HEI-Lab
Digital Human-Environment Interaction Lab

HEI-Lab:

Digital Human-environment Interaction Lab

RELATÓRIO DE ATIVIDADES
2020/2021

https://hei-lab.ulusofona.pt/

Índice

Capítulo I- Nota Introdutória

HEI-Lab is a *sui generis* R&D unit in the Portuguese landscape. HEI-lab aims at addressing and tackling human mind and behaviour (HMB) complexity, which are traditionally circumscribe to the Social Sciences realm, with 'hard science' products, processes, and services (PPS), that (1) create digital contexts against which HMB is modelled and assessed, with (2) the contribution of data that records manifestations of HMB and is recorded by digital PPS.

Since its inception, in 2018, the leading drive of HEI-Lab's Board of Directors (BD) was to comply with FCT's 2018 assessment results, which are further disclosed in detailed in Chapter II, and to integrate researchers that came from two distinctive scientific areas and, within the same scientific area (i.e. Psychology) with diverse specializations (i.e. Clinical and Health Psychology, Neuropsychology, Forensics Psychology, Social Psychology and Cyberpsychology) into HEI-Lab's context. Parallelly to these two strategic guidelines, AB compelled its researchers to submit scientific papers to Q1 and/or Q2 outlets and R&D proposals to national and international funding calls (see also Chapter II, sections 2.1. & 2.2.). Additionally, and to leverage these three guidelines, HEI-Lab was subjected to a scientific reorganisation that clustered researchers into 5 R&D labs (integration into HEI-Lab's context, Table 2) and promote a set of internal projects within HEI-Lab's scope where several researchers are enrolled (see Chapter II, section 2.4.). In conformity with universities strategy for continuous formation, HEI-Lab set up 13 scientific meetings (https://hei-lab.ulusofona.pt/scientific-meetings/) where scientific proposals and projects were presented and open for discussion (see section 2.4.).

Capítulo II- Atividades desenvolvidas e recursos humanos

Table 1 lists 2020-2021's Plan of Activities and its status by the end of the assessment cycle. All planned activities were concluded, some of them with a positive deviation.

Table 1. Evolution of HEI-Lab activities depicted in 2020-2021 Plan of Activities.

Activity 1: developing digital processes, products and services (PPS), and setting a new agenda	Expected results	Accomplished results	Progress
R&D funded studies	9	24	+266%
Human Resources	3 scholarships	3 scholarships	100%
Equipment acquisition		All equipment was acquired	100%
Activity 2: knowledge transfer			
institutions using HEI-Lab PPS	13	15	+15%
Activity 3: internationalization of the team and e-CB agenda			
	Editorial Board: 10; International Committees: 9; Guest Editors: 3; PC member/reviewer: 7.	Editorial Board: 27; International Committees: 25; Guest Editors: 8; PC member/reviewer: 28.	+ 300%
Activity 4: training young researchers in the e-CB agenda			
FCT BIC	3	3	100%
Lab research assistants	4	4	100%
ILIND researchers	4	1	-75%
FCT projects	2	2	100%
Master students	44	44	100%
FCT CVP'20 'Verão com Ciência'	15	15	100%
Activity 5: e-CB dissemination			
Papers in scientific outlets	64	91	+42%

Following the FCT's RAE that pinpointed several negative marks, BD set to address them through several actions, that are disclosed in the following table.

Table 2. HEI-Lab's measures to tackle FCT's 2018 evaluation.

Remarks	Action	Status
1. "The integration of the projects and strategic management is limited"	Reshape of conceptual HEI-Lab outline into 3 lines (https://hei-lab.ulusofona.pt/).	Done. R&D projects ongoing (section 2.4.).
2. "Management model"	See Figure 1.	Done.
3. "Limited theoretical contribution"	Derive projects from theory.	Ongoing. Researchers are required to fill in a table with project's theoretical/paradigm context (Picture 1: T.F. [1-5]).
4. "Lack coordination between project groups"	Create thematic labs & appoint group leaders	Done. R&D projects ongoing (section 2.4. and Table 3).
5. "Lack of PhD candidates"	PhD in Clinical Psychology	Intake of PhD students in Sept. 2021
6. "The scope of research projects realised within the lab is somehow fragmented"	All projects need to run within 3 R&D lines scope (https://hei-lab.ulusofona.pt/).). Creation of labs (Table 2).	Done. All projects are now aligned with R&D lines.
7. "Systematic approach to validate the technological solutions has not been proposed. "	HEI-Lab adopted the Craig et al[1] approach for developing interventions.	Most ongoing studies already follow this pipeline.
8. "Needs to grow in increasing the internalization of the publication profile of some of its members"	Budget for researchers is distributed according with Q1|2 pubs, internationalization outlook and participation on HEI-lab's scope.	Ongoing. More € for high-profile researchers. 14 international projects running. Two EMJMD proposals submitted. Common projects w/ other units & common pubs w/ international researchers
9. "The theoretical contribution is questionable"	See 1., 3. & 6.	Ongoing.
10. "Lack of systematic tests with control groups"	RCT studies will be valued through internal prizes	A few RCT are ongoing.
11. "studies always follow the required ethical standards"	All studies abide to CEDIC: Comissão de Ética e Deontologia para a Investigação Científica-	Done.
12. "Graduate students are needed to carry the load of day-to-day research activities"	See 5.	Done.

[1] Craig, P., Dieppe, P., Macintyre, S., et al. (2008). Developing and evaluating complex interventions: the new medical Research Council guidance. BMJ, 337.

Functionally, HEI-Lab is organized as depicted in Figure 1. HEI-Lab conducts research in the Human Mind and Behaviour (H.M.B.) area,
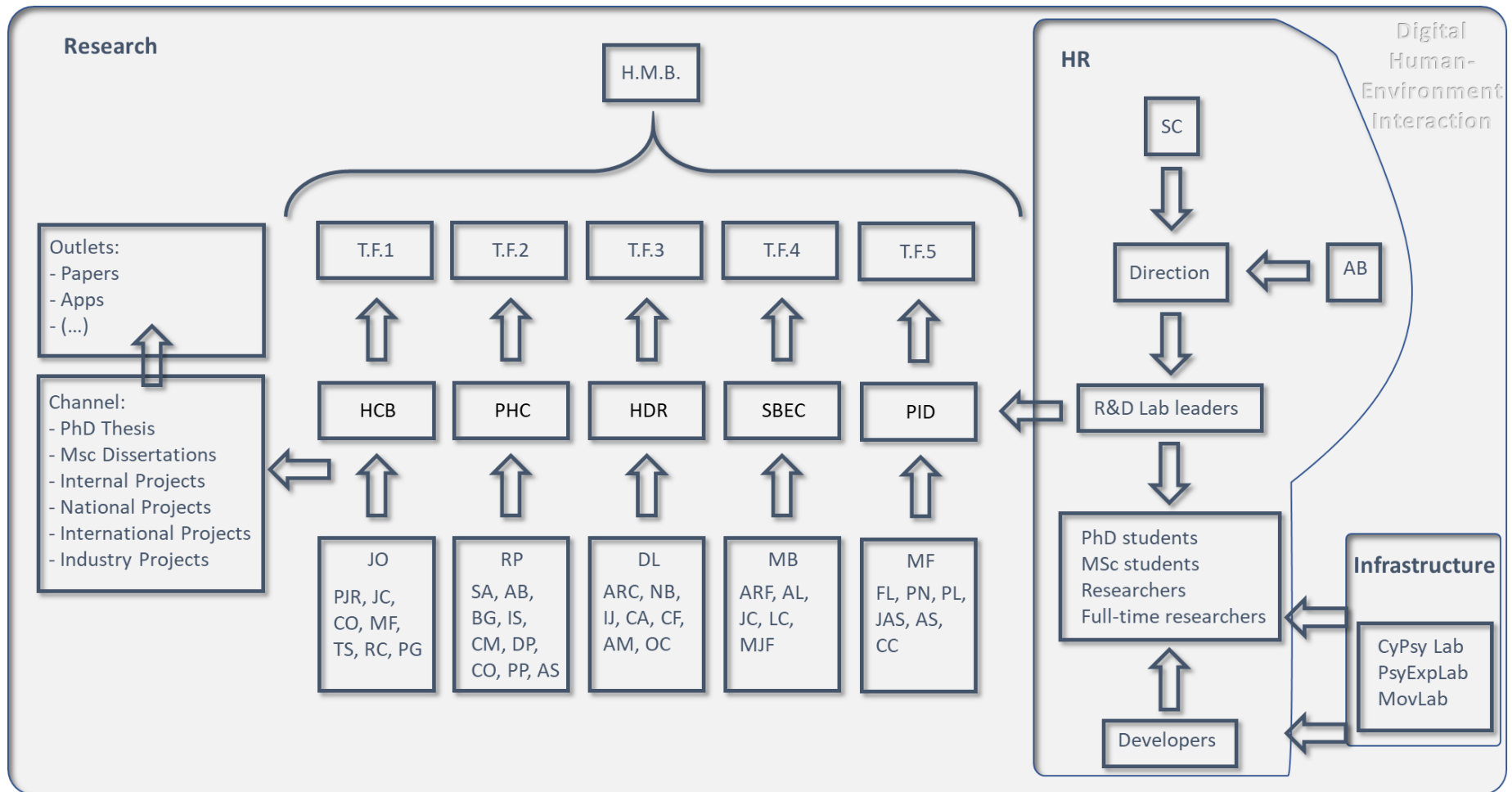

Figure 1. HEI-Lab's organization flowchart

supported by several Theoretical Frameworks (T.F.) that guide the five Thematic Labs (HCB, PHC, HDR, HBS and PID, Table 3) R&D activities. The outcomes of these activities are expressed in the form of papers and apps (among others) that are fed through PhD Thesis, MSc Dissertations, Internal Projects, National, International and Projects. HEI-Lab activities are supported by three research facilities (CyPsyLab, PsyExpLab and MovLab) under the guidance of the Scientific Council (SC) and of the Advisory Board (BD) that steer HEI-lab's executive branch (BD). The Lab leaders act as BD proxies ensuring that all researchers are aligned with HEI-Lab' objective and keep the pace with publications and grants submissions. Researcher's work is supported by a team of developers.

Table 3. HEI-Lab's R&D groups.

HCB: Human Cognition and Behaviour Lab	Jorge Oliveira (PI)
	Pedro J. Rosa
	Célia Oliveira
	Marisa Filipe
	Teresa Souto
	Rita Conde
	Pedro Gamito
	Joana Carvalho
PHC: Psychopathology and Human Change Lab	Ricardo Pinto (PI)
	Sara Albuquerque
	Ana Beato
	Ágata Salvador
	Bárbara Gonzalez
	Isabel Santos
	Dulce Pinto
	Cátia Oliveira
	Carolina da Motta
	Patrícia Pascoal
SBEC: Social Behaviour, Environment, and Culture Lab	Leonor Costa (PI)
	Ana Rita Farias
	Ana Luísa Marques Loureiro
	Joana Cabral
	Mauro Bianchi
	Maria José Ferreira
PID: Playful Interaction Design Lab	Maria Micaela Fonseca (PI)
	Pedro Pinto Neves
	Filipe Soares Costa Luz
	João Domingos Alves de Sousa
	Phil Lopes
	Andreia Pinto de Sousa
	Carla Cadete
HDR: Human Development and Relationships Lab	Diogo Lamela (PI)
	Ana Rita Cruz
	Nélio Jesus de Freitas Brazão

Inês Jongenelen
Carla Antunes
Célia Ferreira
Andreia Machado
Olga Cunha

HCB: Human Cognition and Behaviour Lab

The HCB aims to contribute to HEI-Lab goals by applying the principles of Cognitive-behavioral framework (T.F.1) to study human behavior in virtual reality environments. The focus is placed on investigating the cognitive processes underlying main behavioral functions, both in typical and non-typical populations, with special focus on neuropsychology, forensics and clinical psychology areas.

PHC: Psychopathology and Human Change Lab

The main objective of the Psychopathology and Human Change Lab is the development of research in the area of psychopathology, involving multiple life domains and contexts. We take advantage of several methodological approaches as qualitative and quantitative methods in psychology, including virtual reality, in pursuing the study of humans more comprehensively.

The general theoretical background of the Psychopathology and Human Change Lab is based on Cognitive-behavioural Therapy (T.F.2) and their recent developments, Developmental Psychopathology, and Ecological theories.

HDR: Human Development and Relationships Lab

This Lab is devoted to studying human interpersonal relationships as a core process of human development across developmental systems and lifespan. We are primarily interested in examining how close/primary relationships (e.g., dating/marital partner, siblings, parent-child, parent-parent, kin members, family system, peers) are transactionally related to developmental pathways and risk/protection on human adaptation. In particular, the Lab researchers address the etiopathology mechanisms that mediate the association between all forms of conflict, aggression, and violence in close interpersonal relationships and the emergence of adaptation problems. Under developmental, evolutionary, systemic, and socio-developmental frameworks (T.F.3), our research efforts are also focused on designing and evaluating psychological interventions to promote, prevent, or treat close interpersonal relationships across clinical, forensic, and health settings.

SBEC: Social Behaviour, Environment, and Culture Lab

Our research group investigates how individuals think and behave in social situations, from interpersonal to intergroup interaction, considering environmental cues and the cultural context in which these interactions occur. To study these interactions, we combine studies using traditional techniques with studies that take advantage of digital technology and virtual reality environments. We conduct theoretical and empirical investigations based on social cognition and theories of intergroup relations (T.F.4).

PID: Playful Interaction Design Lab

The Playful Interaction Design Lab is a multidisciplinary gathering of researchers at the crossroads of the newly-expanded fields of play design and interaction design. Play has expanded beyond games and continues to become more embedded in everyday life and spaces. Interaction is more playful than ever. Design improves effective and engaged interactions. A multiplicity of new experiences, spaces, and understandings has become available. Play, Design, and Interaction are closer to indistinguishable than ever, and hold significant implications in affective computing, artificial intelligence, procedural content generation, adaptivity, embodiment, design research, and the internet of things. These are all aspects of the future of interaction, which warrant a renewed "future-proofing" interdisciplinary research perspective as a multiplicity of new experiences, spaces, and understandings have become increasingly available. The Playful Interaction Design Lab aims to study the new expanded realities of these topics, harness the potential of their heightened interconnectedness for novel social and cultural interventions, and find new, relevant expressions in an ever-more playful, embodied world. We are interested in building theoretical and empirical bridges between virtual playful experiences and how players feel and interact with said virtual experiences from an emotional and interactive perspective (T.F.5). Moreover, we intend to develop a relevant model for agency in games, opening up further avenues of research in media and research in games in a range of applications.

One FCT RAE's special negative remark concerned the internationalization outlook of HEI-Lab's researchers. In Figure 2, are displayed the international indicators grouped in 4 categories: serving in Editorial Boards, as Guest Editors, in International Committees and in Programme Committees (PC) and review duties, totalizing 88 international participations (more than 2 per researcher).
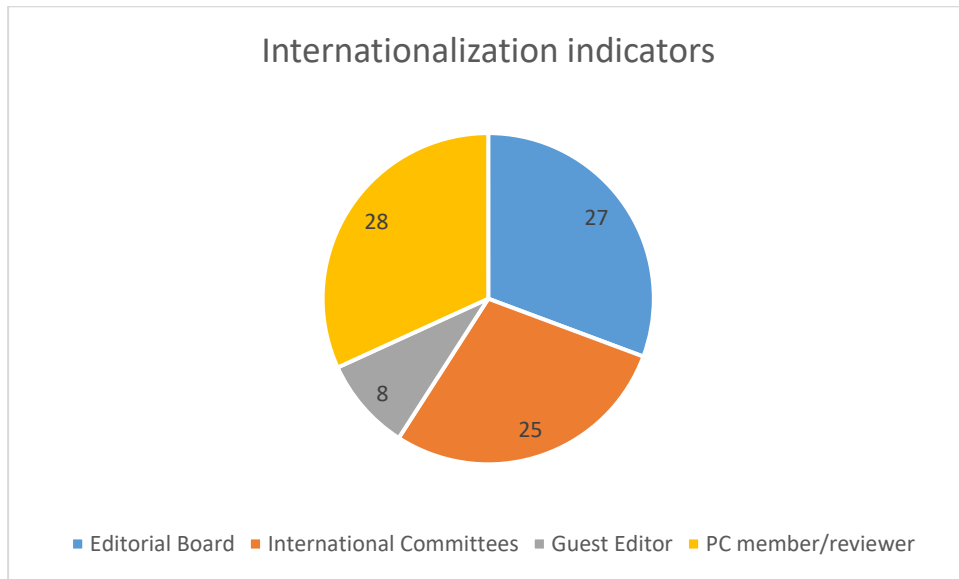
Figure 2. HEI-Lab's internationalization outlook

Figure 3 mirrors unit's evolution from the 2019-2020, reflecting a 300% increase on internationalization indicators.
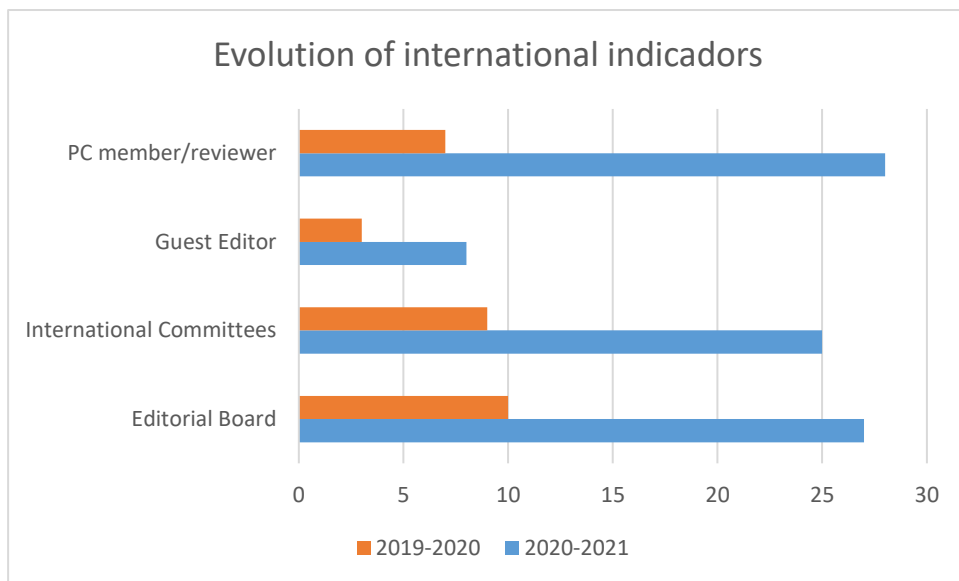

Figure 3. Evolution of HEI-Lab's internationalization indicators.

2.1- Candidaturas e Propostas apresentados

During the 2020 – 2021, HEI-Lab has submitted 51 proposals for funding, a 15% increase from the previous cycle (Figure 4). Figure 5 breaks down proposals by funding source.
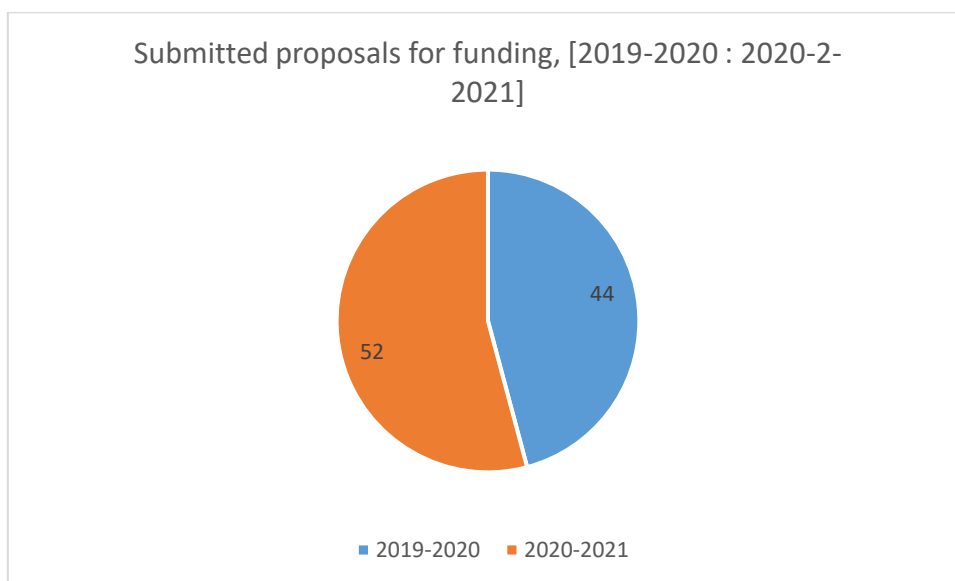
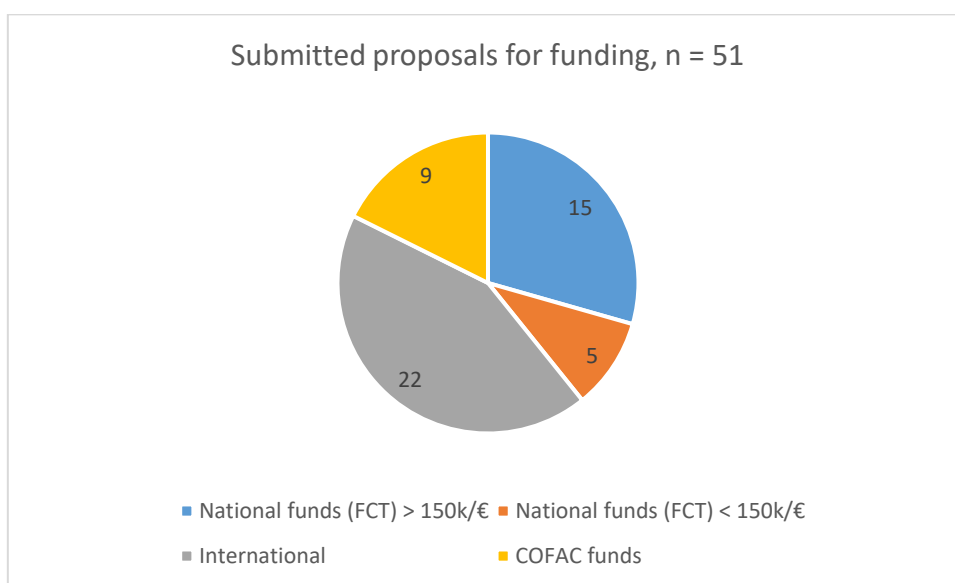Figure 4. Submitted R&D proposals, 2019-2020 and 2020-2021.

Figure 5. Submitted R&D proposals by funding source.

Table 4. Submitted proposals for funding.

Programa de Financiamento	N.º de Candidaturas submetidas	Título da Candidatura	Nome do IR/Membro de equipa
Erasmus Plus	17	Erasmus+ GO4 MOCA	Filipe Luz.
		RE_PLAY EMJM.	Filipe Luz.

		Curriculum Development of Cross-Disciplinary AI.	Phil Lopes.
		CYBER EMJMD.	Pedro Gamito.
		Erasmus + FILMeu: European University Alliance for Film and Media.	Filipe Luz.
		Erasmus+ AVITAR: Developing Innovative Technological Accessible Educational Methodologies in Palestinian Universities	Pedro Gamito.
		Erasmus+ ALERRT: Autism on the Line! Educating first Responders on how to Recognise and Treat individuals with ASD	Pedro Gamito.
		Erasmus+ iDEAL: immersive VR as a tool to help individuals with autism deal with change.	Pedro Gamito.
		Erasmus+ BENDIt-EU: Burnout education, normatives and digital tools for European Universities	Pedro Gamito.
		Erasmus+ CB4PARENTS: Training of Parents in the Fight Against Cyberbullying	Pedro Gamito.
		Erasmus+ Digital Tool For Mentorship Against Dropout.	Pedro Gamito.
		Erasmus + Newcare.	Pedro Gamito.

		Erasmus+ ID Games.	Filipe Luz.
		Erasmus+ TEGA - Training the Educators to Facilitate the Teaching and Assessment of Abstract Syllabus by the Use of Serious Games.	Filipe Luz.
		Erasmus+ Youth for Youth.	Filipe Luz.
		Eramus+ Intro - Introduction to Digital Learning.	Filipe Luz.
		Sudoe - OrthoSmart 2020.	Micaela Fonseca.
European Research Council			
Marie Sklodowska-Curie			
Research Infrastructures			
Horizon 2020 | Horizon Europe-Pillar II	5	LifeMap: Helping refugees and asylum seekers overcome mental health issues after their arrival.	Pedro Gamito.
		EIT Health - OrthoSmart: Smart Orthotics for personalizes treatment with real time monitorization.	Micaela Fonseca.
		PRIORITY Prevention to Reduce Incidence Of Sexual Abuse by Reaching Individuals Concerned About Their Risk to Young People.	Joana Carvalho.

		COST Action: CA19104 – advancing Social inclusion through Technology and EmPowerment.	Pedro Gamito.
		Susinchain.	Ana Rita Farias.
Joint Research Centre			
European Innovation Council			
European Innovation Ecosystems			
European Institute of Innovation & Technology			
Fundação para a Ciência e Tecnologia	20	Action for Virtual Exercise in patients after transaortic valve implant: the Acti-VE study	Pedro Gamito
		Anthesis- Abordagem Transdiagnóstica ao distress sexual com um estudo de piloto de viabilidade de uma intervenção online	Patrícia Pascoal
		GAMEIN: Games Inclusion Lab Participatory Media Creation Processes for Accessibility	Filipe Luz
		The neurobiology of psychopathy: a pharmaco-genetic-psychophysiological multimodal study	Pedro Rosa

		O nojo e a sua função protetiva: Uma abordagem psicofisiológica e bioquímica no estudo dos comportamentos de evitamento e distanciamento físico	Pedro Rosa
		Health, Well-being, Stress, and Perseverance in Opportunity and Necessity Entrepreneurs	Ana Rita Farias
		e-CARE - Online cognitive stimulation on activities of daily living for active and healthy ageing	Jorge Oliveira
		Non-Human Aesthetics: The Impacts of Artificial Intelligence in Creativity, Design and the Arts	Andreia Pinto de Sousa
		Short and long term changes in household meal provisioning and preparation in the aftermath of COVID-19: Public health policy implications	Ana Rita Farias
		Netactivismo	Andreia Pinto de Sousa
		Bidirectional Intimate Partner Violence: From characterization to couples' intervention	Andreia Machado

		A randomized controlled trial study on the effects of two intervention programs on promoting psychological adjustment in Portuguese children exposed to intimate partner violence	Inês Jongenelen
		MERLIN - Measurement of nuclear reaction cross-sections for fusion related light elements	Micaela Fonseca
		INTEGRA - Smart design and integration of flexible supercapacitors for autonomous sensing membranes	Micaela Fonseca
		TherMoSKIN - Sistema integrado de sensores de temperatura e movimento em substratos ultrafinos tipo pele (SKIN) usando tecnologias emergentes para aplicações biomédicas	Micaela Fonseca
		PlayersAll: agência nos média e empoderamento	Pedro Neves
		ALPS- Assessment and Learning in the Physical Sciences	Micaela Fonseca
		Exp@Museum	Ágata Salvador

		Health and well-being, stress, and grit in opportunity and necessity entrepreneurs	Ana Rita Farias
		Short and long term changes in household meal provisioning and preparation in the aftermath of COVID-19: Public health policy implications	Ana Rita Farias
Programas de Financiamento internos	9	Fazer+. AdaptiveRehab.	Micaela Fonseca.
		Fazer+. iBUS.	Ágata Salvador.
		Fazer+. The Power of Metaphors.	Ana Beato.
		Fazer +. Excelência na Construção da Cidade Inclusiva - A Perspectiva dos Pequeninos.	Micaela Fonseca.
		Fazer +. "Digital Green: NudgeNudging sustainable consumption: a digital behavioural change intervention to promote the use of reusable food packaging in take-away services.	Ana Rita Farias.
		Fazer+. Prejudice.	Leonor Costa.
		Fazer +. GoHeal.	Micaela Fonseca.
		Fazer +. LusoProf PCC - Pensamento Crítico, Criatividade, Profissionalidade Docente.	Micaela Fonseca.
		FAZER+ Ser e Aprender em Português. Programa de	Jorge Oliveira.

		acolhimento e mentorado da ULHT.	
Total	51		

From three external, plus two internal, projects funded, HEI-Lab increased to 24 the number of proposals approved with funding (Figure 6).
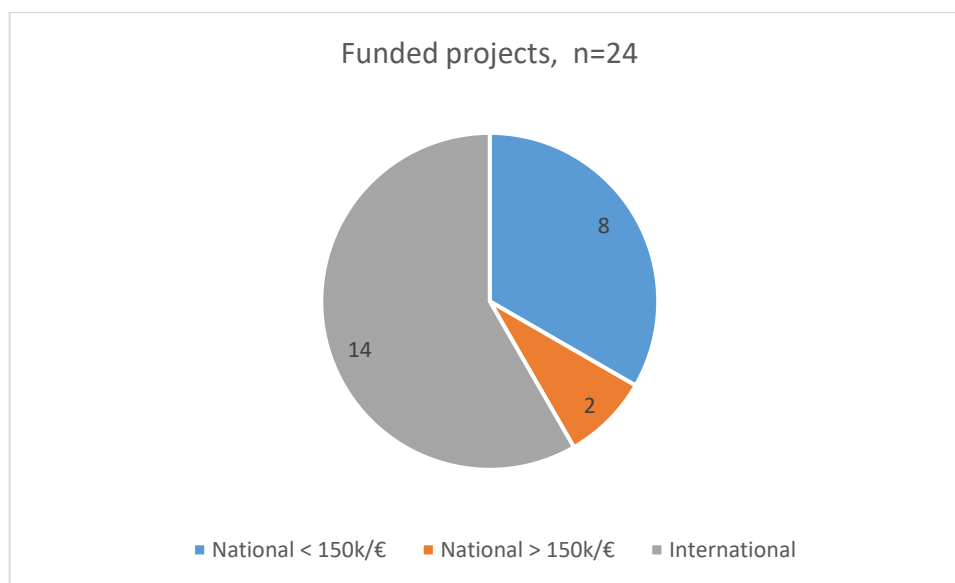
Figure 6. HEI-Lab's funded projects.

Note: some of these projects overlap the ones displayed in the table above.

Table 5. Funded projects

Programa de Financiamento	Título do Projeto	Referência do Projeto	Nome do IR/membro da equipa	Data de aprovação
FCT	AUTOMOTIVE: AUTOmatic multiMOdal drowsiness detecTIon for smart VEhicles	AAC nº 02SAICT2017	Pedro Gamito	2019
FCT	FEMOFFENCE: The myth of innocence	PTDC/PSI-GER/28097/2017	Joana Carvalho	2018
Erasmus +	iDEAL: immersive VR as a tool to help individuals with	2020-1-DK01-KA204	Pedro Gamito	2020

	autism deal with change			
Erasmus +	iDEAL: immersive VR as a tool to help individuals with autism deal with change	2020-1-DK01-KA204	Pedro Gamito	2020
Erasmus +	ALERRT: Autism on the line! Educating first Responders on how to recognise and treat individuals with autism	2020-1-ES01-KA202-082056	Pedro Gamito	2020
FCT	Escola de Verão: Cognição e Videojogos para a Pandemia – CVP20		Pedro Gamito	2020
Erasmus +	BENDIt-EU: Burnout education, normatives and digital tools for European Universities	2020-1-RO01-KA203-080261	Pedro Gamito	2020
Erasmus +	CB4PARENTS: Training of Parents in the Fight Against Cyberbullying	2020-KA204-0D271A42	Pedro Gamito	2020
Erasmus +	DIGITOOLS. Digital Tool For Mentorship Against Dropout	2020-KA201-48CBD814	Pedro Gamito	2020
POISE	D'AR-TE: prevenção de situações de (re)incidência da agressão em jovens	POISE-39-2019-11	Jorge Oliveira	2021
COFAC	VRmnesis: training anamnesis in a VR setting		Pedro Gamito	2021
Erasmus +	NEWCARE. Innovative Creative	2020-1-FR01-KA227-ADU-095002	Pedro Gamito	2020

	Multiple Therapy Methods for morbidities			
Erasmus +	Erasmus + FILMeu: European University Alliance for Film and Media		Filipe Luz	2020
COST Action	Advancing Social inclusion through Technology and EmPowerment.	CA19104	Pedro Gamito	2020
Erasmus+	ID Games	2019-1-EL01-KA204-062517	Filipe Luz	2020
Erasmus+	TEGA - Training the Educators to Facilitate the Teaching and Assessment of Abstract Syllabus by the Use of Serious Games	2020-1-UK01-KA203-079248	Filipe Luz	2020
Erasmus+	Youth For Youth	2020-2-HU01-KA205- 079126	Filipe Luz	2020
	INTRO - introduction to digital learning	KA202-B54E9201	Filipe Luz	2020
Horizon 2020	SUSINCHAIN	LC-SFS-17-2019	Ana Rita Farias	2020
COFAC	Fazer +: Fighting Prejudice:		Leonor Costa	2020
COFAC	FAZER+ Hei-Lab Studio – Museu Experiencial da Psicologia		Ágata Salvador	2020
FEDER	PLOs - Predictors of Language Outcomes	PTDC/LLT-LIN/29338/2017	Marisa Filipe	2018

2.2- Publicações

HEI-Lab researchers published 57 papers in indexed scientific journals. See Figure 7.

Published papers (n)

30

15

5

3
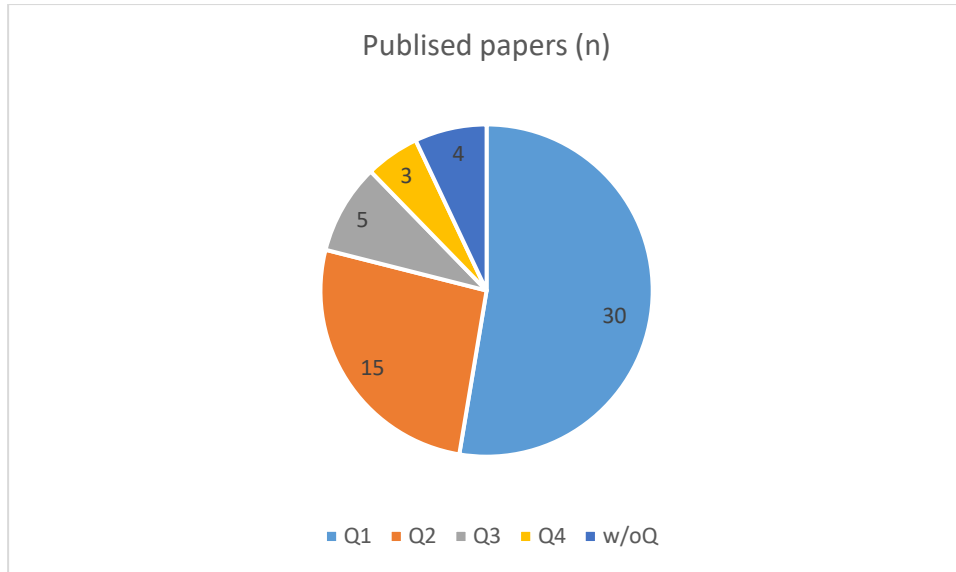
4

- Q1   - Q2   - Q3   - Q4   - w/oQ

Figure 7. Number of scientific papers per Quartile.

79% of the papers were published on Q1 or Q2 journals (see Figure 8).

Published papers (%/quartile)

7,0

21,1

78,9

- Q1+Q2 (%)   - Q3+Q4 (%)   - Q0 (%)
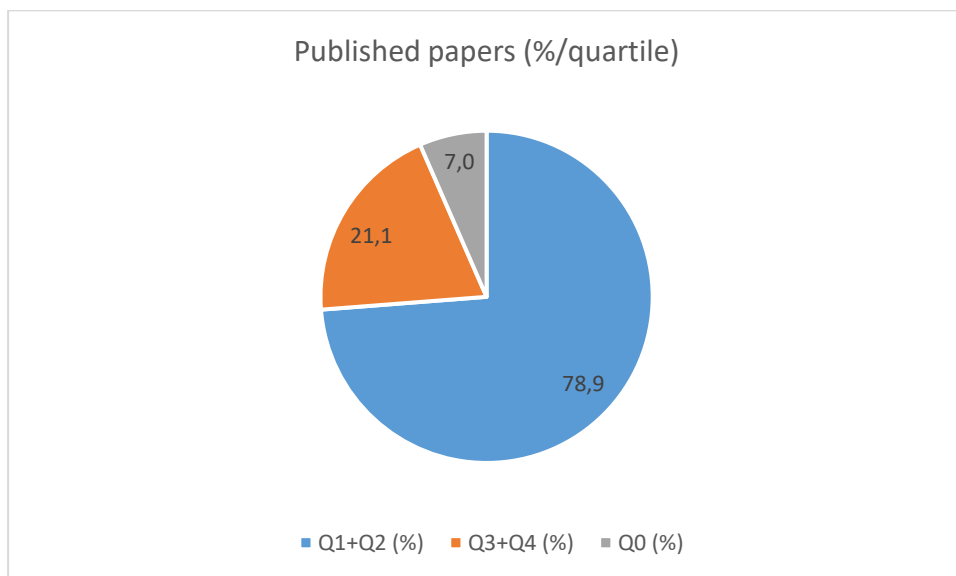
Figure 8. % of papers per Quartile.

From the previous cycle, published papers increased on Q1 and Q2 journals, decreasing on Q3 and Q4 (Figure 9).

Figure 9. Evolution of published papers per Quartile.

Now, the ratio of published papers per researcher is of 2.8 (Figure 10).

Figure 10. Evolution ratio of published papers per researcher.

2.3- Patentes e Modelos de utilidade

Inserir breve descrição relativa à submissão e registo de patentes e modelos de utilidade pela UI&D.

Table 7. Patents.

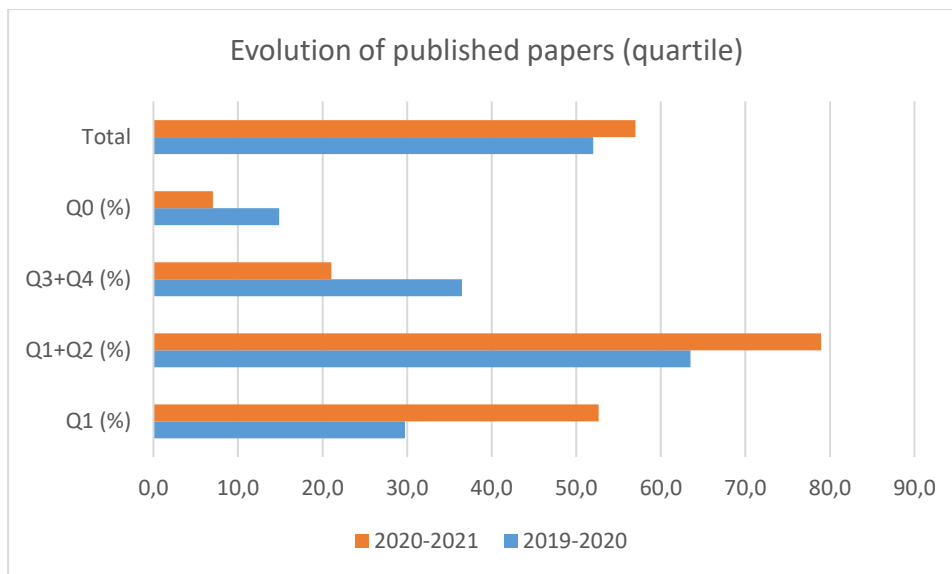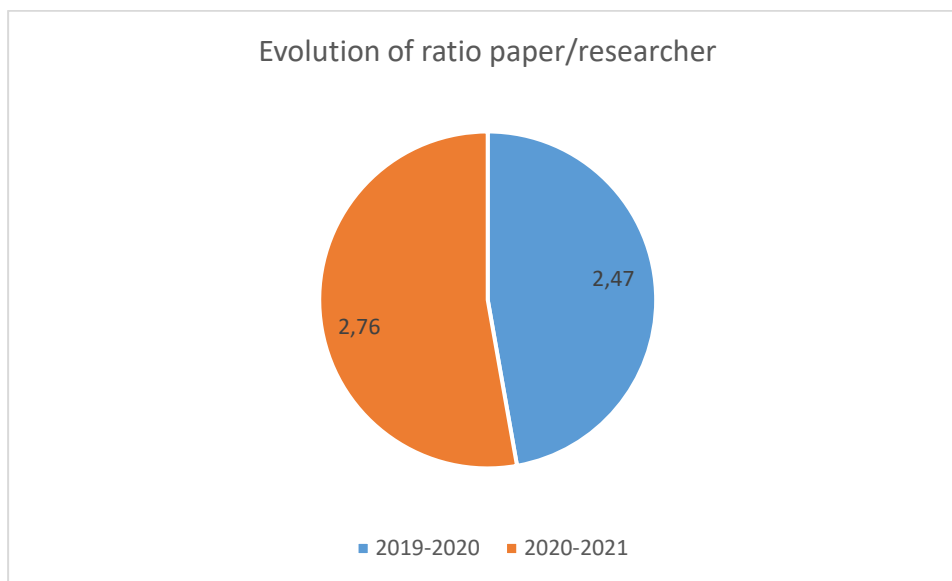| Indicador	Número	Observações
Patentes	N/A	
Modelos de utilidade	N/A	

2.4- Eventos de reforço e dinamização de atividades de I&D

Table 8. HEI-Lab events

Data	Identificação do Evento	Nº de participantes	Identificação da tipologia de participantes (Investigadores, Estudantes, etc…)
04/11/2020	Fazer + – Prémio Boas Práticas	24	Researchers, developers
20/11/2020	Financiamento	25	Researchers, developers
11/12/2020	Virtual Landscapes	20	Researchers, developers
15/01/2020	Emotion Recognition	21	Researchers, developers
05/02/2020	Comportamento em Pandemia	18	Researchers, developers
26/02/2020	Fazer +: Excelência na Investigação	24	Researchers, developers
10/03/2020	Horizon Europe write-up skills	26	Researchers, developers
24/03/2020	Type D Personality Digital Assessment	17	Researchers, developers
14/04/2020	Violência Bidirecional	18	Researchers, developers
19/05/2020	PTSD – Firefighters	20	Researchers, developers
16/06/2020	Depression Project	24	Researchers, developers
23/06/2020	Care 4 Self	16	Researchers, developers
07/07/2020	iBUS		Researchers, developers

During 2021, a Facebook account (https://www.facebook.com/HEILabULHT) was set and a Newsletter started to circulate, see below an example. HEI-Lab's website 'News' and Highlights' columns were updated regularly with events and calls for positions.
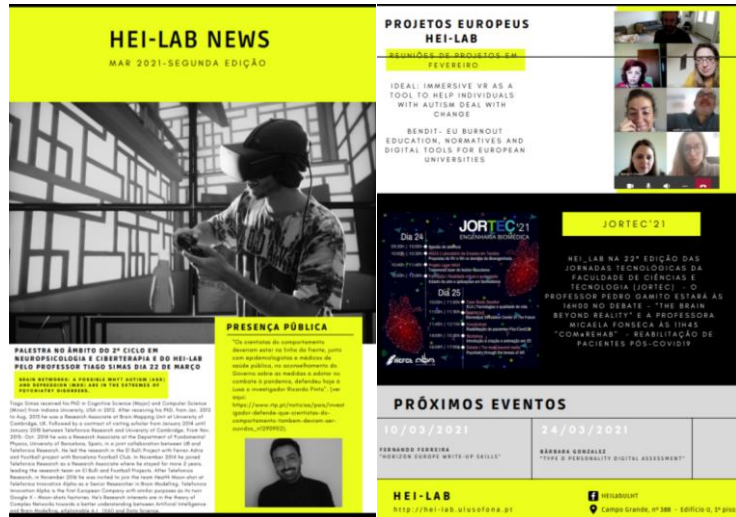
Figure 10. Newsletter example.

2.5- Quadro de Promoção de Investigadores

HEI-Lab researchers' evaluation is conducted at the end of each academic year based on production indicators, chiefly number of paper published in Q1|Q2 outlets and on R&D submitted/granted and on their involvement on unit activities, mainly its internal R&D projects and participation on HEI-Lab scientific events. The outcome of this evaluation is expressed in the form of funds available for each researchers to spend in R&D activities.

2.6- Reuniões

Besides the scientific meetings that take place every three weeks (https://hei-lab.ulusofona.pt/scientific-meetings/), HEI-Lab held each year two scientific board meetings and one Advisory Board (AB) meeting. In 2020, the AB was replaced by the submission of a report for evaluation, and in 2021 the meeting will be held during the ICDVRAT conference in September. Every Wednesdays, a meeting with HEI-Lab developers take place with the participation of several researchers. This meeting covers all development and application of the ongoing projects in the unit that required the intervention of HEI-Lab's developers (Table 9).

Table 9. Developers' Meetings.

Project Name	State	Proponent	Manager	Progress	Work Load	Days Left	Deadline	Folder Link
Automotive	Finished	Pedro Gamito	Filipe Pinto	100%	73	-31	20/5/21	Folder Link
VREthics	Finished	Pedro Gamito	Fábio Dias	100%	32	-30	21/5/21	Folder Link
Conformity	Finished	Ágata Salvador	Filipe Pinto	100%	1	99	30/9/21	Folder Link
CovFear	Finished	Ricardo Pinto	Marco Conceição	100%	1	99	30/9/21	Folder Link
Firefighters	Finished	Ricardo Pinto	Rodrigo Pinheiro	100%	1	99	30/9/21	Folder Link
SLB 1	Data Collection & Analysis	Pedro Gamito	Filipe Pinto	100%	1	99	30/9/21	Folder Link
EmoRec	Data Collection & Analysis	Mauro Bianchi	Shivani Atul	100%	3	-41	10/5/21	Folder Link
LadyInDist	Data Collection & Analysis	Pedro Gamito	Shivani Atul	100%	11	-41	10/5/21	Folder Link
Dissonance	Data Collection & Analysis	Ágata Salvador	Shivani Atul	100%	8	-41	10/5/21	Folder Link
Virtual Landscapes	Data Collection & Analysis	Ana Loureiro	Shivani Atul	55%	51	-41	10/5/21	Folder Link
TypeD	Active Development	Bárbara Gonzalez; Isabel Santos	Fábio Dias	86%	71	-38	13/5/21	Folder Link

Project	Status	Manager	Proponent	%			Date	Link
Care4Myself	Active Development	Ana Beato	Marco Conceição	56%	34	-20	31/5/21	Folder Link
DARTE	Active Development	Jorge Oliveira	Diogo Sousa	24%	752	70	1/9/21	Folder Link
Bidirectional V	Active Development	Andreia Machado	Filipe Pinto	0%	1	99	30/9/21	Folder Link
ACT	Active Development	Ágata Salvador	Shivani Atul	2%	82	-31	20/5/21	Folder Link
VRMnesis	Active Development	Pedro Gamito	Micaela Fonseca	71%	7	-21	30/5/21	Folder Link
CBT Digital SR	Active Development	Ana Beato	Fábio Dias	33%	46	70	1/9/21	Folder Link
VRACT	Active Development	Ana Beato	Fábio Dias	92%	39	70	1/9/21	Folder Link
DigitalNudging	Active Development	Rita Farias	Fábio Dias	63%	8	99	30/9/21	Folder Link
VRinvisuais	Active Development	Joana (Jorge Oliveira)	Lucas Viana	89%	18	99	30/9/21	Folder Link
ALERRT_IDEAL	On Hold	Pedro Gamito	Marco Conceição	0%	1	70	1/9/21	Folder Link
Druida	On Hold	Micaela Fonseca	Pedro Neves	0%	10	99	30/9/21	Folder Link
Adaptive	On Hold	Phil Lopes	Rita Rosa	0%	1	99	30/9/21	Folder Link
Com@Rehab	On Hold	Manager Name	Proponent Name	0%	1	99	30/9/21	Folder Link
Norte2020	On Hold	Manager Name	Proponent Name	0%	1	99	30/9/21	Folder Link

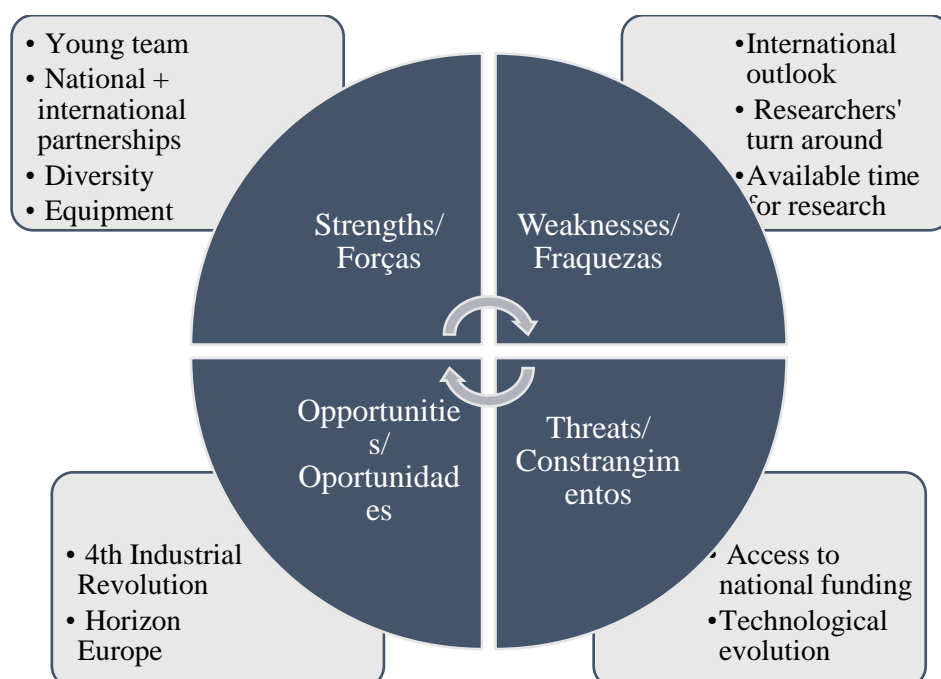|								
SLB 2	On Hold	Manager Name	Proponent Name	0%	1	99	30/9/21	Folder Link
Selective Att	On Hold	Ágata Salvador	Filipe Pinto	0%	8	70	1/9/21	Folder Link
AlcoVR	On Hold	Manager Name	Proponent Name	0%	1	99	30/9/21	Folder Link
Depression P	On Hold	Pedro Gamito	Fábio Dias	0%	1	99	30/9/21	Folder Link
VROT	**Active Development**	Fábio Dias	Fábio Dias	0%	78	99	30/9/21	Folder Link
Laboratorio	Active Development	Jorge Oliveira	Shivani Atul	0%	1	99	30/9/21	Folder Link
Tools	Active Development	Pedro Gamito	Phil Lopes	3%	91	99	30/9/21	Folder Link
Logistica	Active Development	Micaela Fonseca	Phil Lopes	38%	39	10390	1/5/50	Folder Link

Capítulo III- Autoavaliação

The 2020-2021 plan was executed with positive deviations, apart from the foreseen hiring of 4 full-time researchers that has ended up in just one. Three milestones should be highlighted: the number of papers published in Q1|Q2 outlets (n = 45) and its proportion when compared with Q3|Q4 journals: 79%; the number of ongoing funded projects (n = 24) with the contribution of HEI-Lab researchers and the participation in the international stage serving in Editorial Boards of indexed journals (n = 27) and in International Committees (n = 25). All these indicators reflect the vitality of the unit and are paving the way to an improved mark in the next RAE.

Also, the continuous integration of researchers within HEI-Lab scope has generated +20 internal R&D projects enabling the appropriation by most of the researchers of HEI-Lab's watermark.

Additionally, the creation of thematic research Labs promoted the transition from an individual outlook, where researchers were working in an isolated fashion, towards a group dynamic that will help in managing the effort associated with paper and of grants submission, and, hopefully, will set the cradle for novel research projects.

HEI-Lab researchers have at their disposal four fora where they can participate in HEI-Lab's activities: Scientific Board, Scientific Meetings, Thematic Labs Meetings and Developers Meetings.

3.1- Análise SWOT

- Young team
- National + international partnerships
- Diversity
- Equipment

- International outlook
- Researchers' turn around
- Available time for research

Strengths/ Forças

Weaknesses/ Fraquezas

Opportunities/ Oportunidades

Threats/ Constrangimentos

- 4th Industrial Revolution
- Horizon Europe

- Access to national funding
- Technological evolution

Capítulo IV- Propostas de melhoria

Table 10. Proposals for improvement.

Âmbito	Melhoria(s) a implementar	Ação (es) a desenvolver	Grau de prioridade (baixo, médio, alto)	Tempo de implementação - calendarização	Indicador(es) de implementação	Resultados Esperados
Contracts	Full time researchers	Hiring (internal + CEEC)	High	2022	N of contracts	5
Funding	Research + Industry Grants	Apply to Horizon Europe and national envelopes	High	2021 - 2023	N of submissions/N grants	10 submissions/year
Research	Teamwork	Get the thematic Labs going	High	2021	N of team papers and submissions	
Contracts	Developers	From internal and external grants, hire developers	Medium	2021-2022	N of developers	3 developers
Contracts	Stabilize research team	Secure researchers with competitive contracts	High	2021	Submission of teamwork.	Team consolidation. N of papers and grants submissions
Research	Promote participation in Editorial Boards and	Increase funds/prizes to researchers	High	2021-2022	N of Editorial Boards and International Committees	10% increase.

	International Committees				

(*) matriz a usar

Conclusão

HEI-Lab is on the right track. During 2020-2021, all evaluation criteria that were set by FCT to evaluate the unit were addressed and its indicators were improved.

A) Quality, merit, relevance and internationalization of the R&D activities of the Integrated Researchers in the R&D Unit Application. The internationalization outlook, as measured by participation in Editorial Boards and International Committees, of unit's researchers increased.

(B) Merit of the team of Integrated Researchers. The number of papers and of grants submission and funded, also increased. Nevertheless, an additional effort must be made to capture Horizon Europe funds.

(C) Appropriateness of objectives, strategy, plan of activities and organization. HEI-Lab, although having stick to its founding objectives, has adapted its strategy, plan of activities and organization towards FCT evaluation results and team's profile. In 2019 HEI-Lab gave birth to three R&D lines that better reflect team's R&D activities, and, in 2021, Thematic Labs were created to better organize team's work. HEI-Lab strategy still leans on providing its researchers with freedom to conduct their R&D activities in the field of their choice, but strongly encourages them to take advantage of HEI-Lab's digital footprint.

Nevertheless, HEI-Lab's strongest challenge is to preserve its members and to increase the number of full-time researchers.

Nota informativa

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