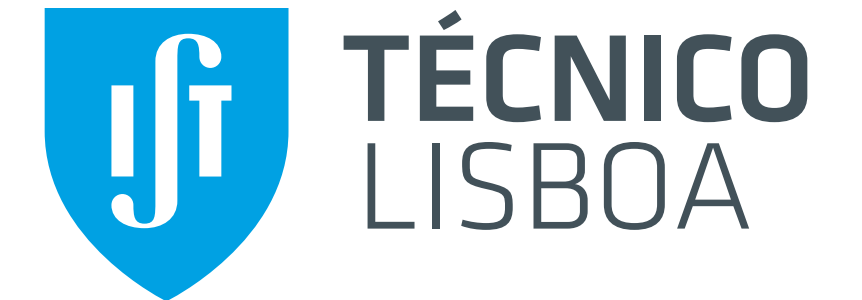


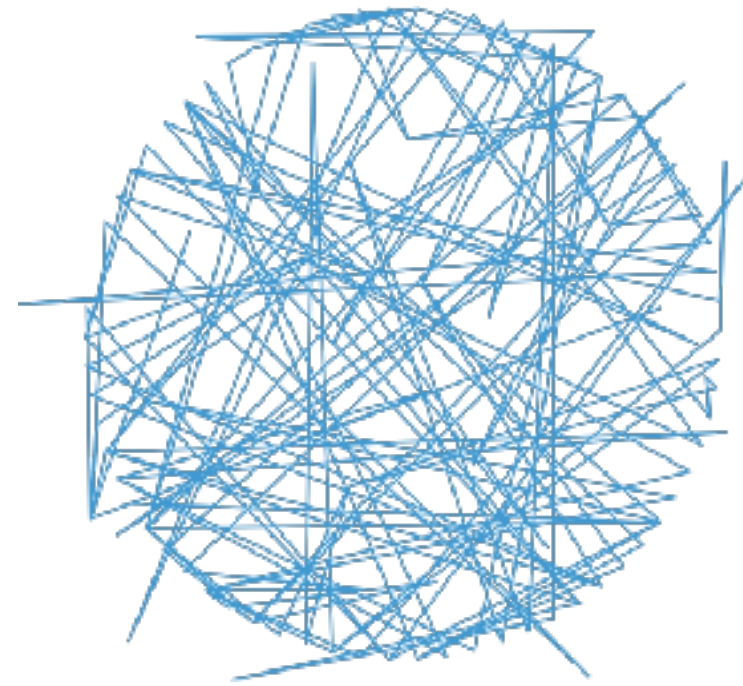


m-iti

Madeira Interactive
Technologies Institute

A research and innovation institute established as an independent non-profit R&D organisation part of the LARSYS - Associate Laboratory





LARSyS

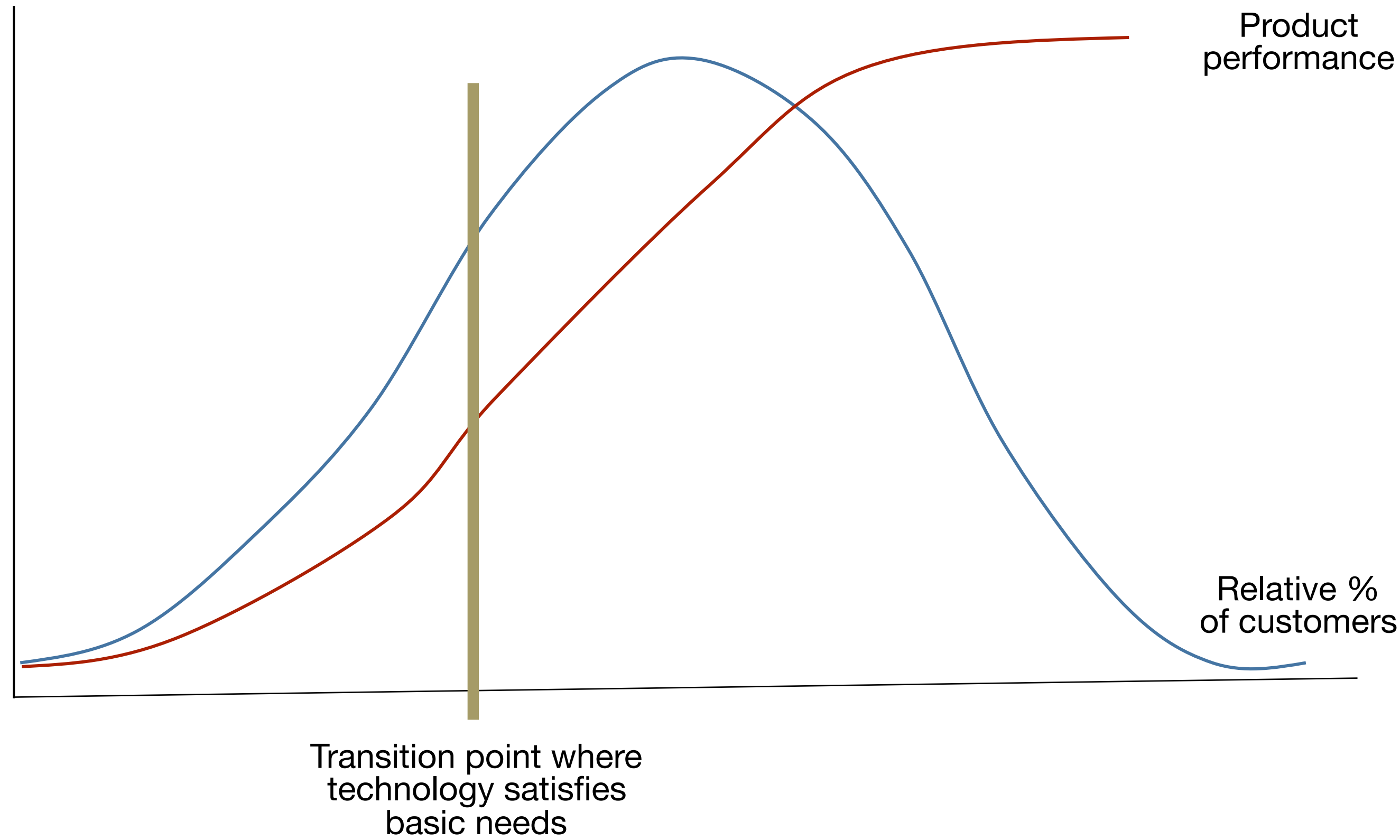
Robotics and Systems in
Engineering and Science

Application Areas

1. OCEAN EXPLORATION and EXPLOITATION
2. URBAN SYSTEMS
3. AERONAUTIC and SPACE SYSTEMS
4. ENGINEERING FOR AND FROM THE LIFE SCIENCES
5. COGNITIVE ROBOTS AND SYSTEMS FOR ASSISTED LIVING AND WORKING
6. DISTRIBUTED INFORMATION PROCESSING AND DECISION MAKING



[Norman after Rogers]



[Dunne & Raby]



High Technology
consumers want more technology, better performance



Consumer Commodity
consumers want convenience, ease of use, reliability, good design, low cost



Design Fictions *challenge narrow assumptions, preconceptions and gives about the role products play in everyday life*



Chris
Csikszentmihályi



Larry Constantine



Bob Spence



Nuno Nunes



Valentina Nisi



Pedro Campos



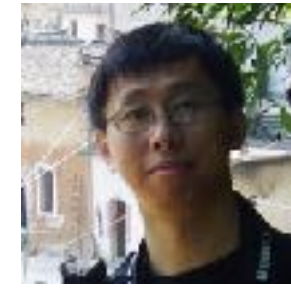
Evan Karapanos



Karolina Baras



David Aveiro



Monchu Chen



Morgado Dias



Lina Brito



Luisa Soares



Paulo Lobo



Claudia Silva



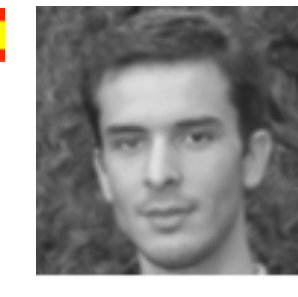
Simone Ashby



Monica Cameirão



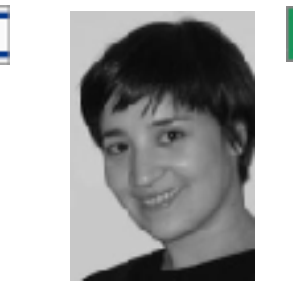
Sergi Bermudez



Jose Luis Silva



Yoram Chisik



Sónia Matos



James Auger



Mary Amasia



Diogo Cabral



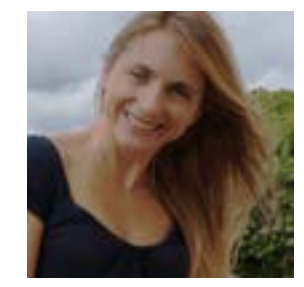
Julian Hanna



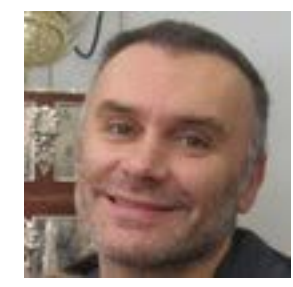
Bongkeum Jeong



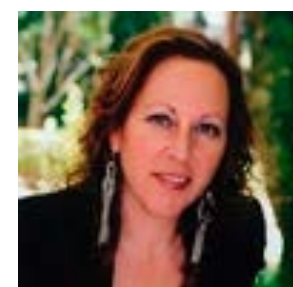
Nuno Correia



Mónica Mendes



Jesús Ibanez



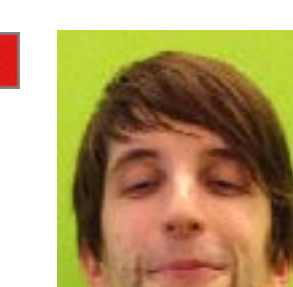
Arminda Lopes



Marisa Cohn



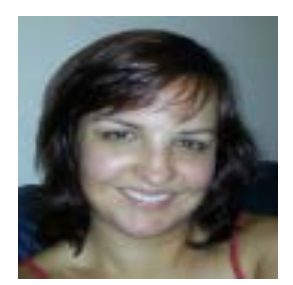
Mary Barreto



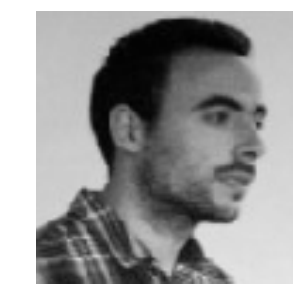
Marko Radeta



Maurizio Teli



Dulce Pacheco



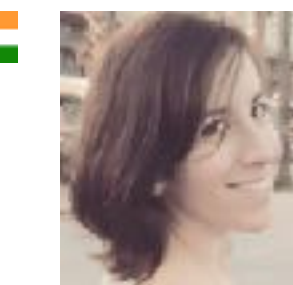
Filipe Quintal



José Nocera



Shujoy
Chakraborty



Deborah Castro



Lucas Pereira



Johannes
Schoening



Mariacristina
Sciannamblo



Catia Prandi

44 Members (27 integrated)

1 ERA Chair

2 Institute Fellows

4 Research Faculty

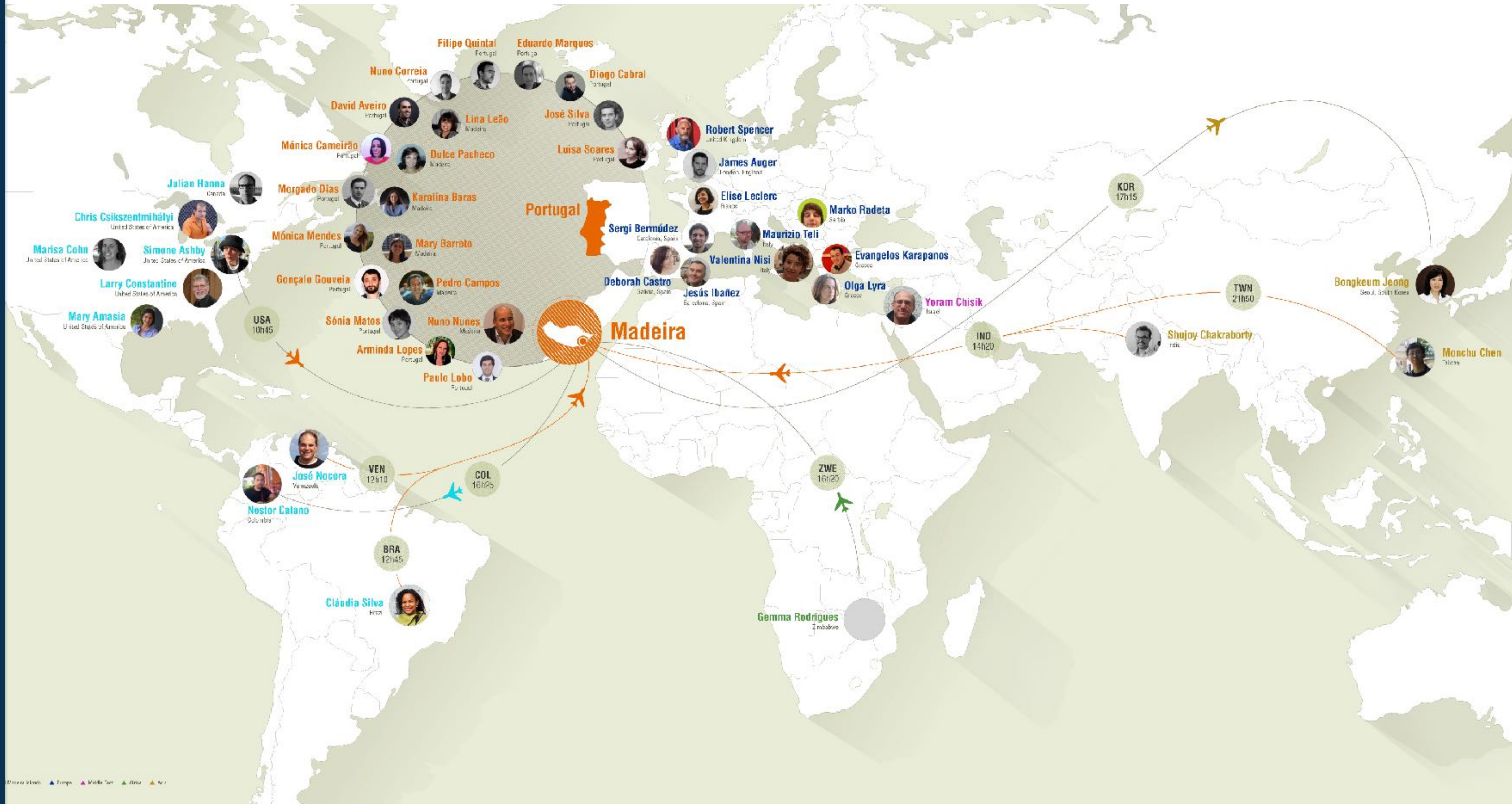
8 Faculty from other institutions

12 Post docs

16 countries, 10 languages

computer science, engineering, psychology,
design, art, anthropology, educational
sciences, literature, linguistics...

faculty



<p style="writing-mode: vertical-rl; transform: rotate(180deg);">PHD</p>	<p style="text-align: center;">DIGITAL MEDIA</p> <div style="display: flex; justify-content: space-around; align-items: center;">    </div>	<p style="text-align: center;">NETSYS</p> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: left;"> <p>Carnegie Mellon University Carnegie Mellon PORTUGAL AN INTERNATIONAL PARTNERSHIP</p> </div>  </div>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">MASTERS</p>	<p style="text-align: center;">HUMAN-COMPUTER INTERACTION</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <p style="text-align: center;">Carnegie Mellon PORTUGAL AN INTERNATIONAL PARTNERSHIP</p>	<p style="text-align: center;">ENTERTAINMENT TECHNOLOGY</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <p style="text-align: center;">Carnegie Mellon PORTUGAL AN INTERNATIONAL PARTNERSHIP</p>

working with other institutions at the national and international level...

education

PARTNERS AND CLIENTS

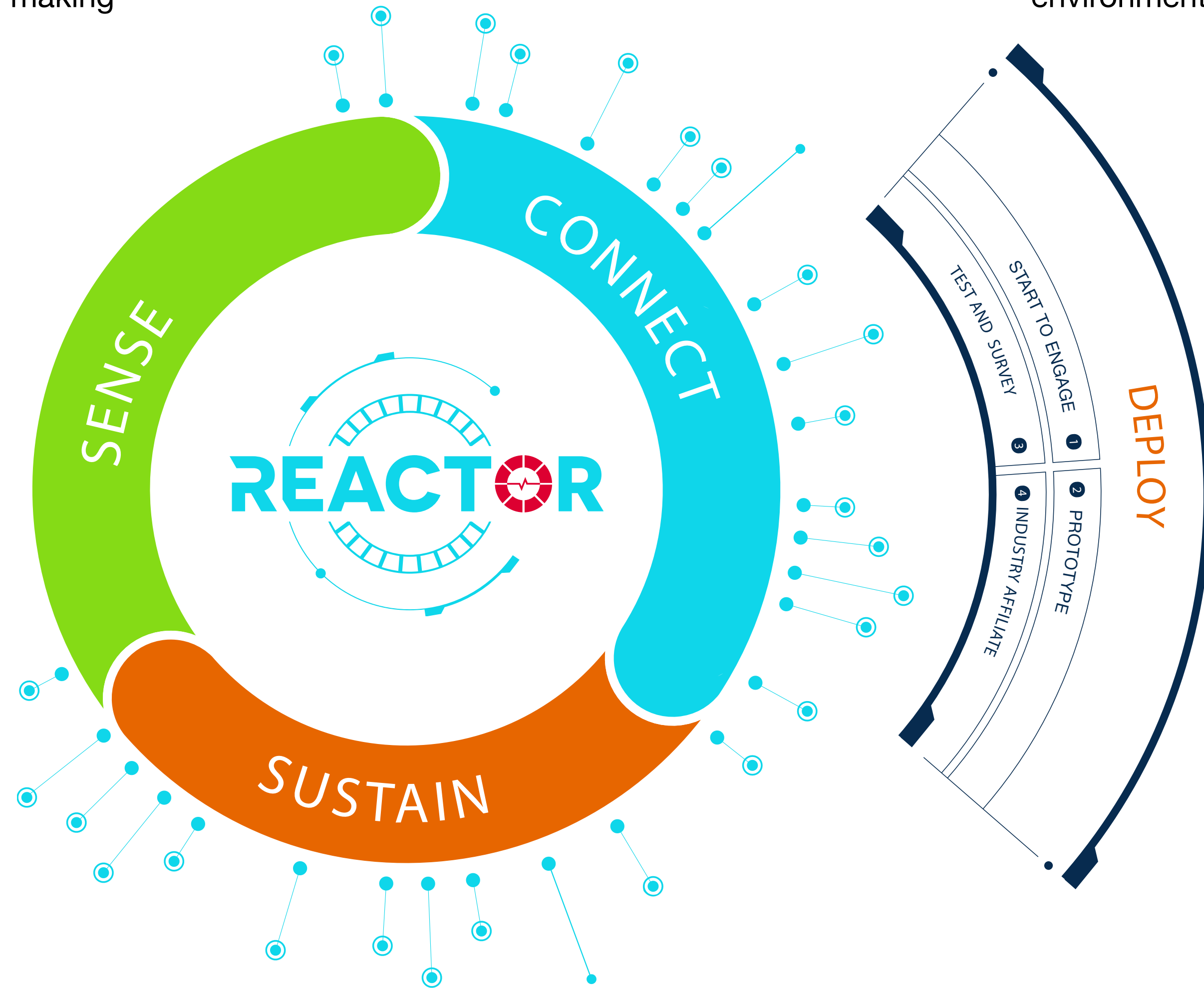






- how to recognize and display the invisible, out of sight or forgotten resources, environmental parameters, changes, migrations and flows of data and capital of the future urban and aquatic environments for optimization and informed decision making

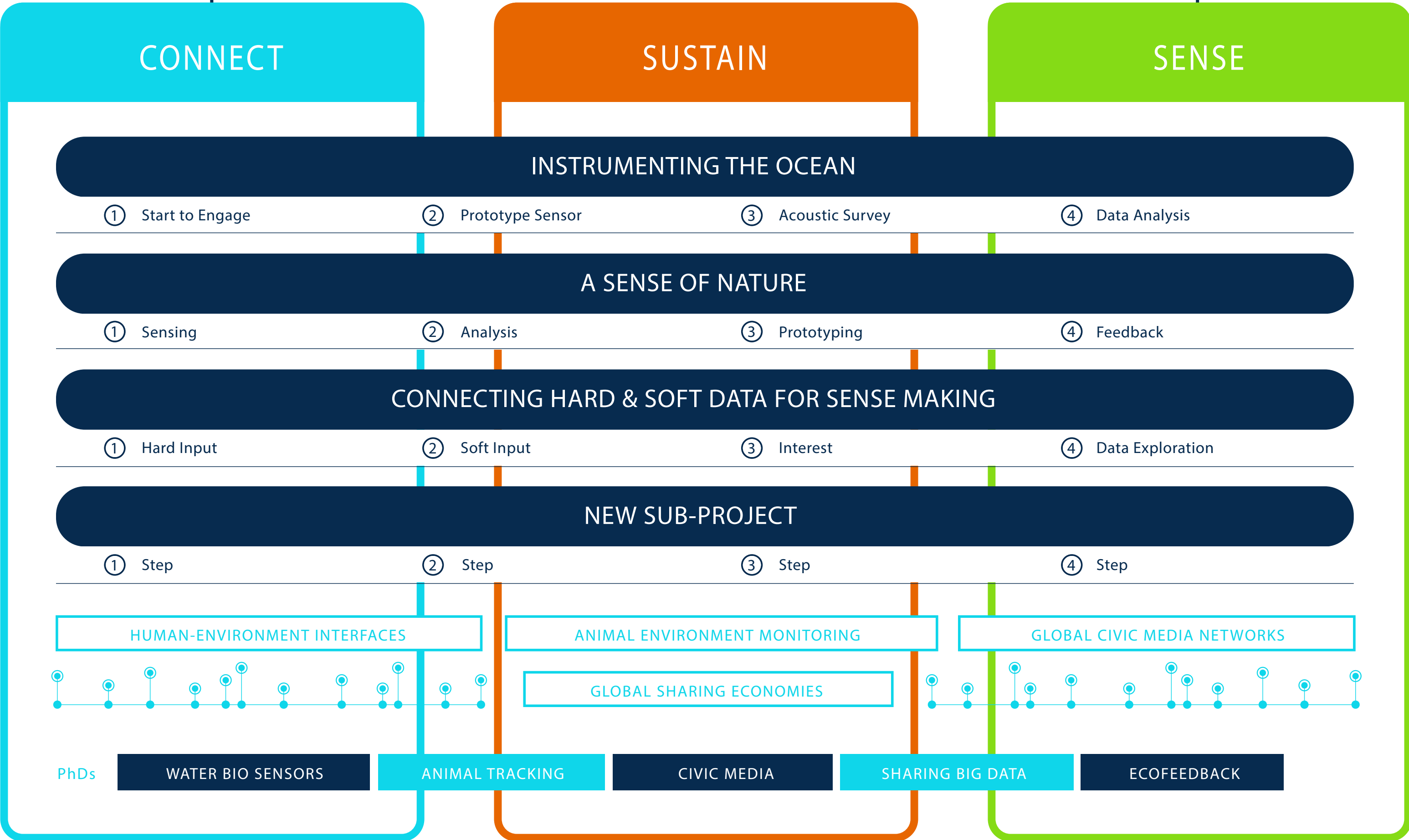
- how technologies across the compute continuum give us an opportunity to innovate with emerging ideas of global citizenship, community, work, leisure, place and cultural and individual identity yet protect privacy in an environment of ubiquitous sensors



- deploy in the the three testbeds in London, Lisbon and Madeira concerned with how to design, build, sustain and maintain the scaled adaptive systems necessary for the urban and aquatic environments of the future from sensor/edge to cloud

- how to improve local and global resource management through technology interventions and the science of behavioural change that could sustain sustainable practices of global coordination and problem solving

TECH and DESIGN FOR GLOBAL CHANGE



FUTURE URBAN AND AQUATIC ENVIRONMENTS

Research platform

Investigate **global changes effects**
on nature and communities



- Future Urban Environment - located in London and Lisbon will leverage the extensive experience of UCL in the test beds of sustainable connected cities which are concerned with how to enhance the social, economic and environmental wellbeing of urban environments by advancing computing, communication and social constructs to deliver innovations in system architecture, algorithms and societal participation.
- Future Aquatic Environment – located in Madeira this test bed leverages the unique geographic positioning of the Islands in the centre of the marine economic zone of the EU and will be concerned with how to enhance the social, economic and environmental potential of the ocean by advancing sensing, communication, tracking and monitoring solutions to increase our understanding of the underlying resources and ecosystems.

A multi-disciplinary Center combining natural and social scientists, engineers, humanists, and artists, its output will be focused on the area of applied science and human-centred technology.

#1 invent new design techniques

#2 investigate how nature and communities are affected by natural, political, and economic global pressures

showcasing the advantages of research and design situated outside of global capitals

#3 develop personal, business, scientific, and civic technological platforms

our vision



mapping remote areas of the globe



a battery that could power your after life



designing mobile services for the sharing economy



ecofeedback and energy conservation

#1. invent new design techniques to best respond to, or shepherd, complex and interrelated natural, social, and cultural global issues



Lucas Pereira, MSc
PhD student, computer science
Research topic
(cost-effective) home
energy monitoring



Filipe Quintal, MSc
PhD student, computer science
Research topic
eco-feedback
technologies



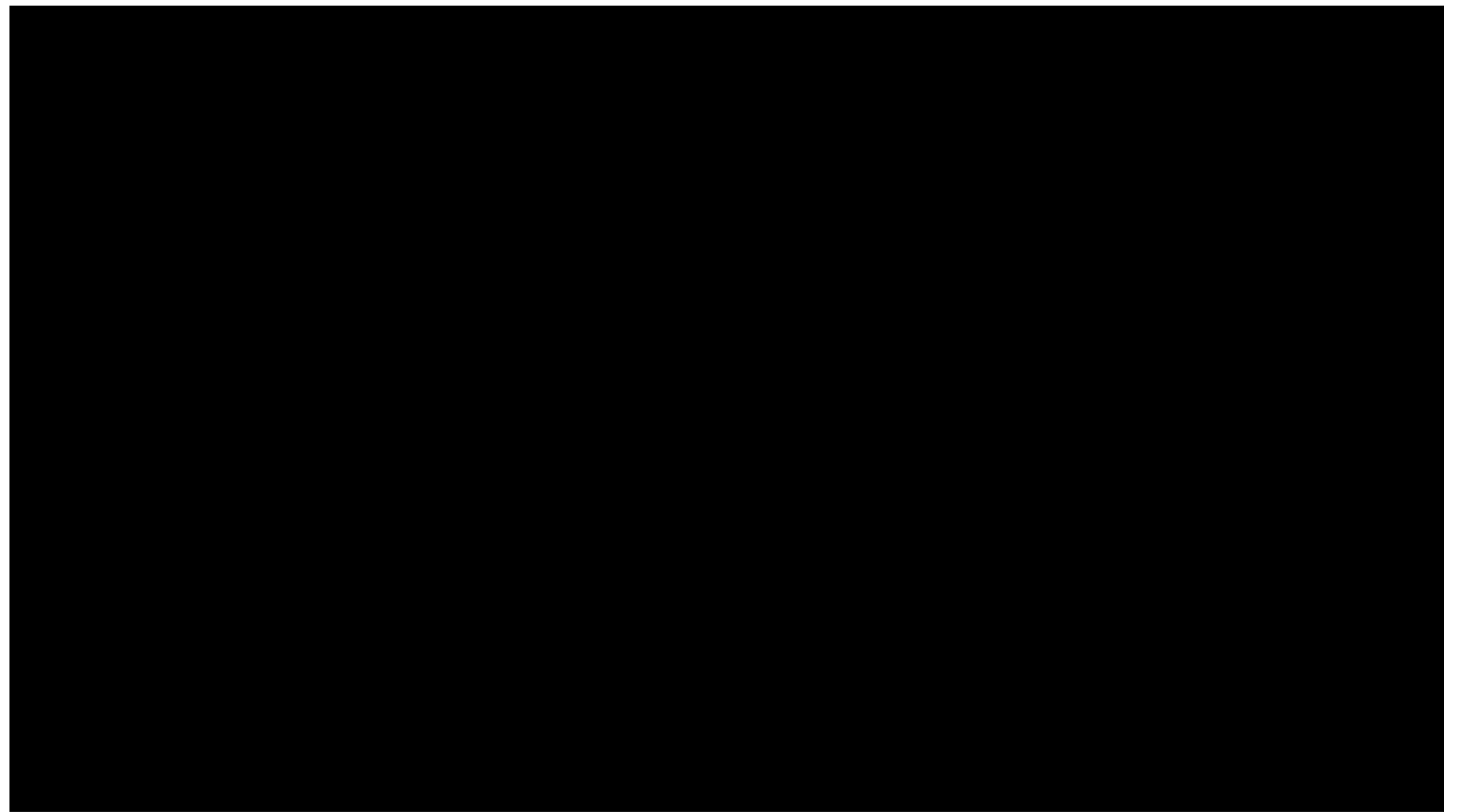


How to re-aggregate consumption

Watts Burning (also on my mailbox)



Watt-I-See



What-a-Watt



Quintal, F., L. and V. Nisi, "Electricity Production Through a Long Study", IFIP Conference on Sustainable Information Systems and Sustainability [paper], Madrid, Spain, 04/2015

What-I-See



EnnerSpectrum socket



Quintal, F. I., Pereira, C., Inoue, and

Home Services Features Team Contact



Whats Burning



Lucas Pereira

Machine Learning Lead



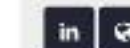
Filipe Quintal

Software Development Lead

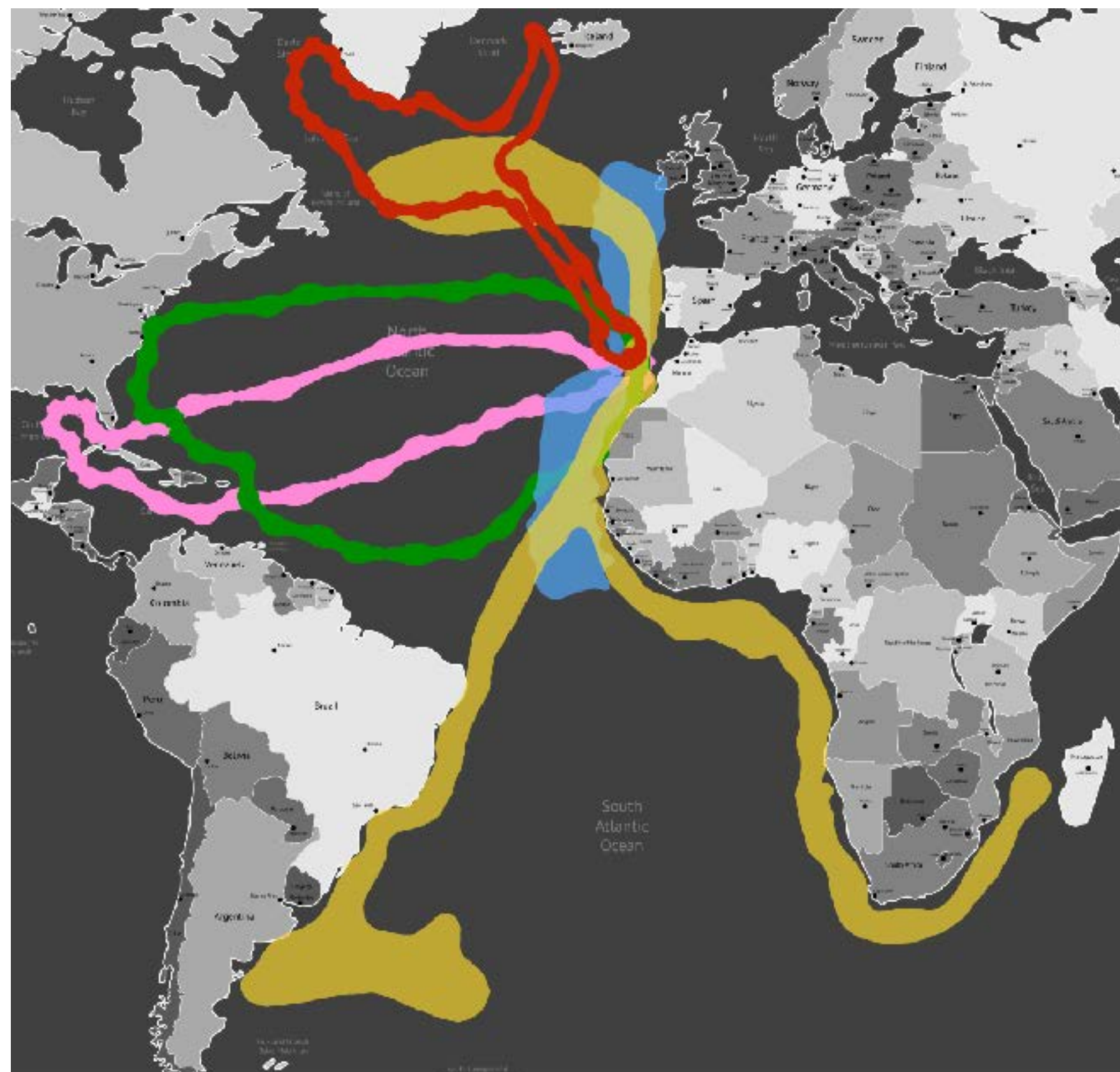


Mary Barreto

User Experience Lead



Filipe Quintal, M-ITI Researcher, has just won **Best PhD Student Award at SustainIT 2015** with *Exploring the Dimensions of Eco-feedback in the Wild*.

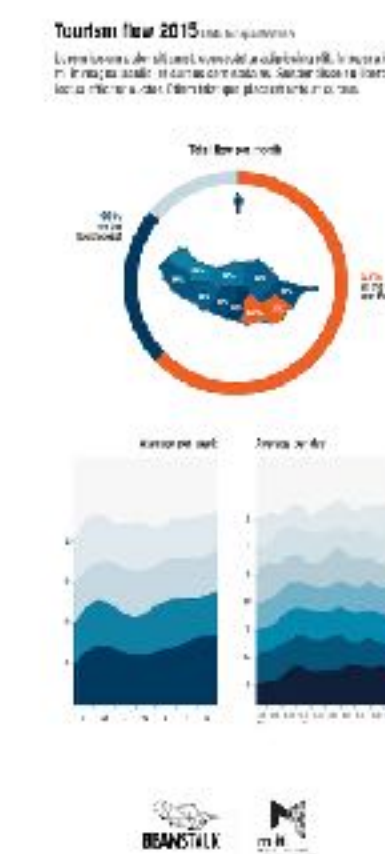


an ecological Internet of Ocean Things (IoOT)

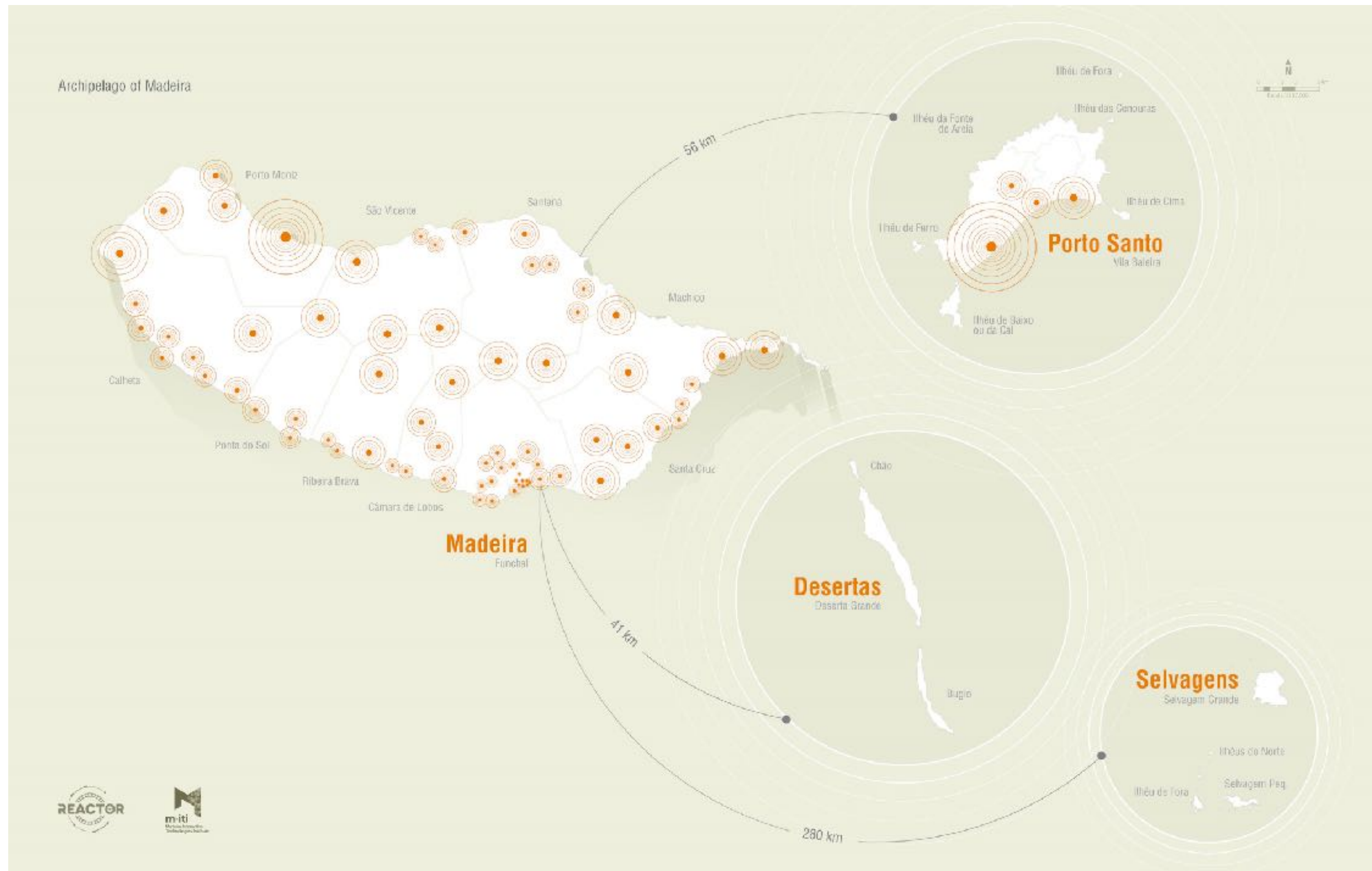


oceanographic data from animal tracking

© <http://www.meop.net/>

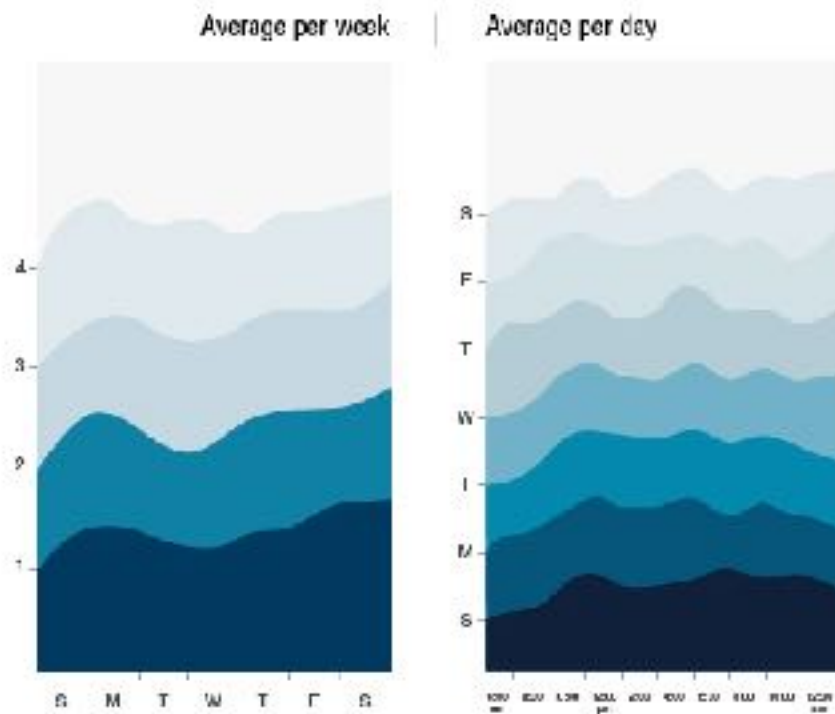
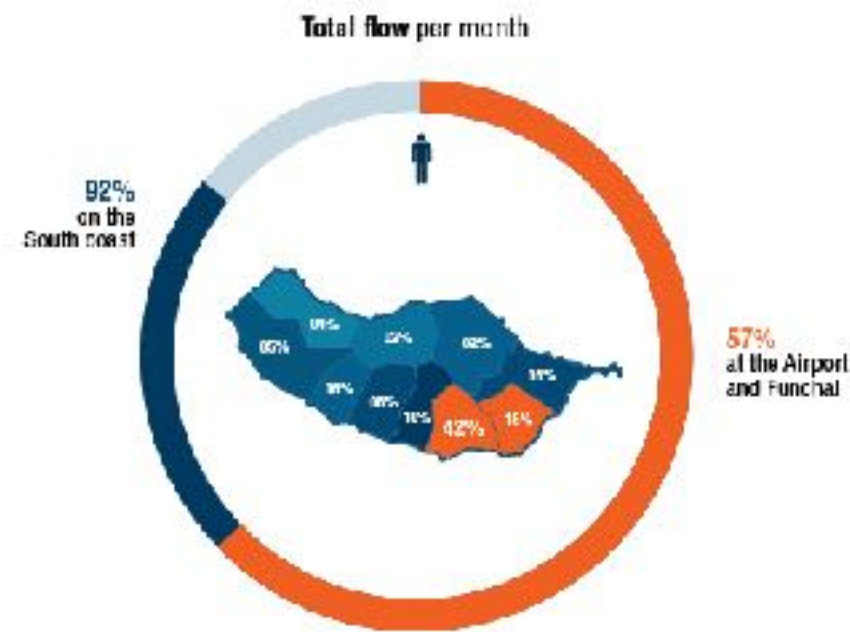


#2. investigate how nature and communities are affected by - and technologies that can empower them to confront - natural, political, and economic global pressures



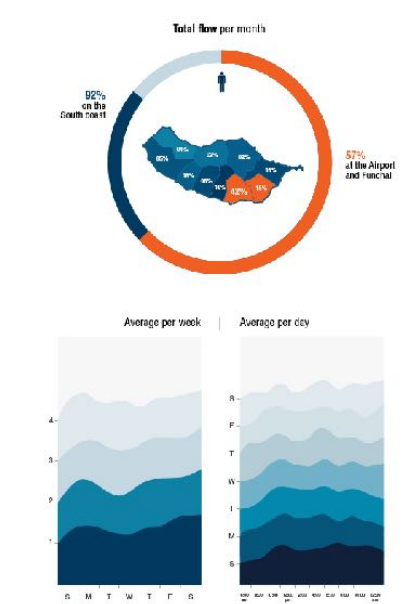
Tourism flow 2015 Data for qualification

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer aliquet mi in magna iaculis, et cursus sem sodales. Suspendisse eu libero nec lectus efficitur auctor. Etiam tristique placerat ante at cursus.



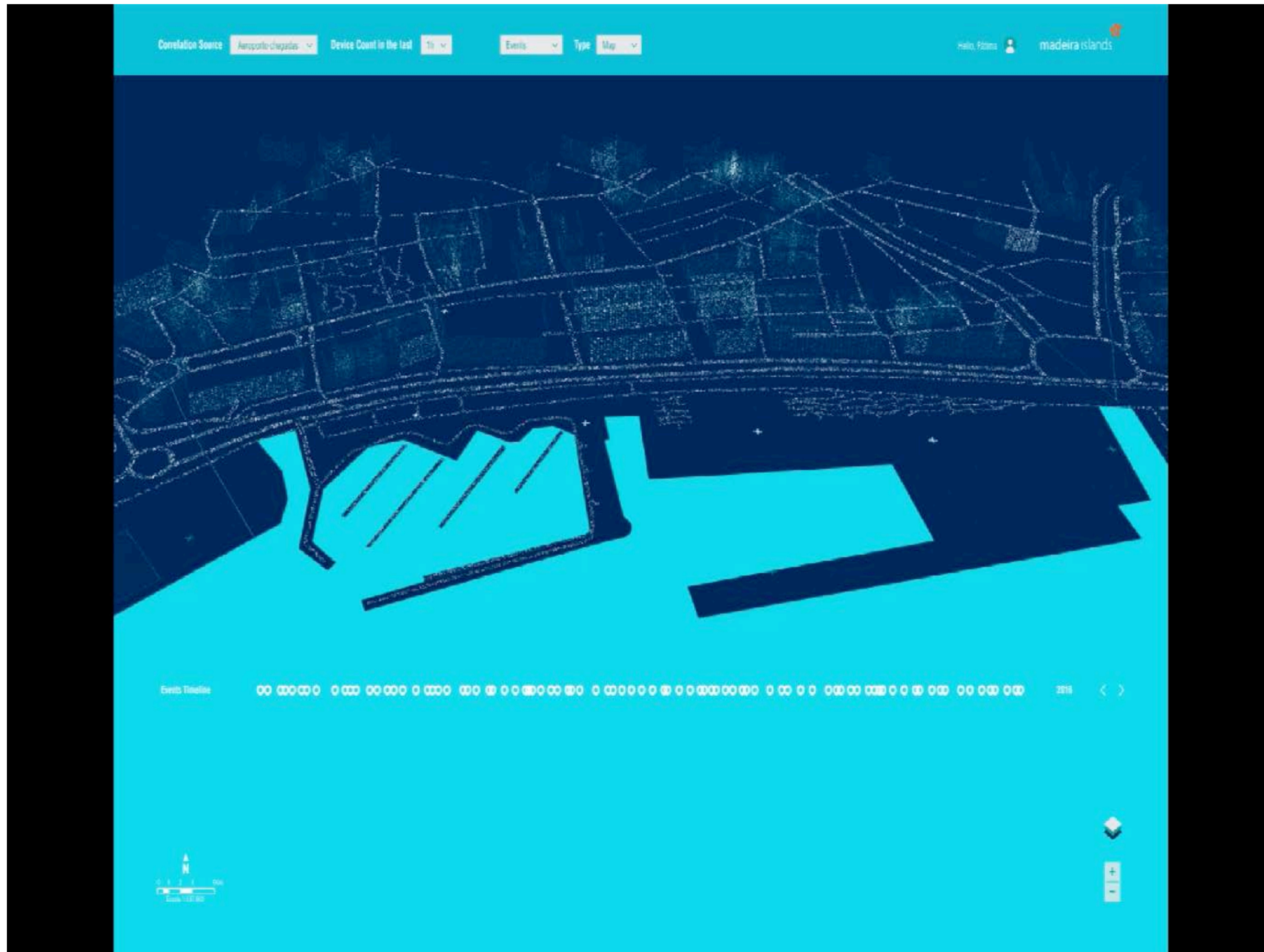


Tourism flow 2015



on a bucket with a solar panel and and android phone

#3. develop personal, business, scientific, and civic technological platforms for better understanding and situating actions, choices, and self in a global perspective



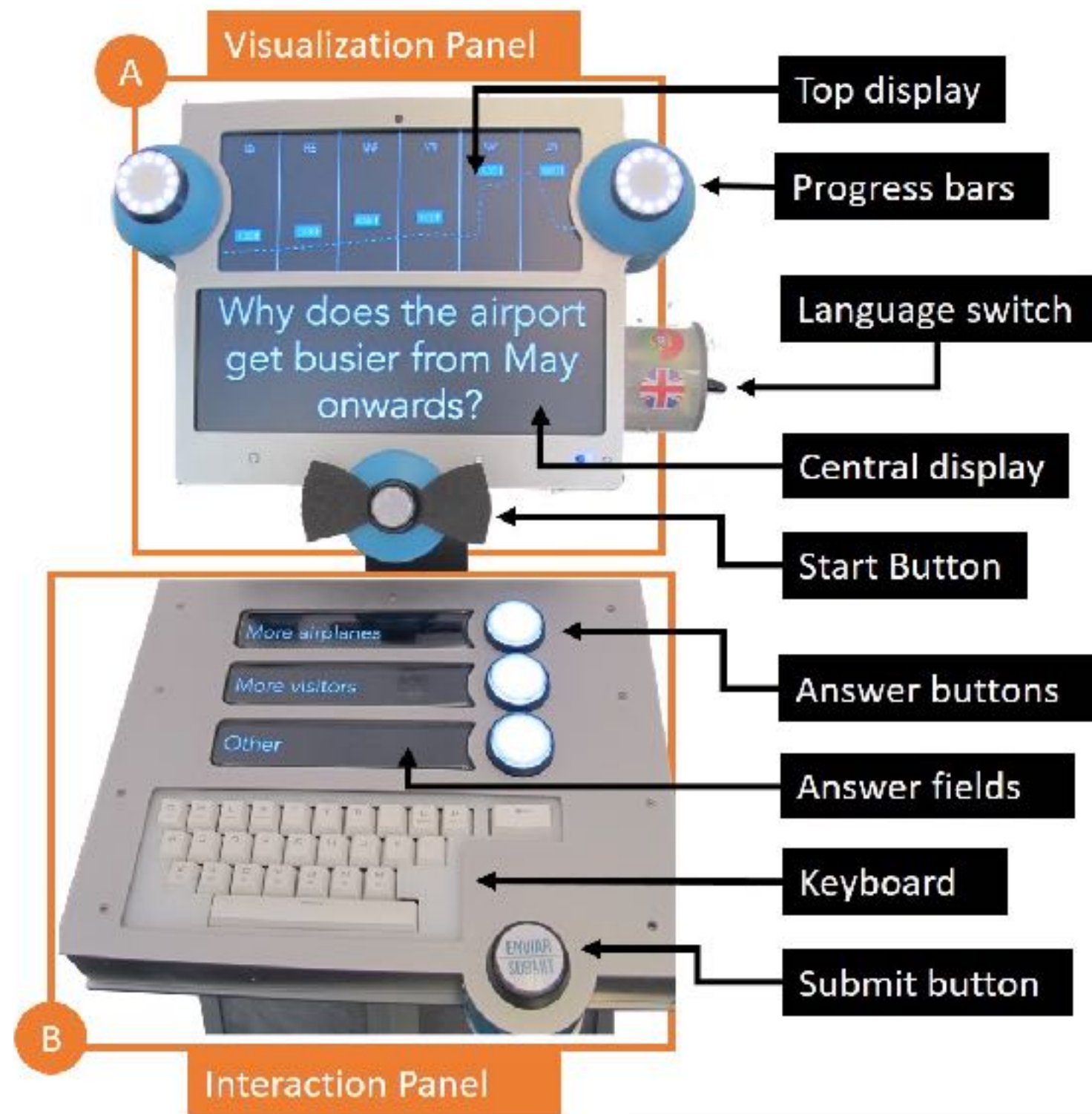


Figure 10. Participants' answers to the question 'Why are there more people at the airport on Mondays?'

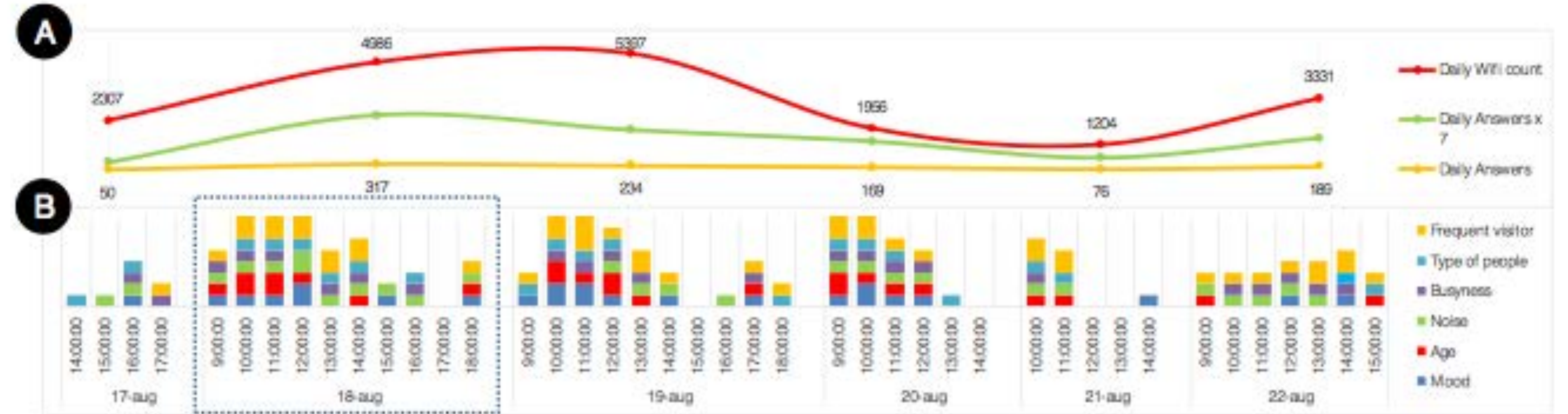


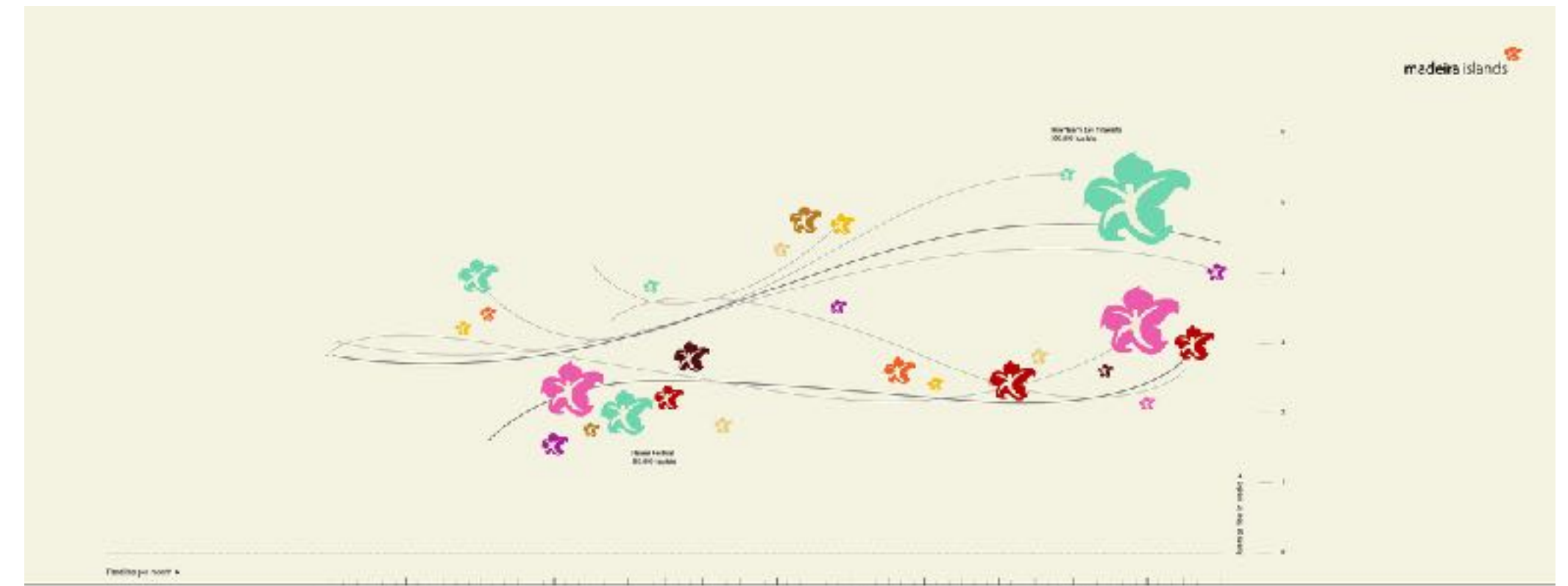
Figure 8. Overview of the hybrid data set. A shows the number of WiFi count and answers (real values and scaled). B summarizes the qualitative data (such as noise, age, or busyness) collected with Enquir.io. Each block is one data point.



Hourly Device Count 2016

>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer aliquet mi in magna iaculis, et cursus sem sodales. Suspendisse eu libero nec lectus efficitur auctor. Suspendisse eu libero nec lectus efficitur auctor. Etiam tristique placerat ante at cursus.

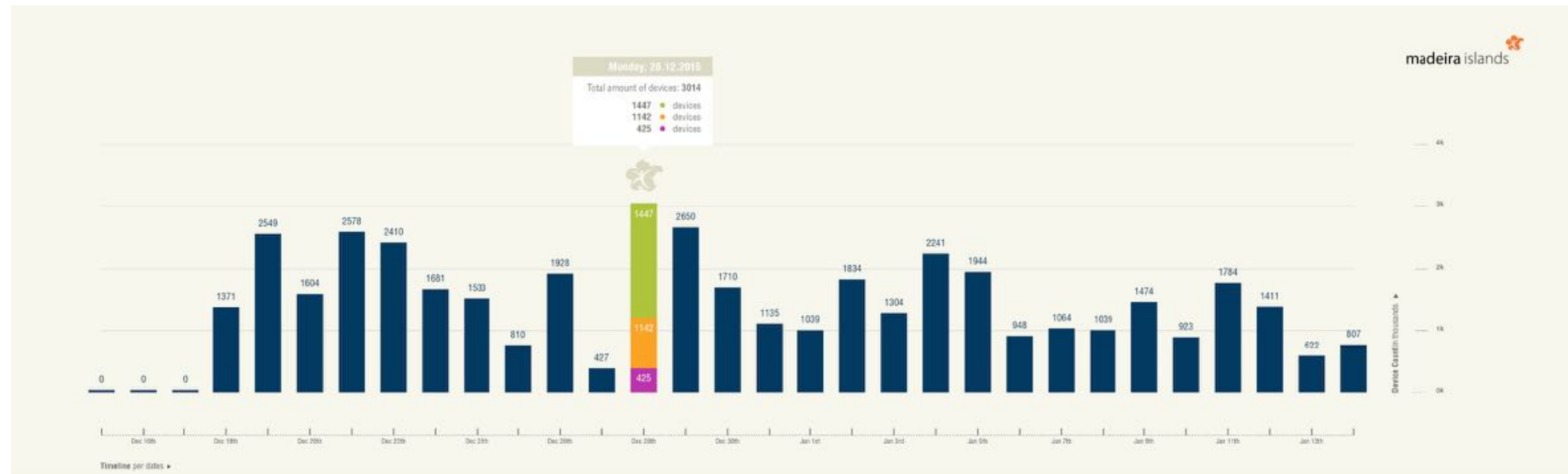
Amount of tourists in thousands (Average flow tracking)



Tourism Now 2015

>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer aliquet mi in magna iaculis, et cursus sem sodales. Suspendisse eu libero nec lectus efficitur auctor. Suspendisse eu libero nec lectus efficitur auctor. Etiam tristique placerat ante at cursus.

Amount of tourists in thousands (Average flow tracking)



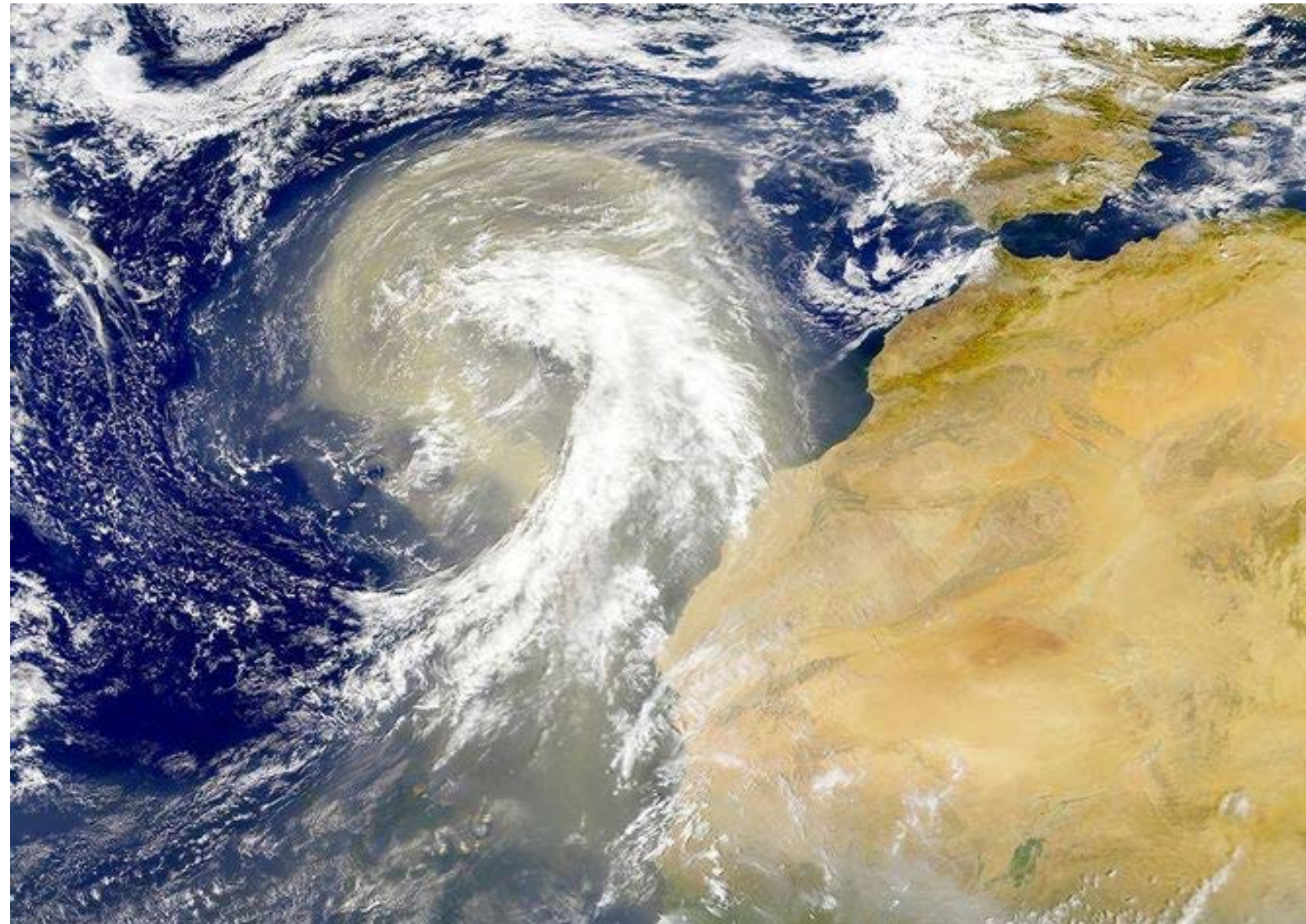
Daily Device Count 2016

>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer aliquet mi in magna iaculis, et cursus sem sodales. Suspendisse eu libero nec lectus efficitur auctor. Suspendisse eu libero nec lectus efficitur auctor. Etiam tristique placerat ante at cursus.

Amount of tourists in thousands (Average flow tracking)



showcasing the advantages of research and design situated outside of global capitals, including active research in and with the global south for which Madeira is one of the outposts for transnational EU cooperation



a global testbed

M-ITI NUMBERS EVOLUTION 2010 - 2016

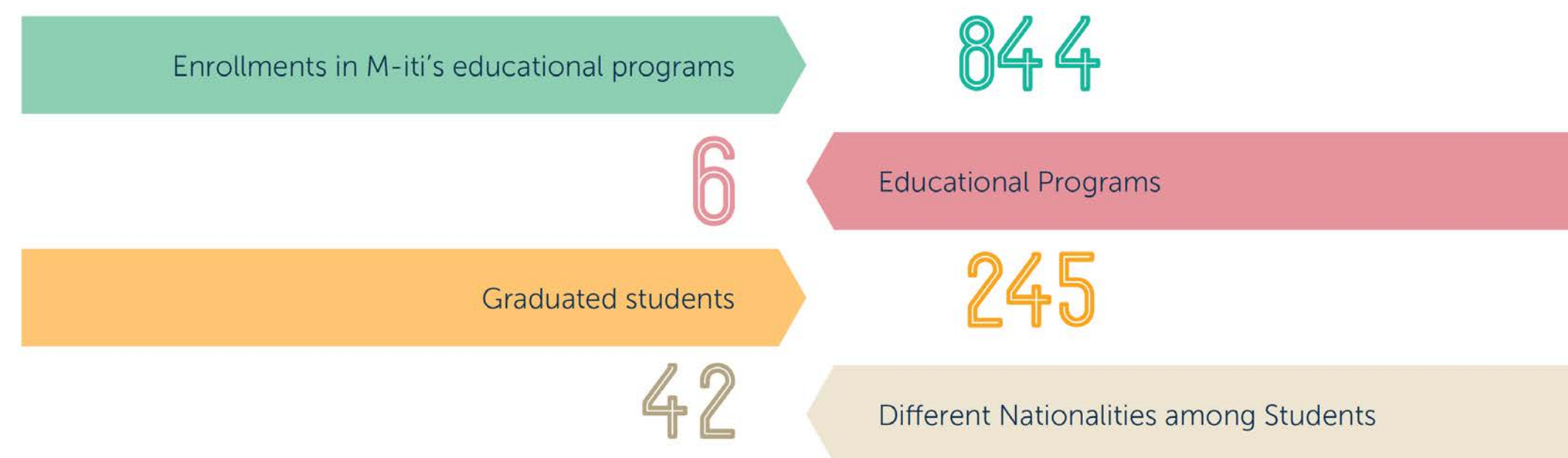
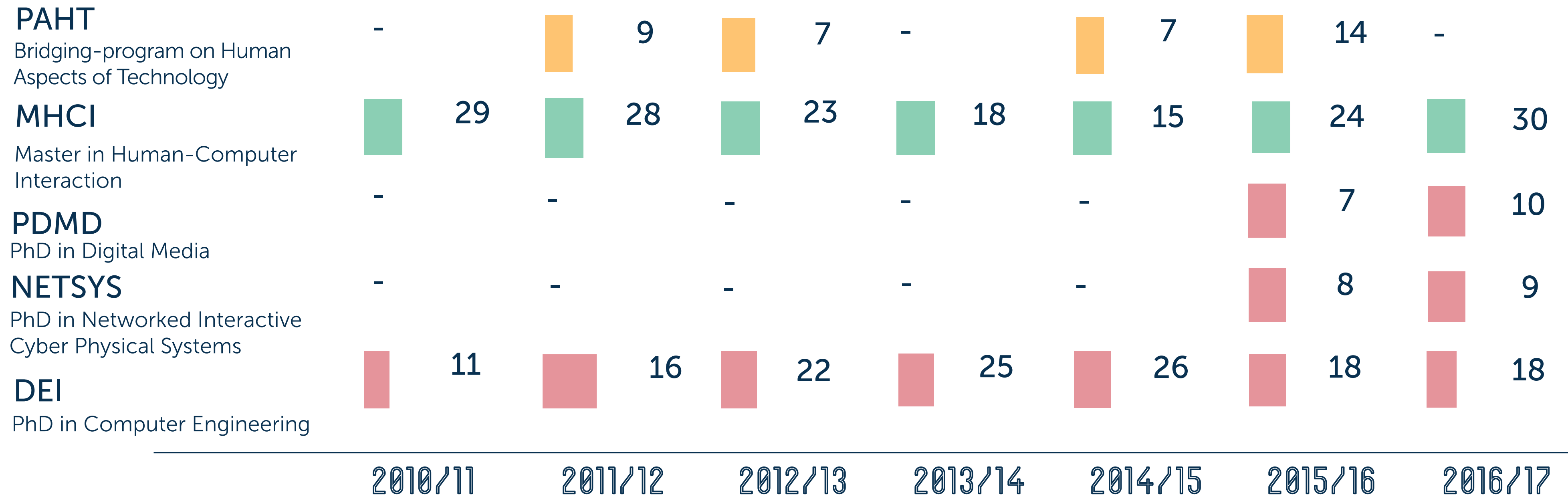
	2010	2011	2012	2013	2014	2015	2016
Citations (from Google Scholar)	758	1035	1266	1232	1306	1086	2258
Active Funded Projects	5	11	15	15	14	13	10
Research Outputs (publications)	86	89	119	119	111	135	94
Members Integrated	19	19	19	22	22	22	27
Hired Researchers	17	26	41	60	44	23	26

M-ITI IN NUMBERS 2010 - 2015



research output

EVOLUTION OF M-ITI STUDENTS 2010 - 2016



education output



**Designing tangible interaction
for embodied facilitation**

Research Associate at
Lancaster University, UK

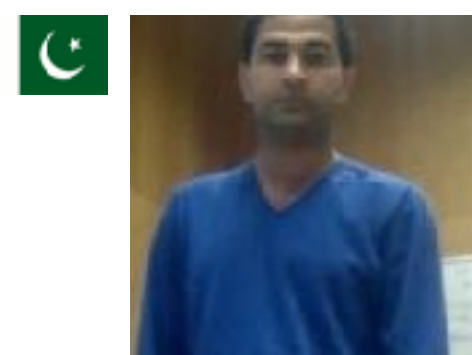
Augusto Esteves



**Motivating Sustainable Behaviour
Change Through Technical Interventions**

Assistant Research Fellow,
University of Otago, New Zealand

Michelle Scott



**On the Formal Verification of Specifications
based on Typstates with Access Permissions**

Assistant Professor COMSATS University,
Abbottabad, Pakistan

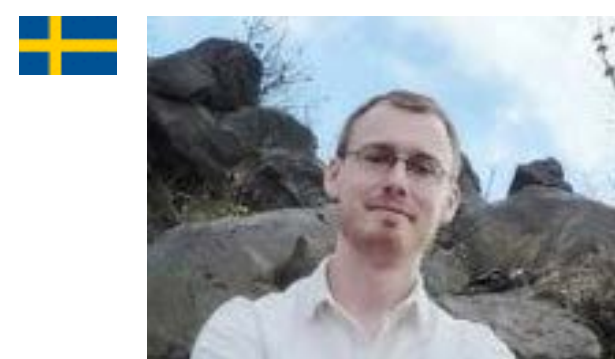
Ijaz Ahmed



**An Experience Sampling Tool for the Evaluation
of Pervasive Computing Applications**

Research and Teaching Assistant, Faculty
of Informatics at the University of Lugano
(Switzerland)

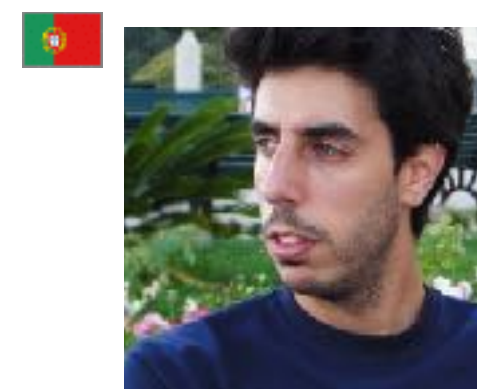
Evangelos Niforatos



**Enhancing Disaster Situational Awareness
Through Scalable Curation of Social Media**

Research Associate, Qatar
Computing Research Institute (Qatar)

Jakob Rogstadius



**Improving Adoption and Awareness
of Pervasive Public Displays**

Associate Business Consultant
at CGI, Madeira-Portugal

Clinton Jorge



**Towards the Integration of
service design methods and
tools in software
development process**

CTO, Grupo Porto Bay

Rui Alves



**Spatial Narrative as an
Interaction Resource Towards the
Discovery and Sharing of Place**

UX Design Analyst at
Citi Innovation Lab

Ken Keane



**A Formal Methods approach for checking
of Social Network privacy policies**

Postdoctoral Researcher, Lero – the
Irish Software Engineering Research
Centre, July 2014 – Present.

Sorren Hanvey



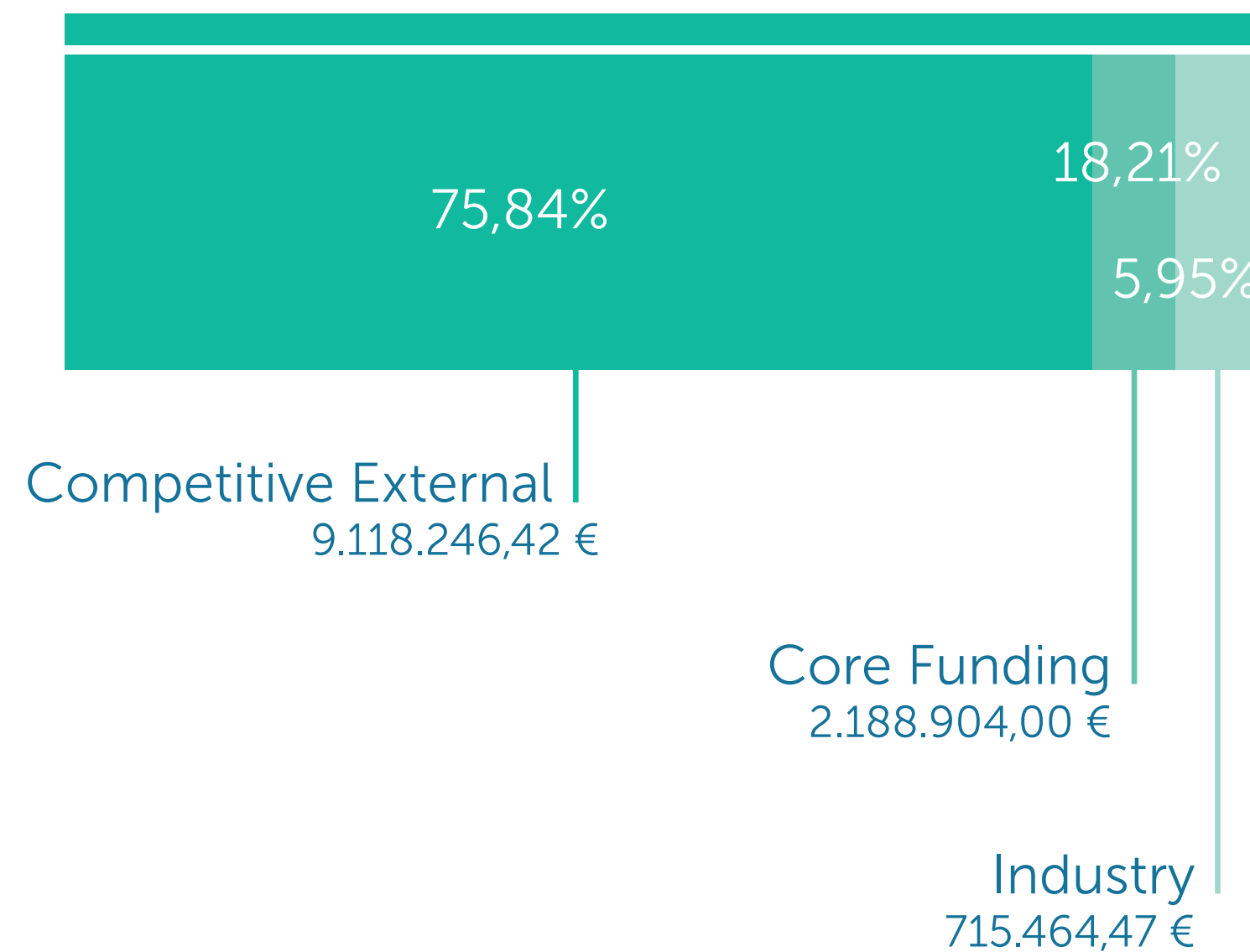
Phd Students

In the last five years M-iti raised more than 12M€ of external funding, mostly competitive. M-iti still depends a lot on competitive funding to support the research and academic activities

**6x
ROI**

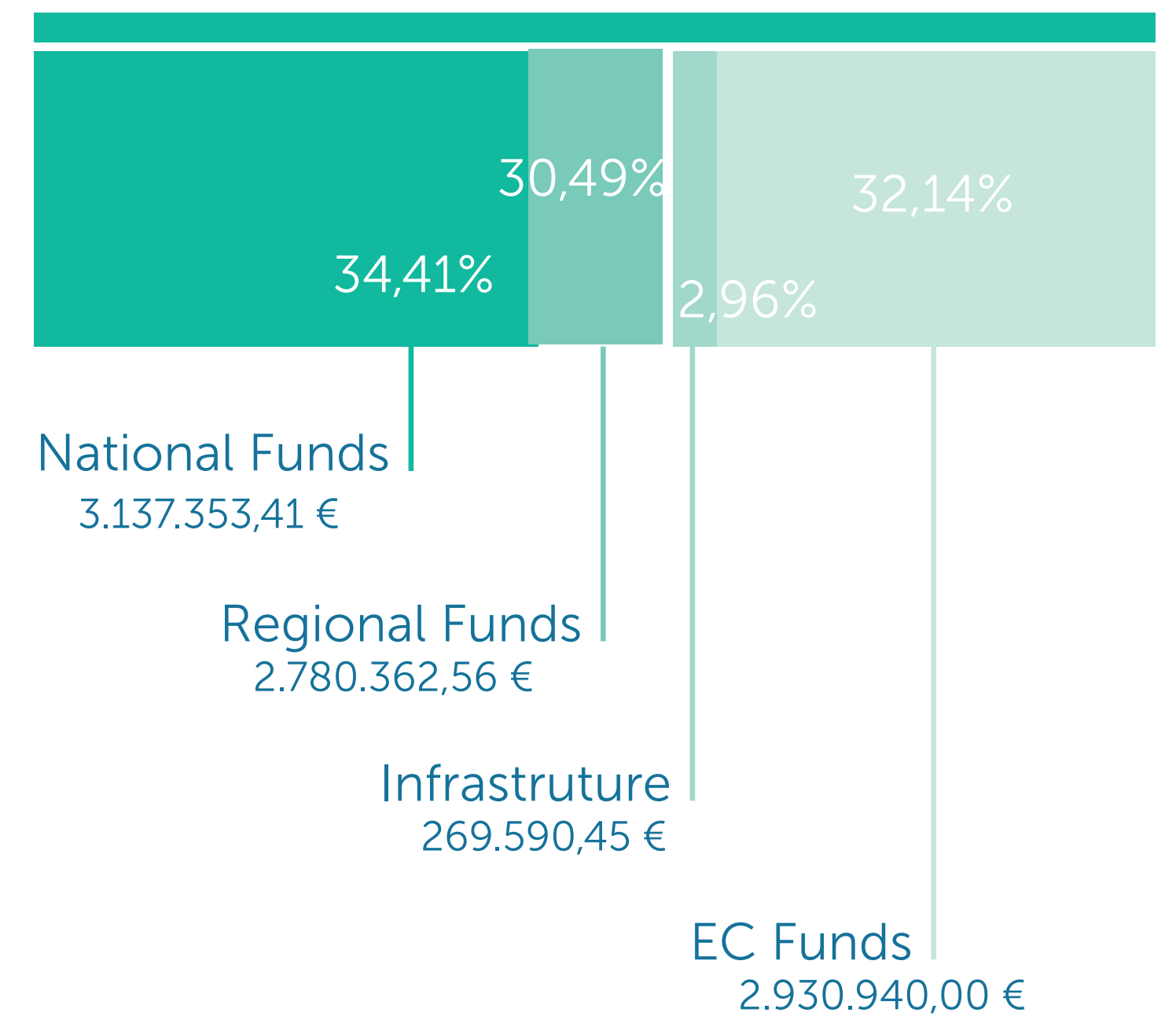
TOTAL EXPENDITURE
in euros €

12.022.614,89 €



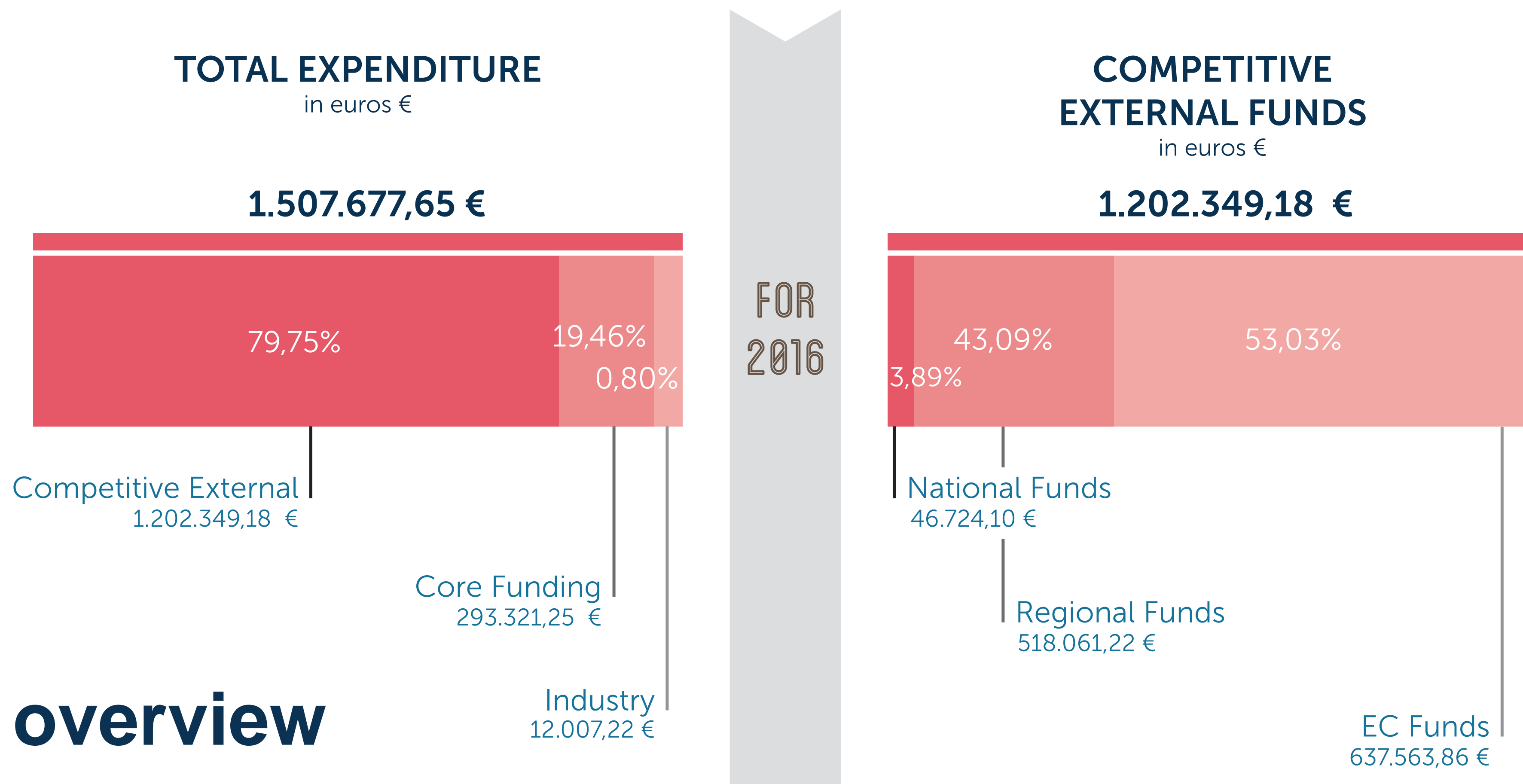
COMPETITIVE EXTERNAL FUNDS
in euros €

9.118.246,42 €



funding sources

The financial activity of M-ITI exceeded 1,5M€ in 2016 with a forecast of 2,7M€ for 2017. The forecast accumulated negative balance is less than 22K€ by the end of 2016



financial overview 2016

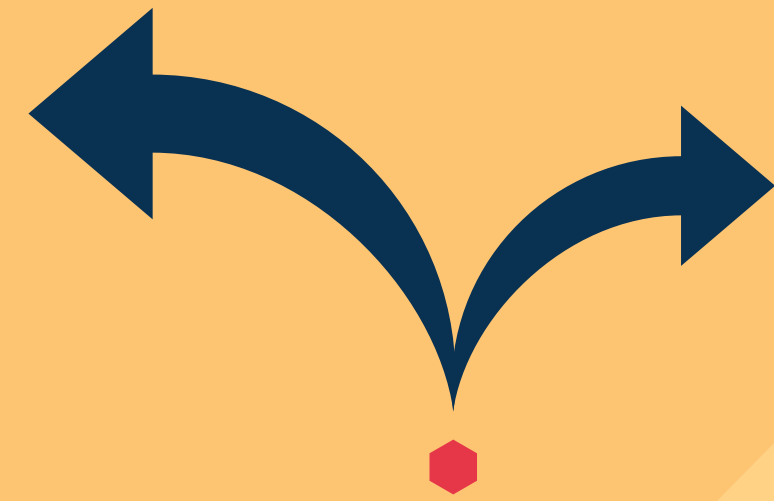
“ As I travel around the world, I am continually surprised by the number of people that come up to me and say that they were part of Madeira-ITI, and then go on to tell me how much they got out of the program and then to explain what they are now doing. ”



Don Norman

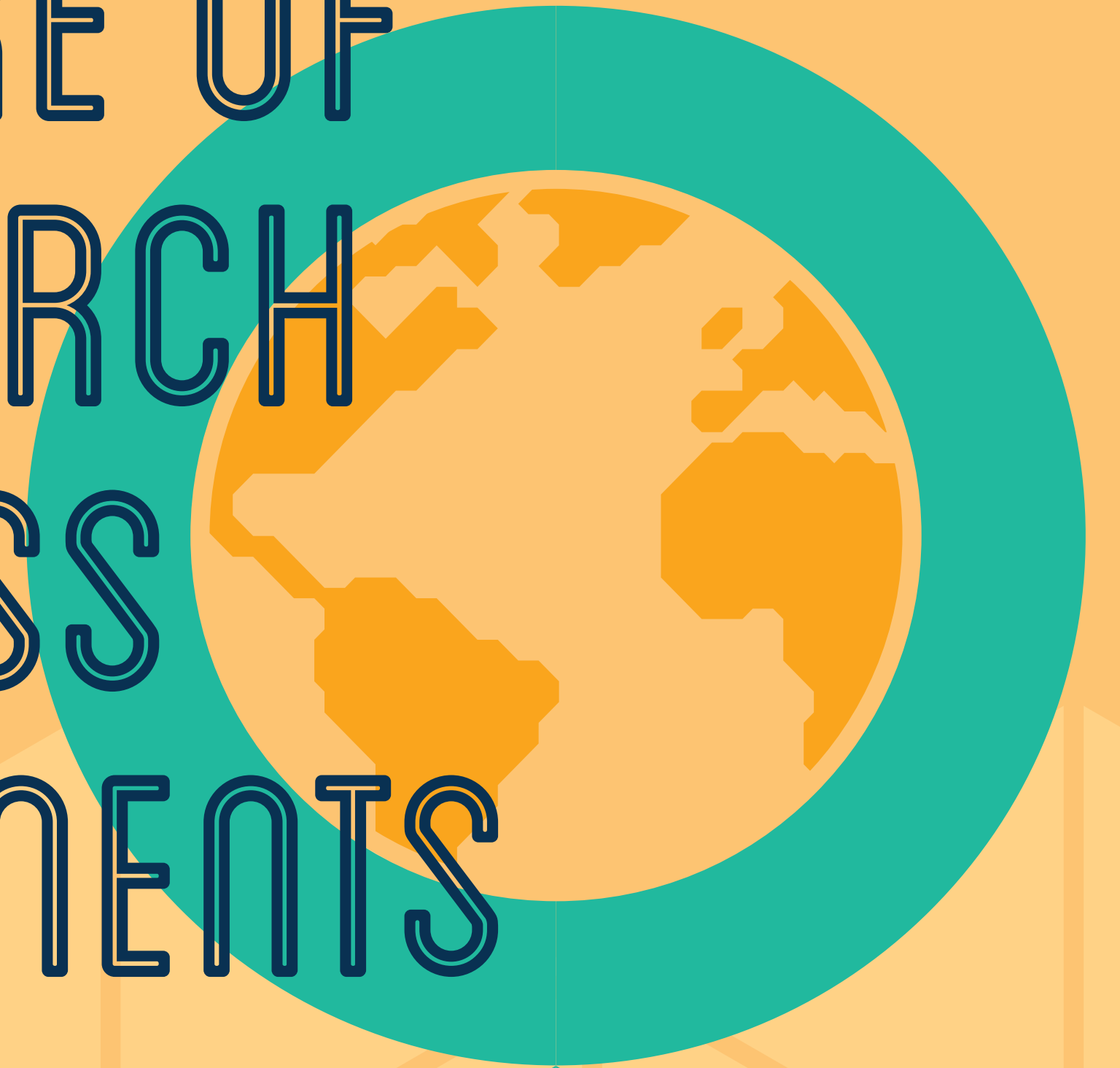
Benjamin Franklin Medal, Member of the Advisory Board of M-ITI

From Madeira
to the World



- Digital Art
-
- Interaction Design
-
- Communication Sciences
-
- Engineering
-
- Computer Science

SHAPING THE FUTURE OF RESEARCH ACROSS CONTINENTS





Nuno Nunes

m-iti.org

Prof. Catedrático



DEI

DEPARTAMENTO
DE ENGENHARIA INFORMÁTICA

TÉCNICO LISBOA