Flores Fernandes José Augusto Afonso José Higinio Gomes Correia Sara Ribeiro Pimenta	João Paulo Flores Fernandes
Scientific leadership	<b>LABBELS - Associate Laboratory</b>	<b>Shangay Global Ranking of Academic Subjects 2025</b>	
	CMEMS, together with CEB, host the Associate Laboratory based at the University of Minho. LABBELS will enable both step and leap changes in Biotechnology and Bioengineering, aiming at shaping the future by contributing significantly to the global challenges of securing a Sustainable Bioeconomy.	UMinho emerges as the national leader in Mechanical Engineering (Top 200) and ranks in the Top 300 in Engineering and Materials Science.	

### 5.3.5 – Centre for Territory, Environment and Construction– CTAC

The Centre for Territory, Environment and Construction (CTAC) is a research unit of the School of Engineering of University of Minho (UMinho), recognised by the “FCT – Fundação para a Ciência e Tecnologia” (Foundation for Science and Technology), associated to the Department of Civil Engineering (DEC), with whom it shares resources and namely human resources.

The general objective of the unit is to produce knowledge to support its vision of “Sustainable and Resilient Territories”, developing innovative materials and technologies and systems in the fields of built environment, systems and infrastructures for transport, water and wastewater and for territory development, contributing to climate-change-resilient buildings and infrastructures, supporting a steady improvement in the quality of life. Building on this vision, CTAC’s Areas of Competence represent a strategic asset of the unit, providing a strong multidisciplinary framework that enables the development of integrated, robust and effective solutions to highly relevant and complex societal, environmental and technological challenges. To fulfil this objective, CTAC combines R&D activities with advanced training, technology transfer, consulting and services, aiming at fostering engineering and construction sectors and environmental entities to support the quality of cities and territories.

CTAC has a dynamic international cooperation through partnerships covering the development of research projects by participating in international research networks, mainly in the fields of sustainable environment as well as in international projects of knowledge transfer. The link between research and society constitutes the driving force of intervention of the unit, where, in addition to the contribution for more sustainable built environment, territories, people play the central role, contributing to the improvement of the quality of life. CTAC is also involved in several masters and doctoral programmes, covering the main research fields of the unit, under the leading principle “to teach what is being investigated”, together with other units’ research, from UMinho and other universities.

#### Staff

	Internal	External	Total
PhD full members	21	-	21
PhD associated members	<b>Total</b>		
	4		
Technical staff	<b>Total</b>		
	0.5*		

\*One technical staff in half-time.

#### Publications

##### Journals and proceedings (SCOPUS)

	Q1	Q2	Q3	Q4	Non-rated (@ SCOPUS)	Total
Indexed journals (Scimago quartil)	24	13	3	1	-	41
Indexed proceedings	11					

##### Other Publications

Type	Total
Non-indexed journals	1
Non-indexed proceedings	-

**Books**

Type	International	National	Total
Authoring	1	-	-
Edition	3	-	-
Book of proceedings	-	-	-
Outreach book	-	-	-
Educacional book	-	-	-
Non-indexed (@SCOPUS) book chapters	5	-	5

**PhD**

Year	Number of students	Number of doctorates	Number of Pos-Doc
2025	30	30	0

Theses and dissertations	Number
PhD theses completed	3

**Distinctions and dissemination****Scientific dissemination and Knowledge transfer**

National patents	Submitted	Granted	Total
	1	-	1
International patents	Submitted	Granted	Total
	-	-	0

**Participation in collaborative laboratories**

BUILT CoLAB
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## Achievements

Major achievements	Identification		
Flagship publications	<p><b>Ultrasound-assisted advanced oxidation removal of contaminants of emerging concern: A review on present status and an outlook to future possibilities</b></p>	<p><b>Toward a Holistic Bikeability Framework: Expert-Based Prioritization of Urban Cycling Criteria via AHP</b></p>	<p><b>Enhancing the durability of concrete with construction and demolition waste aggregate through its functionalization with phase change materials (paraffin)</b></p>
	<p>Fernandes J., Ramisio P.J., Hulle S.W.H.V., Puga H. (2025) Journal of Hazardous Materials, 496, DOI: 10.1016/j.jhazmat.2025.139164</p>	<p>Castañon U.N., Ribeiro P.J.G., Mendes J.F.G. (2025) Applied System Innovation, 8 (5), DOI: 10.3390/ASI8050119</p>	<p>Jia, Z., Cunha, S., Aguiar, J., Shi, C., Cement and Concrete Composites, 2025, 162, 106135.</p>
Flagship projects	<p><b>MarUMinho - CTAC</b></p>	<p><b>REBORN - Concretes with high thermal performance functionalized with low-cost eutectic phase change materials mixtures produced with foundry waste: Towards the energy efficiency first principle</b></p>	<p><b>Strategic model to analyse and design transport networks in the Amazon as an alternative to decrease transport costs in Brazil</b></p>
	<p>Multidisciplinary project in marine science and technology, focused on the northern coast of Portugal, combining observation, numerical modelling and engineering solutions to support coastal adaptation to climate change and to contribute to SDGs 9, 13 and 14.</p>	<p>The REBORN project aims to create new phase-change materials and innovative concretes with high thermal performance using industrial waste, contributing to both energy efficiency and the circular economy.</p>	<p>The project proposes a strategic model for analysis and development of transportation networks, based on the modeling and analysis of transportation networks under the economic, social and environmental conditions of the region.</p>
Scientific recognition	<p><b>World's Top 2% Scientists 2025</b></p>		
	<p>Fernando Pacheco-Torgal among the 2% most influential scientists in the world, according to a study of Stanford University and Elsevier</p>		
Scientific leadership	<p><b>World record of indexed books 2025</b></p>	<p><b>World Engineering Day Committee of WFEO</b></p>	<p><b>Mestre Casais Foundation</b></p>
	<p>Fernando Pacheco-Torgal holds the world record for publishing the largest number of indexed books in the field of civil engineering.</p>	<p>José Vieira is in the World Engineering Day Committee of the World Federation of Engineering Organizations</p>	<p>José Mendes is the Executive President of the Mestre Casais Foundation, which is dedicated to Sustainability, including support to Scientific Studies, a Collection of Essays on Sustainability and a Cycle of Conferences.</p>

### 5.3.6 – High-Assurance Software Laboratory– HASLAB

The High-Assurance Software Laboratory (HASLab) was founded in early 2011 by researchers at the Department of Informatics of the School of Engineering, of which it is currently a Research Unit. Briefly after its creation, HASLab joined the Institute for Systems and Computer Engineering - Technology and Science (INESC TEC), an Associated Laboratory with researchers from several higher education institutions in the north of Portugal. UMinho is currently one of the shareholders of INESC TEC, being HASLab the pole of INESC TEC at this university.

HASLab's mission is focused on the design and implementation of high-assurance software systems: software that is correct by design and resilient to environment faults and malicious attacks. Research Lines HASLab accomplishes its mission by anchoring its research on a rigorous approach to three areas of computer science: Software Engineering, Distributed Systems and Cryptography and Information Security.

Most HASLab members collaborate regularly with key national and international research Centres and ICT companies. These collaborations occur mainly in the context of European and consultancy projects, that constitute the main revenue sources of the Centre. The strategy for the Centre evolution, in particular to attract top post graduate students, is also anchored in these connections. The Centre is currently focusing on improving its prototype-level software development tools to production-level open-source tools, targeting a significant user-base and high-profile applications. These will enable the Centre to consolidate and establish new long term technology transfer collaborations with international giants in ICT, and thus ensure the real-world impact and visibility of its research.

#### Staff

	Internal	External	Total
PhD full members	25	-	25
PhD associated members	<b>Total</b>		
	5		
Technical staff	<b>Total</b>		
	0		

#### Publications

##### Journals and proceedings (SCOPUS)

	Q1	Q2	Q3	Q4	Non-rated (@SCOPUS)	Total
Indexed journals (Scimago quartil)	9	2	3	-	-	14
Indexed proceedings	20					

##### Books

Type	International	National	Total
Authoring	2	-	2
Edition	2	-	2
Book of proceedings	-	-	0
Outreach book	-	-	0
Educacional book	-	-	0
Non-indexed (@SCOPUS) book chapters	1	-	1

### Other publications

Non-indexed journals	0
Non-indexed proceedings	0

### PhD

Year	Number of students	Number of doctorates	Number of Pos-Doc
2025	28	30	0

Theses and dissertations	Number
PhD theses completed	5

### Distinctions and dissemination

#### Participation in collaborative laboratories

Vortex CoLAB
DTx CoLAB

### Achievements

Major achievements	Identification		
Flagship publications	Exploiting Trusted Execution Environments and Distributed Computation for Genomic Association Tests	Bayesian Quantum Amplitude Estimation	Assessing the information security posture of online public services worldwide: Technical insights, trends, and policy implications
	Brito, C., Ferreira, G. Pedro., Paulo, João. IEEE Journal of Biomedical and Health Informatics, 2025, PP(99)	Ramôa, A., Santos, Luís Paulo. Quantum 9, 1856 (2025).	Ribeiro, D., Fonte, Vítor., Fonte, Ramos, Luis Felipe., Silva, João Marco, Volume 42, Issue 2, June 2025, 102031
Flagship projects	<b>BANKSY</b>	<b>BringTrust</b>	<b>CDMS</b>
	The BANKSY project promises to innovate the way we deal with contexts characterised by incomplete, uncertain or even contradictory information. The project will create solid theoretical and instrumental foundations for robust reasoning over data that are simultaneously incomplete and inconsistent, an increasingly pressing need in fields like healthcare, Artificial Intelligence and the analysis of complex systems.	The BringTrust project aims to develop an innovative cybersecurity solution focused on the comprehensive protection of CI/CD pipelines, ensuring the integrity, confidentiality, and sovereignty of organisations' data and intellectual property.	The CDMS project aims to develop an integrated hyperautomation and generative AI solution to manage and reduce health insurance claim denials.

Major achievements	Identification		
Scientific recognition	<b>EEUM Diploma of Recognition for Meritorious Scientific Publication</b>	<b>INESC TEC researchers won second place in the country's first quantum hackathon</b>	<b>INESC TEC research on data replication in relational databases received an honourable mention at SIGMOD 2025</b>
	João Alexandre Baptista Vieira Saraiva	Alexandra Ramôa, Ana Neri and Bruna Salgado, INESC TEC researchers in the field of quantum computing – together with Sara Franco, INL researcher – won second place in the PQHack 2025 competition, as the Team Quantum SEmulation. The results achieved have potential application in neuroscience, seismology, ecology, and finance.	The paper CRDV: Conflict-free Replicated Data Views presents a new model for conflict-free data replication adapted to the relational paradigm, such as SQL, in which data are organised into tables with rows and columns – currently the most widely used structure.
Scientific leadership	<b>Portuguese Representation on IFIP TC13</b>	<b>Co-direction of UT Austin Portugal Program</b>	<b>Chair of the IFIP Technical Committee 1 - Foundations of Computer Science</b>
	José Creissac Campos is the Portuguese representative on the Technical Committee 13 on Human-Computer Interaction (IFIP TC13), contributing to international leadership in Human-Computer Interaction and linking Portugal's HCI community with IFIP activities and initiatives.	Rui Oliveira (Director of INESC TEC and professor at the University of Minho) is the new co-director alongside Rute André, professor at the University of Aveiro and researcher at CICECO.	The International Federation for Information Processing (IFIP) Technical Committee 1 - Foundations of Computer Science (IFIP TC1), an international committee that aims at the development of the theory and computer science and of its bridges with other domains of knowledge and socially relevant applications.

### 5.3.7 – Institute for Polymers and Composites– IPC

IPC is a Research Unit of the Engineering School of UMinho that aims at developing R&D activities in the field of Polymer Science and Engineering. IPC main stated mission is to provide advancements on polymer and composites science and technology for social sustainable development; to generate added value to the polymer, mouldmaking and related industries and, in general, to the society, contributing to the socio-economic growth and to the social wellbeing; and to promote the society awareness of the role and importance of polymeric materials.

IPC is the unique national RU totally devoted to scientific and technological advancements in polymer and composite science and engineering. In this field, IPC adopts a multidisciplinary approach, covering and integrating the scientific disciplines of polymer chemistry, physics, engineering and technology. IPC develops basic research and integrative applied R&D into applications. IPC targets the promotion of scientific excellence and innovation, developing activities at the international leading edge, fostering breakthrough concepts and their practical exploitation.

IPC envisages contributing to the advancement of scientific knowledge in:

1. BASIC KNOWLEDGE R&D AREAS - Advanced materials; Advanced manufacturing technologies; Advanced engineering design.
2. INTEGRATIVE R&D AREAS - Integration of advanced materials Integrative manufacturing; Embedding functions into systems; Immersive engineering.
3. R&D APPLICATIONAL CHALLENGES - Polymers for advanced applications; Circular economy; Digital transformation.

IPC identified 3 main leading themes around which its activities are developed:

1. Sustainability and Eco-efficiency;
2. Smaller, Stronger, Smarter;
3. High-value manufacturing.

#### Staff

PhD full members	<b>Internal</b>	<b>External</b>	<b>Total</b>
	21	1	22
PhD associated members	<b>Total</b>		
	6		
Technical staff	<b>Total</b>		
	4		

#### Publications

##### Journals and proceedings (SCOPUS)

Indexed journals (Scimago quartil)	<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>	<b>Non-rated (@ SCOPUS)</b>	<b>Total</b>
	35	13	5	-	4	57
Indexed proceedings	12					

### Other Publications

Type	Total
Non-indexed journals	12
Non-indexed proceedings	47

### Books

Type	International	National	Total
Authoring	-	1	-
Edition	-	-	-
Book of proceedings	-	-	-
Outreach book	-	-	-
Educational book	-	-	-
Non-indexed (@SCOPUS) book chapters	-	-	-

### PhD

Year	Number of students	Number of doctorates	Number of Pos-Doc
2025	23	29	1

Theses and dissertations	Number
PhD theses completed	2

### Distinctions and dissemination

#### Scientific dissemination and Knowledge transfer

National patents	Submitted	Granted	Total
	-	1	1
International patents	Submitted	Granted	Total
	4	1	5

#### Participation in collaborative/Associate laboratories

DTx - Digital Transformation Colab
LASI- Laboratório Associado de Sistemas Inteligentes

## Achievements

Major achievements	Identification		
Flagship publications	Seaweeds biorefinery into pigments and carrageenans: Testing a sequential extractions approach.	Magnetic Actuation Under DC and AC Fields of Thermoplastic Polyurethane With Strontium Hexaferrite. Adv. Mater. Technol. 2025, 2401648. DOI: 10.1002/admt.202401648	A computational framework for optimising Extrusion Blow Moulding: Enhancing material efficiency and reducing waste for industry 4.0.
	Gonçalves, G., Moraes, I. C. F., Faria, B., & Hilliou, L. Food Hydrocolloids, (2025), 166, 111374.	M. M. Silva, J. A. Covas, M. C. Paiva, M. P. Proença, Adv. Mater. Technol. 2025, 2401648. DOI: 10.1002/admt.202401648	de Campos Galuppo, W., Santana, P., Alves, F., & Nóbrega, J. M. (2025), Journal of Manufacturing Processes, 154, 249-269.
Flagship projects	<b>WoodSENSE - Naturally Engineered for Smart Living</b>	<b>UpFlow – Design e engenharia de calça moda com sistema de massagem para prevenção da Doença Venosa Crónica (DVC)</b>	<b>BRAINET - Networked Distributed Neural Interfaces for Interference-Based Brain Stimulation</b>
	WoodSENSE aims to develop smart pavements by combining hardwood with a sub-base made of expanded WPC – a composite material of plastics and residual sawdust.	This project aims the development of an innovative fashion pant that allows its user to reproduce the compression effect of elastic compression stockings whenever desired can contribute to mitigating the DVC.	The goal of the BRAINET Doctoral Network (DN) is to establish a training framework for doctoral candidates (DCs) who will contribute to the design and implementation of future most beneficial brain interfaces, laying the groundwork for them to become the future leaders in the resulting scientific, technological, and industrial fields.
Scientific recognition	<b>EEUM Diploma of Recognition for Meritorious Scientific Publication</b>	<b>World's Top 2% Scientists 2025</b>	
	Ana Vera Alves Machado Nóbrega	Loic Hilliou	
Scientific leadership	<b>Laboratório Associado de Sistemas Inteligentes (LASI)</b>	<b>T-MOB HUB</b>	<b>Portuguese Hub of the European Confederation of Artificial Intelligence Research Laboratories</b>
	The Associated Laboratory for Intelligent Systems (LASI) is led by the Algoritmi Centre and joins the Institute for Polymers and Composites (IPC), with 11 other research centres in the country.	This platform covers the main transportation modes and intends to cooperate intensively with the main national actors in the area, along with several international partners. UMinho research centres involved in the project are Algoritmi, CTAC, IPC, ISISE, CMEMS, METRICS and 2C2T.	IPC integrates CAIRNE, Portuguese hub of the European Confederation of Artificial Intelligence Research Laboratories, along with ALGORITMI.

### 5.3.8 – Institute for Sustainability and Innovation in Structural Engineering– ISISE

ISISE was created in 2007 involving the Civil Engineering Departments from Universities of Minho and Coimbra. The objective is to continually achieve recognition in research, having leading clusters in Structural Engineering, with top quality R&D+I, and active members. The Unit is based on strong leaderships, with a proven record of internationalization, contracted research, cooperation with industry, top level dissemination in the international arena, PhD students and post-doc collaborators. Therefore, outstanding fundamental and applied research is the driving force of ISISE.

The unit is now organized in four Research Groups, namely: Functional Performance (FP), Historical and Masonry Structures (HMS), Structural Composites (SC), and Steel and Mixed Construction Technologies (SMCT).

A Management Board (Directors, Coordinators of each group and of Science Communication, Career Development, and Cluster Management) manages the unit, with monthly video conferences. The hosting institutions have recent, well-equipped and complementary laboratory facilities, with a total area about 5000 m<sup>2</sup>.

The Unit aims to increase the structural and functional performance of Civil Engineering Works, from a perspective of advanced technology and innovation, from Materials to Life Cycle Performance. The approach includes aspects such as advances in experimental and numerical techniques, product development and technology transfer to the industry, durability and reliability, recycle, reuse, conservation and rehabilitation, condition assessment, and risk assessment. In short, ISISE aims at promoting innovation and sustainability, with a link to the construction industry and an up-to-date focus on a swiftly changing world.

The information in the following sections concerns only ISISE at UMinho.

#### Staff

PhD full members	Internal	External	<b>Total</b>
	49	1	<b>50</b>
PhD associated members	<b>Total</b>		
	-		
Technical staff	<b>Total</b>		
	6		

#### Publications

##### Journals and proceedings (SCOPUS)

Indexed journals (Scimago quartil)	Q1	Q2	Q3	Q4	Non-rated (@ SCOPUS)	Total
		134	34	6	1	1
Indexed proceedings	14					

##### Other Publications

Type	Total
Non-indexed journals	31
Non-indexed proceedings	55

**Books**

Type	International	National	Total
Authoring	3	2	5
Edition	-	-	-
Book of proceedings	7	3	10
Outreach book	30	-	30
Educacional book	-	-	-
Non-indexed (@SCOPUS) book chapters	-	-	0

**PhD**

Year	Number of students	Number of doctorates	Number of Pos-Doc
2025	165	56	10

Theses and dissertations	Number
PhD theses completed	20

**Distinctions and dissemination****Scientific dissemination and Knowledge transfer**

National patents	Submitted	Granted	Total
	1	1	<b>1</b>
International patents	Submitted	Granted	Total
	2	2	<b>2</b>

**Participation in collaborative/Associate laboratories**

BUILT CoLAB
Laboratório Associado para Produção Avançada e Sistemas Inteligentes (ARISE)

## Achievements

Major achievements	Identification		
Flagship publications	<p><b>Circular Economy Design and Management in the Built Environment: A Critical Review of the State of the Art</b></p>	<p><b>Proceedings of the 4th International Conference "Coordinating Engineering for Sustainability and Resilience" &amp; Midterm Conference of CircularB "Implementation of Circular Economy in the Built Environment"</b></p>	<p><b>A practical guide to the New European Bauhaus self-assessment method and tool</b></p>
	<p>Bragança, L., Griffiths, P., Askar, R., Salles, A., Ungureanu, V., Tsikaloudaki, K., Bajare, D., Zsembinszki, G., &amp; Cvetkovska, M. (Eds.). Springer Tracts in Civil Engineering. Springer. <a href="https://doi.org/10.1007/978-3-031-73490-8">https://doi.org/10.1007/978-3-031-73490-8</a></p>	<p>Ungureanu, V., Bragança, L., Baniotopoulos, C., &amp; Abdalla, K. M. (Eds.). Lecture Notes in Civil Engineering. Springer. <a href="https://doi.org/10.1007/978-3-031-57800-7">https://doi.org/10.1007/978-3-031-57800-7</a></p>	<p>European Commission, Joint Research Centre, Lourenço, P. B., Maloutas, T., Santamouris, M., Widera, B., Ansaloni, F., Balaras, C., Katuric, I., Kolokotsa, D., Rossetto, T., Senatore, G., Tomaszewicz, A., Medeiros, E., Gkatzogias, K., Pohoryles, D., Romano, E., Acri, M., Becerik-Gerber, B., Bisello, A., Campbell, A., Canelas, P., Cimellaro, G. P., Cotella, G., Dimoudi, A., Istrati, D., Jokilehto, J., Lagaros, N., Manley, E., Menteşe, E., Moro, A., Potluka, O., Rivera, F., Roupas, C., Ruge, P., Sadia, T., Salihbegović, A., Salwa, M., Skovgaard Nielsen, R., Stefanakis, A., Tedeschi, M., Torabi Moghadam, S., Tulumello, S., van der Zwet, A., Vecco, M., Gkatzogias, K., Romano, E. and Negro, P. editors, Publications Office of the European Union, Luxembourg, 2024, <a href="https://data.europa.eu/doi/10.2760/9581060, JRC139118">https://data.europa.eu/doi/10.2760/9581060, JRC139118</a> (2024).</p>
Flagship projects	<p><b>CircularB - Implementation of Circular Economy in the Built Environment</b></p>	<p><b>STEADYDOME: Shaking table tests for assessment of the dynamic response of domes and masonry structures to earthquake actions</b></p>	<p><b>NoRisk - International Masters in Risk Assessment and Management of Civil Infrastructures</b></p>
	<p>The CircularB project's main mission is to drive the transformation of the construction industry through the adoption of circular economy principles.</p>	<p>New MSCA Individual Fellowship (seven since 2020) to Francesco Barsi. The research aims to carry out a systematic series of shaking table tests on scale models, suitably supplemented by a large set of reliable simulated experiments by discrete element models, with the goal of characterising the dynamical behaviour of masonry domes.</p>	<p>NORISK is a European Master funded by the European Commission in the ERASMUS+ framework with 2.9M€, and led by ISE/UMinho. The first intake started in October 2024. NORISK focuses on the topic of risk analysis and infrastructure management, which is a subject of high socioeconomic relevance to meet current and future challenges.</p>

Major achievements	Identification		
Scientific recognition	<b>António Guimarães Rodrigues Scientific Publication Award &amp; Diploma of Recognition for Meritorious Scientific Publication</b>	<b>World's Top 2% Scientists 2025</b>	<b>Shanghai Global Ranking of Academic Subjects 2025</b>
	Daniel Oliveira won the António Guimarães Rodrigues Scientific Publication Award, and is one of the distinguished with the EEUM Diploma of Recognition for Meritorious Scientific Publication, as well as: Hélder Manuel Silva Sousa Joaquim António Oliveira Barros	Joaquim Barros; José Sena-Cruz; Mayank Mishra; Paulo Lourenço.	Civil Engineering in UMinho is in the world's Top 150 higher education institutions.
Scientific leadership	<b>Laboratório Associado para Produção Avançada e Sistemas Inteligentes (ARISE)</b>	<b>"2024 IABSE Early Career Prize" to Hélder Sousa</b>	<b>WG4.T2 Project Team</b>
	ISISE joins the Laboratório Associado para Produção Avançada e Sistemas Inteligentes (ARISE), with another five national entities.	The International Association for Bridge and Structural Engineering (IABSE) is a scientific / technical Association comprising members in 100 countries and 3000 members. It was founded in 1929 it has its seat in Zurich, Switzerland.	Member of the WG4.T2 Project Team (contract SA/CEN/GROW/EFTA/515/2017-08), Mandate M/515, Phase 3, with the aim of developing the 2nd generation of Eurocodes.

### 5.3.9 – Mechanical Engineering and Resource Sustainability Centre– MEtRICs

The Mechanical Engineering and Resource Sustainability Centre (MEtRICs) was created in 2013 by joining researchers from the Mechanical Engineering Department at UMinho and the Department of Biomass Sciences and Technologies at the New University of Lisbon. In 2018, a partnership agreement with the Centre for Residue Valorisation – CVR, a non-profit R&D organization based at UMinho was signed.

The MEtRICs mission is to create scientific knowledge and provide technical solutions for a cleaner, safer and sustainable world. The aim, is to have an impact in our society and contribute to the social and economic benefits that come hand in hand with a knowledge-based economy. The centre is organized in three research fields: Energy Conversion and Waste Valorization; Advanced Engineering Systems; Food, Health & BioEngineering.

The strategy for the centre is based on: i) research excellence; ii) multidisciplinary approach; iii) proximity with the economic dynamics of the region; iv) dissemination; v) advanced training; vi) close collaborations with both industry and community.

Although most of the research activities are at the frontier with environment issues, this identification allows Mechanical Engineering to be a core discipline for sustainable development. MEtRICs is part of the School of Engineering at UMinho and, therefore it is a key element of the education offer in graduate and post-graduate training and research provided to the region and the society.

#### Staff

PhD full members	<b>Internal</b>	<b>External</b>	<b>Total</b>
	13	10	<b>23</b>
PhD associated members	<b>Total</b>		
	20		
Technical staff	<b>Total</b>		
	1		

#### Publications

##### Journals and proceedings (SCOPUS)

	Q1	Q2	Q3	Q4	Non-rated (@ SCOPUS)	Total
Indexed journals (Scimago quartil)	35	21	0	2	6	<b>64</b>
Indexed proceedings	28					

##### Other Publications

Type	Total
Non-indexed journals	15
Non-indexed proceedings	5

## Books

Type	International	National	Total
Authoring	8	1	9
Edition	19	-	19
Book of proceedings	3	-	3
Outreach book	-	-	-
Educational book	-	-	-
Non-indexed (@SCOPUS) book chapters	1	1	2

## PhD

Year	Number of students	Number of doctorates	Number of Pos-Doc
2025	35	40	4

Theses and dissertations	Number
PhD theses completed	4

## Distinctions and dissemination

### Scientific dissemination and Knowledge transfer

National patents	Submitted	Granted	Total
	1	1	2
International patents	Submitted	Granted	Total
	-	-	0

## Achievements

Major achievements	Identification		
Flagship publications	<b>Placental microphysiological systems: new advances on promising platforms that mimic the microenvironment of the human placenta</b>	<b>Protein digestibility of aquafeeds in Sparus aurata: A model for in vitro bioaccessibility validation in fish</b>	<b>Energy simulations of an existing villa converted into a nZEB building with assessment of the human thermal comfort</b>
	Inês M Gonçalves, M Afzal, N Kennedy, A Moita, R Lima, S Ostrovidov, T Hori, Y Nashimoto, H Kaji	Mello, F.; Silva, P.; Barata, M.; Soares, F.; Pousão-Ferreira, P.; Duarte, M.P.; Valente, L.M.P.; Marques, A.; Anacleto, P.	Martins, Luís B.; Ferreira, Ana C.; Pinto, Bernardino; Gonçalves, Pedro; Rodrigues, Nelson; Teixeira, José C.; Teixeira, Senhorinha
Flagship projects	<b>PRODUTECH R3 - Agenda Mobilizadora da Fileira das Tecnologias de Produção para a Reindustrialização</b>	<b>R2U Technologies modular systems</b>	
	O projeto visa desenvolver soluções inovadoras de tecnologias de produção para atender às necessidades da indústria de manufatura, capacitando-a e transformando-a.	O projecto R2U visa o desenvolvimento de um novo sistema de painéis radiantes, modulares, indicado para aquecimento e arrefecimento do ambiente em edifícios comerciais, hospitais, aeroportos, escolas, e de edifícios do sector terciário	

Major achievements	Identification		
Scientific recognition	<b>EEUM Diploma of Recognition of Merit for Scientific Publication</b>	<b>World's Top 2% Scientists 2025</b>	<b>Shanghai Global Ranking of Academic Subjects 2025</b>
	Nuno Ricardo Maia Peixinho Rui Alberto Madeira Macedo Lima	Rui Alberto Lima Ana Luísa Fernando Victor Souza	Mechanical Engineering in UMinho is in the world's Top 200 higher education institutions
Scientific leadership	<b>T-MOB HUB</b>		
	This platform covers the main transportation modes and intends to cooperate intensively with the main national actors in the area, along with several international partners. UMinho research centres involved in the project are Algoritmi, CTAC, IPC, ISISE, CMEMS, MEtRICs and 2C2T.		

## 6 – INTERNATIONALISATION

### 6.1 – Evolution of EEUM mobility abroad

	2022/2023	2023/2024	2024/2025
Students	171	142	180
Teaching staff	45	40	58
Non-teaching staff	12	7	10
Total	228	189	248

### 6.2 – Evolution of EEUM mobility abroad

	2022/2023		2023/2024		2024/2025	
	OUT	IN	OUT	IN	OUT	IN
Erasmus+	171	51	141	155	131	97
Erasmus+ ICM	-	1	1	2	1	12
Erasmus Mundus	-	-	-	-	48*	-
Interchange with Brazil	-	7	-	7	-	10
Others	-	-	-	-	-	4
Total	171	59	142	164	180	123

\*Academic recognition processes for OUT students from the Erasmus Mundus BIM A+, FRP++ and NORIOSK master's programmes, handled by USAI

### 6.3 - Community Projects in the field of Education and Mobility

The School of Engineering is involved in a large number of projects and networks, within the framework of mobility and educational programmes.

53 applications for Erasmus projects were submitted and 3 approved in 2024/2025. The project applications approved in 2025 are presented below.

#### ERASMUS+ KA2 – Alliances for Innovation

Application	Programme/Initiative	Coordinating Institution	Project Title	UMinho Participation
2025	Alliances for Innovation	Universitat Politecnica de Catalunya	Skills4Circularity	Diana Ferreira Conceição (EE/DET)

#### Erasmus Mundus Joint Master

Application	Programme/Initiative	Coordinating Institution	Project Title	UMinho Participation
2025	Erasmus Mundus Joint Master	INSA Rouen Normandies	RESCO Renewable Energy and Sustainable Construction	Ricardo Mateus (EE/DEC)
2025	Erasmus Mundus Joint Master	Universidade do Minho	TERRA European Master in Earthen Architecture and Construction	Daniel Oliveira (EE/DEC)

## **Joint Masters Erasmus Mundus**

### **Advanced Structural Analysis and Design using Composite Materials - FRP++**

The Department of Civil Engineering (DEC) of the School of Engineering of the University of Minho (EUM) coordinates the European Master's Degree in Advanced Structural Analysis and Design using Composite Materials – FRP++, which has obtained approximately €2.7 million in funding under the ERASMUS+ Programme (Erasmus Mundus Joint Master) programme to support its operation over six academic years, starting in 2022/2023. In addition to supporting management, mobility and integration activities, this funding will enable the award of around 84 scholarships to students, covering registration costs and a monthly allowance. The Master's programme has three funded partner institutions: the University of Girona (UdG), Spain; the University of Naples Federico II (UNINA), Italy; and the National Institute of Applied Sciences of Toulouse / University of Toulouse (INSA/UT), France. It also includes a network of more than 50 associated institutions, mostly from industry, promoting a strong link between the content taught and the needs of professional practice. The FRP++ Master's programme lasts one year (60 ECTS), including six course units in the first semester and the development of a dissertation in the second semester. The Master's programme is directed by José Sena Cruz, Associate Professor with Aggregation at DEC and member of the ISISE Research Unit.

The first edition of the FRP++ Master's Degree began on 1 October 2022, with 50 students successfully completing the teaching project in the first three editions. The fourth edition (2025/2026) is currently underway, with 20 students from 17 countries. The teaching component is taking place simultaneously at UNINA and INSA/UT, with dissertations to be carried out at the four partner institutions.

### **European Master in Building Information Modelling – BIM A+**

The European Master's Degree in Building Information Modelling – BIM A+ is an innovative international programme that combines advanced teaching in Building Information Modelling (BIM) with a strong practical and collaborative component between two European universities (University of Minho and University of Ljubljana). The course promotes a multidisciplinary approach to digital construction, integrating topics such as modelling, information management and interoperability, as well as the application of BIM methodologies in real contexts in the architecture, engineering and construction industry.

In the 2024/2025 academic year, 26 students participated in the master's programme, and 26 master's theses were presented, reflecting the diversity of the participants' academic and cultural backgrounds. Throughout the programme, students were involved in international academic and scientific activities, including seminars, masterclasses and collaborative projects, reinforcing technical skills, the ability to work in multicultural teams and links to current practices and challenges in the construction sector at European level.

### **SAHC International Master**

The 18th edition of the International Master's Degree in Structural Analysis of Monuments and Historic Buildings (SAHC Master's Degree) took place during the 2024/2025 academic year, with students from all four partners in the Consortium, and was attended by 17 students from 13 countries (Germany, Canada, China, Korea, USA, Philippines, Latvia, Morocco, Mexico, Nepal, New Zealand, Pakistan, and Peru). Of particular note was the first-time participation of students from Latvia.

The academic part of the 19th edition of the SAHC Master's Degree (2025/2026) is taking place at the University of Minho with the participation of 18 students from 10 countries (Afghanistan, Canada, Colombia, Spain, India, Italy, Mexico, Peru, the United Kingdom, and the United States). Of particular note is the participation of 8 students from North American universities.

The start of the SAHC Master's academic year is characterised by various student integration activities, including a presentation and welcome session, a guided tour of the historic centre of Guimarães, an introduction to scientific information research, and a lecture on communication. Every year, visits are made to various emblematic monuments. This year, visits were made to the restoration works at Porto Cathedral and Jerónimos Monastery.

#### 6.4 - International Partnerships and Protocols

In 2025 the School of Engineering maintained the following international partnerships and programmes: MIT Portugal Program, University of Texas at Austin, CMU Portugal. In the MIT Portugal Programme, the new co-director from UMinho is Professor Alexandre Ferreira da Silva, and in the UT Austin Programme, the new co-director is Professor Rui Oliveira.

With regard to formalising cooperation with higher education institutions and other international entities, 30 agreements were signed in 2025, namely 11 memoranda of understanding, 10 addenda, 1 non-disclosure agreements, 2 patent agreements, and 6 material transfer agreements.

#### 6.5 – Visits from External Delegations and International Representation

In the year 2025 the School of Engineering received the following international entities/personalities:

14<sup>th</sup> to 22<sup>nd</sup> May - The Internationalisation Office of the School of Engineering welcomed Dr Laís Barros Glaser from Unicamp for an internship;

26<sup>th</sup> May – A delegation from Continental AG, Hanover, comprising Burkhard Wies – Vice President R&D Innovation & Applied Research, Thorsten Torbrügge – Head of Expertfield Compounding Technologies, Ali Karimi – Principal Engineer Material Simulation, Marta Malainho – Head of R&D Specialty Tyres at Continental in Lousado, Catarina Vieira – Head of R&D Compound and Material Development at Continental in Lousado, Eduarda Silva – Head of R&D Digital Tyre Technologies and Field Intelligence at Continental in Lousado, Florian Pfaff – Head of R&D Process Development at Continental in Lousado, Waldemar Bender – Head of R&D at Continental in Lousado, and Viviana Silva – HR at Continental Mabor Lousado, had the opportunity to interact and learn more about the areas of activity and projects of Interfaces Dtx, TecMinho, CVR, Fibrenamics, and PIEP, as well as the R&D Centres of EEUM, Algoritmi, CMEMS, IPC, and 2C2T;

28<sup>th</sup> to 30<sup>th</sup> June - Delegation from the Estonian Entrepreneurship University of Applied Sciences composed of the following representatives: Ly Hõbe, Vice-Rector for Academic Affairs, Eneken Titov, Professor of Management and member of the board of AS Mainor (Ülemiste Smart City), Mari Taalman, Director of Internationalisation, Olga Ubakin, HR partner and curriculum director (Business Management), and researchers Olha Prokopenko and Mare Kurvits;

17<sup>th</sup> October - Chinese delegation composed of representatives from the Shanghai Chamber of Commerce and the MICROSAT Laboratory. The hosts who welcomed this delegation were Professor Raúl Fangueiro, Joaquim Sousa from UTAD, Vice-Presidents Daniel Oliveira and Hélder Puga.

Also in 2025, members of the School of Engineering Presidency team held two staff weeks, strengthening relations with other educational institutions and promoting the School's teaching and research offerings:

28<sup>th</sup> to 30<sup>th</sup> June – Carla Soares and Victor Soares participated on the Staff Week da Dicle University, which resulted in the establishment of an Erasmus Agreement between the University of Dicle and the School of Engineering;

1<sup>st</sup> to 5<sup>th</sup> December – Carla Soares participated on the Staff Week at the University of Santiago Compostela, where a proposal was made to establish an Erasmus agreement.

## 7 - INTERACTION WITH SOCIETY

### 7.1 - Initiatives promoted by EEUM

In 2025 the Presidency of the School of Engineering kept organizing various events with the aim of divulging and promoting the institution's educational offer, bringing the student community closer to the business world and the labour market, as well as initiatives aimed at divulging the research that is carried out internally, and also social responsibility initiatives, bringing together the efforts and commitment of this community, which constitutes almost 1/3 of the University of Minho, for the common good of the society in which we are inserted.

With regard to activities related to employment and integration into the labour market, or the acquisition of other complementary skills, the School of Engineering, under the *Tomorrow Needs You* agenda, held 5 sessions/initiatives with companies and other entities, as well as holding the most important event on this Agenda, the Employment Days, which took place on 5<sup>th</sup> February. The 12<sup>th</sup> edition of this event brought more than 4500 career opportunities (3000 in 2004) to the School of Engineering students and alumni, provided by 80 companies/entities registered at the event, from the most varied sectors of activity.

On 8<sup>th</sup> February, the School of Engineering prepared a Graduation Ceremony for its 1700 graduating students, which took place in the noble auditorium of the Azurém campus and featured testimonials from three alumni: Francisca Vale Lima, Luís Dias e Mariana Oliveira. The Almedina and APGEI - Portuguese Association of Industrial Management and Engineering awards were presented at the ceremony. At the end of the ceremony, it was time to listen to the speech by the new President of AAUM, Luís Guedes, also a student at the School of Engineering, and the Rector of the University of Minho, Professor Rui Vieira de Castro. In the central hall, port wine was served to students and their families, accompanied by a performance by Tuna Afonsina.

In 2025, the School of Engineering celebrated its 50<sup>th</sup> anniversary, and a commemorative programme was launched, with initiatives that began in April 2025 and will continue until March 2026. The programme kicked off in April with an inaugural concert, followed in May by an event welcoming new members to the community - Tomorrow Needs Welcome, the launch of EEUM's new online graduation book, and a debate entitled 'Engineering & the Future'. In June, Engineering & Art was held with a painting exhibition and book presentation, and the academic community picnic also took place. In September, the 3<sup>rd</sup> edition of the Inovar & Empreender Exhibition was organised, bringing together 50 entities this year, including start-ups, spin-offs, interfaces and some PRR projects currently underway. On 3 October, EEUM celebrated its 50th anniversary, which ended with a video clip of the new original song Muralha, by Tun'Obebes, a performance by Tuna Afonsina at the cutting of the anniversary cake and a dinner for the academic community. In November, the debate 'Strategies for the Future of Higher Education' was held, and in December, the SolidariUM and Share a Toy solidarity campaigns took place, as part of the Tomorrow Needs Kindness initiative.

### 7.2 - Initiatives promoted by the Rectorate with the collaboration of EEUM

In 2025 the School of Engineering of UMinho collaborated with the Rectorate in the main following events:

UPA - UMinho de Portas Abertas – from the 3<sup>rd</sup> to 5<sup>th</sup> April the School of Engineering received around 3500 secondary school students, in 9 activities promoted by the subunits and EEUM, letting them know the educational offer of the institution.

Verão no Campus 2025 – 120 secondary school students from schools all over the country and abroad took part in the 56 activities organised by EEUM, which involved departments, research centres and interfaces from both campi: Gualtar e Azurém. The 17th edition of Summer on Campus took place once again on the University's two campuses, from 21<sup>st</sup> to 25<sup>th</sup> July, and welcomed a total of 400 students.

“VEM 2025 – Vamos Experimentar a UMinho” with the title of the activity: Engineering for a better Future, was attended by 30 students from schools in the region, coming from 10 cities and 14 schools. The engineering activities were multidisciplinary, and were selected two of the Sustainable Development Goals (SDGs) that most attract students when choosing their courses: SDG 3 (Good Health and Well-being) and SDG 9 (Industry, Innovation and Infrastructure).

The School of Engineering also participated with the University of Minho in education fairs organized by external entities such as Unlimited Future, in Braga, Qualifica, in Porto, and Futurália, in Lisbon.

Also, as part of the promotion of the educational offer, and in coordination with the rectory of the University of Minho, dozens of visits were made to secondary schools in the region throughout 2025.

### 7.3 – Image and Communication

In 2025, the School of Engineering's Communication and Image Office was renamed the Communication and Interaction with Society Office, more accurately reflecting the functions and responsibilities of this office. It continued to be committed to closer and wider communication through online communication media. Some results of this strategy are presented here.

#### **Social Media Networks**

##### **Facebook**

Followers: 9.8K

Reach: 266K

##### **Instagram**

Followers: 5.8K

##### **Linkedin**

Unique Visitors: 2K

Followers: 12.6K

Reach: 200K

##### **YouTube**

Views: 7.1K

Live views (livestreaming): 3.8K

Hours seen: 580 hours

Reach: 53.5K

##### **Website ENG.UMINHO.PT**

Unique Visitors: 66K

Pages Viewed: 543K

Traffic origin (Countries): Portugal (53K), Brazil (2.4K), China (1.8K)

Traffic origin (Regions): Lisboa (14kK), Braga (13K), Porto (8.3K), Guimarães (4.4K)

### **Portal ENGIUM.UMINHO.PT**

Unique Visitors: 27K

Pages Viewed: 35K

### **Newsletter ENGINEWS**

(Data refers to half year due to change in newsletter management software in June 2025)

Subscribers (external to the UMinho institution): 1850

Apertures: 21.8K

Clicks: 2.1K

Click Through Rate (CTR): 2.4%

The Office remained committed to disseminating and promoting the teaching and research activities of its subunits and the academic community in general through the media, working closely with the Press Office of the Rectorate's Communication and Image Office.

This effort resulted in a total of 1429 articles published in the mass media of 12 countries, representing 25.76 million views/impressions and €6.03 million in automatic advertising.

It should be noted that these data exclude the period from 1 January to 14 April 2025, as the rector's office only had a clipping platform after this period. An assessment of the 261 days counted (15 April to 31 December) would be equivalent to an average of 5.5 news items per day.

## **7.4 – National Partnerships and Protocols**

In 2025, the School of Engineering saw 24 cooperation protocols signed with various entities, with the involvement of almost all of its subunits, 7 of which with educational institutions. These protocols affirm our institution's commitment to society, allowing a great rapprochement with various players at regional and national level.

One confidentiality agreement and six addenda were also signed in the context of research and teaching projects with national companies.

## **8 – HUMAN RESOURCES**

### **8.1 – Teaching Staff**

262 PhD Faculty and 82 Invited Professors

- 25 Full Professors

- 44 Associate Professors with Habilitation

- 49 Associate Professors

- 11 Assistant Professors with Habilitation

- 124 Assistant Professors

- 9 Emeritus Professors

In 2025, two Habilitation Exams were held at the School of Engineering, which resulted in the following professors being conferred the Habilitation degree:

- Doctor Daniel Vitorino de Castro Oliveira (Civil Engineering) – 20<sup>th</sup> January 2025
- Doctor António Carlos Silva Abelha (Informatics) – 5<sup>th</sup> December 2025

## 8.2 – Research Staff

559 Integrated Researchers

## 8.3 – Administrative and Management Technical Staff

120 Non-Teaching Staff

- 70 Higher Technicians
- 4 IT Specialists
- 5 IT Technicians
- 31 Technical Assistants
- 1 Operational Assistants
- 3 Technical Coordinator
- 1 Unit secretary
- 1 Personal secretary