



TERRA

Laboratório para a sustentabilidade
do uso da terra e dos serviços de ecossistemas

LA/P/0092/2020

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3
INSTITUTIONS

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TERRA CONSORTIUM BUILDING-UP

Starting in February 2020
INITIAL CONCEPT



Development March- May
2020



LEAF

Conclusion June 2020



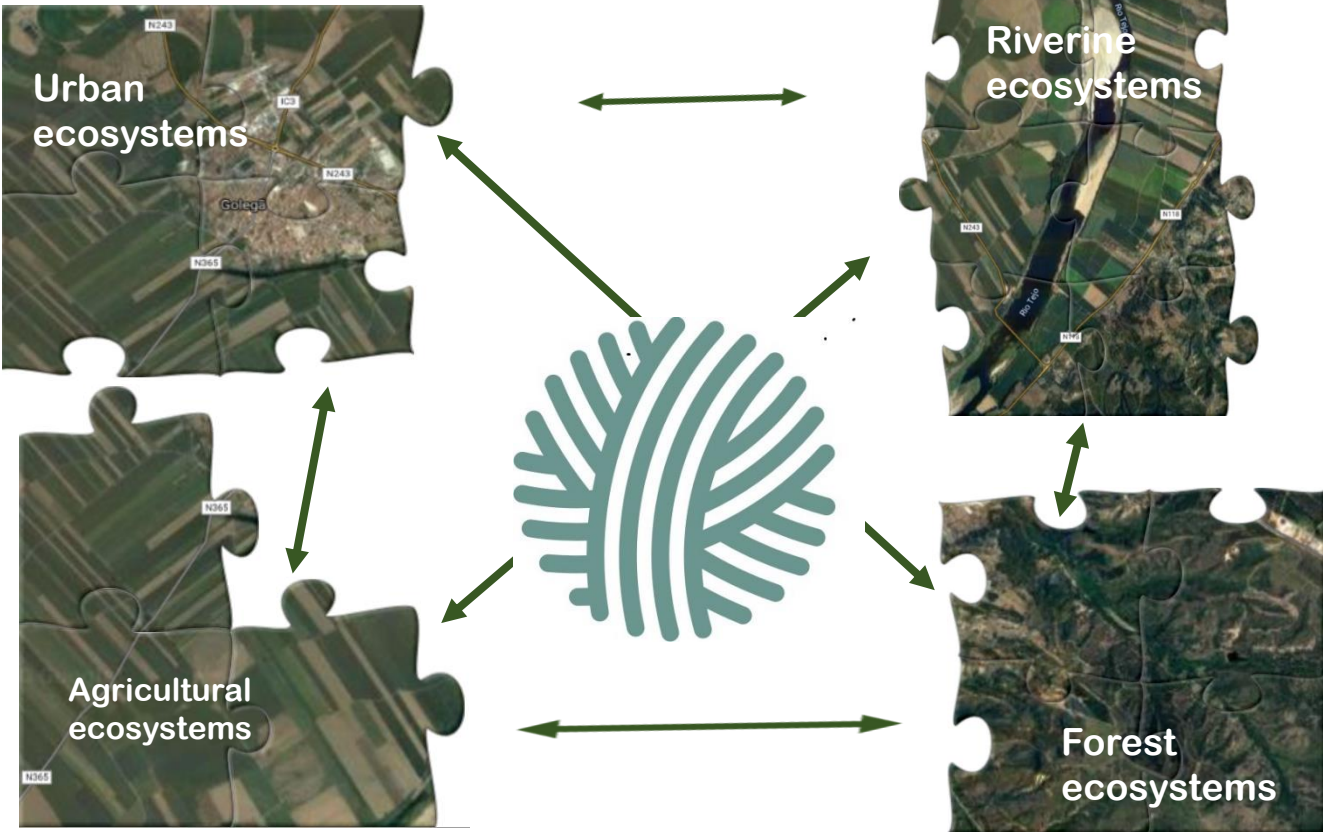
FINAL CONCEPT July 2020



PROPOSAL at

<https://www.isa.ulisboa.pt/cef/cef/laboratorio-associado-terra>

TERRA UNIQUENESS AND COMPLEMENTARY



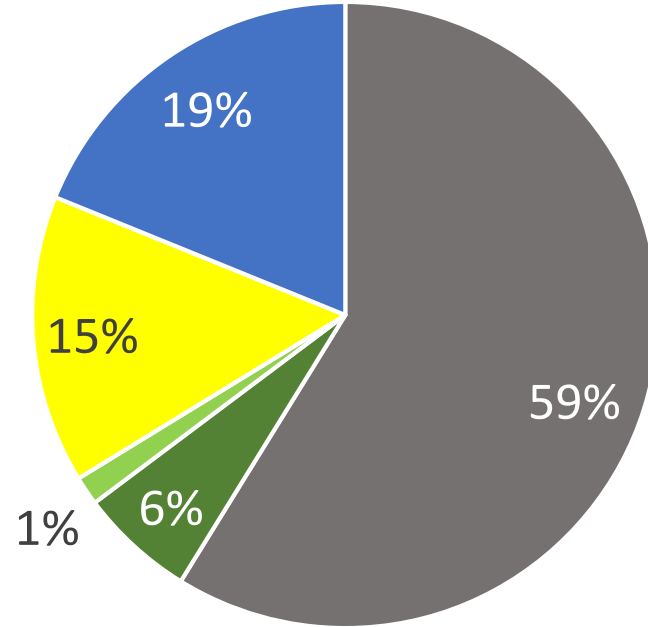
TERRA UNIQUENESS AND COMPLEMENTARY





TERRA RESEARCH PROFILE

- Shaped by Research Universities
- Long-standing research units
- Effort in the last years to create permanent positions
- 24 new research positions proposed



■ Academic, all institutions

■ Doctoral research technicians

■ Doctoral scholarships

■ Research permanent contracts

■ Fixed term contracts last 5 years



To deliver innovative socio-ecological scientific evidence in support of best management practices and policy decision-making towards sustainable land use and biocircularity of product chains, while tending the human societies they support.

OUR VISION:

a better future for our land and humankind





TO PROMOTE AN ECOLOGICAL TRANSITION TO A HEALTHY PLANET

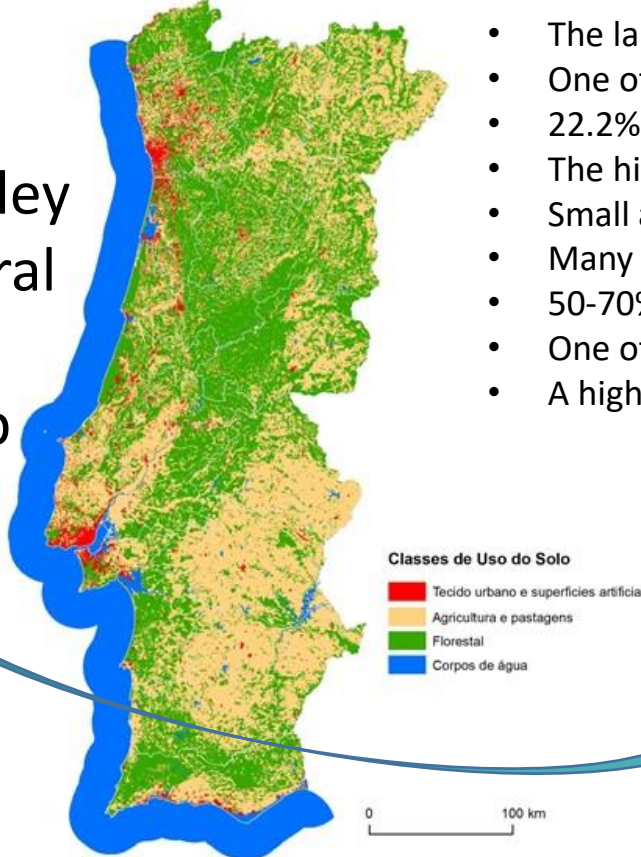
1. Forestry and Agriculture at the forefront of the transition
2. Sustainable food chains from farm to fork, with zero waste
3. Green economy based on natural resources and including biorefineries
4. Ecosystem services provision
5. Ensure best practices and sustainability of soil, water and energy, and using nature based solutions
6. Conserve and restore biodiversity
7. Digital, precision and artificial intelligence tools' implementation
8. Economical and social geography, linking cities to rural areas
9. Human well-being as the driver and receiver of a healthy environment
10. Build landscapes and human societies resilient to risks and global changes



TERRA INSTITUTIONAL INFLUENCE

Corine Land Cover, 2012

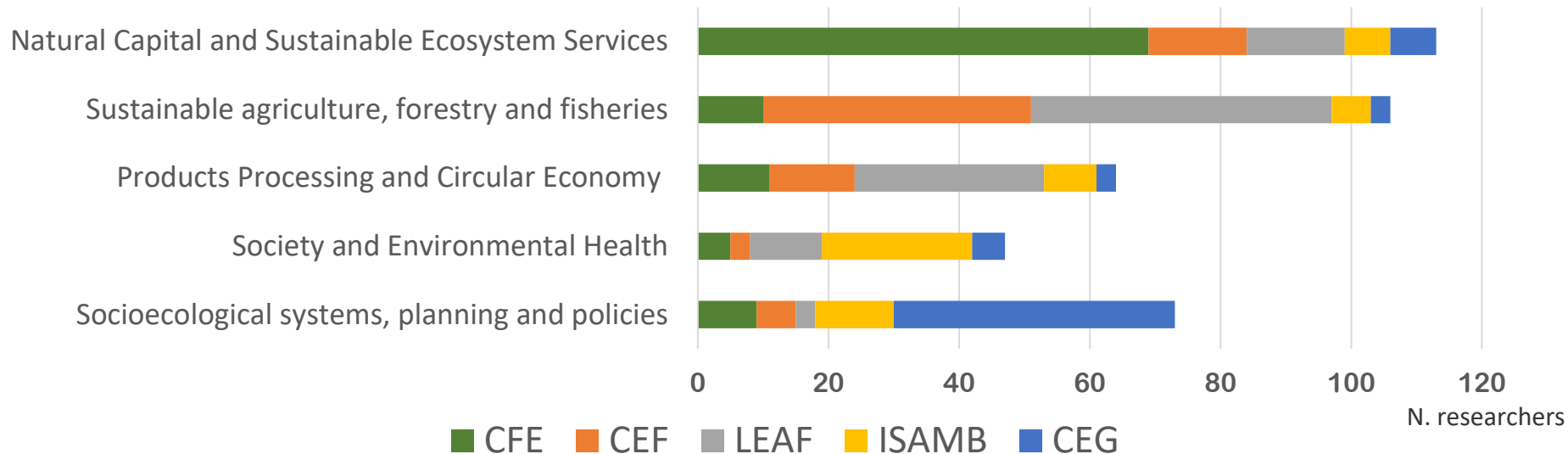
Tagus Valley and Central Region: a Living Lab



- The largest concentration of human population – 48.5% of total
- One of our largest areas of good soils and water availability
- 22.2% of total agricultural surface, with the highest production
- The highest values of crop intensity production/area
- Small and large farming units
- Many types of farm and animal products and transformation
- 50-70% forest and forestry
- One of the highest regional incidences of rural fires
- A high proportion of protected areas



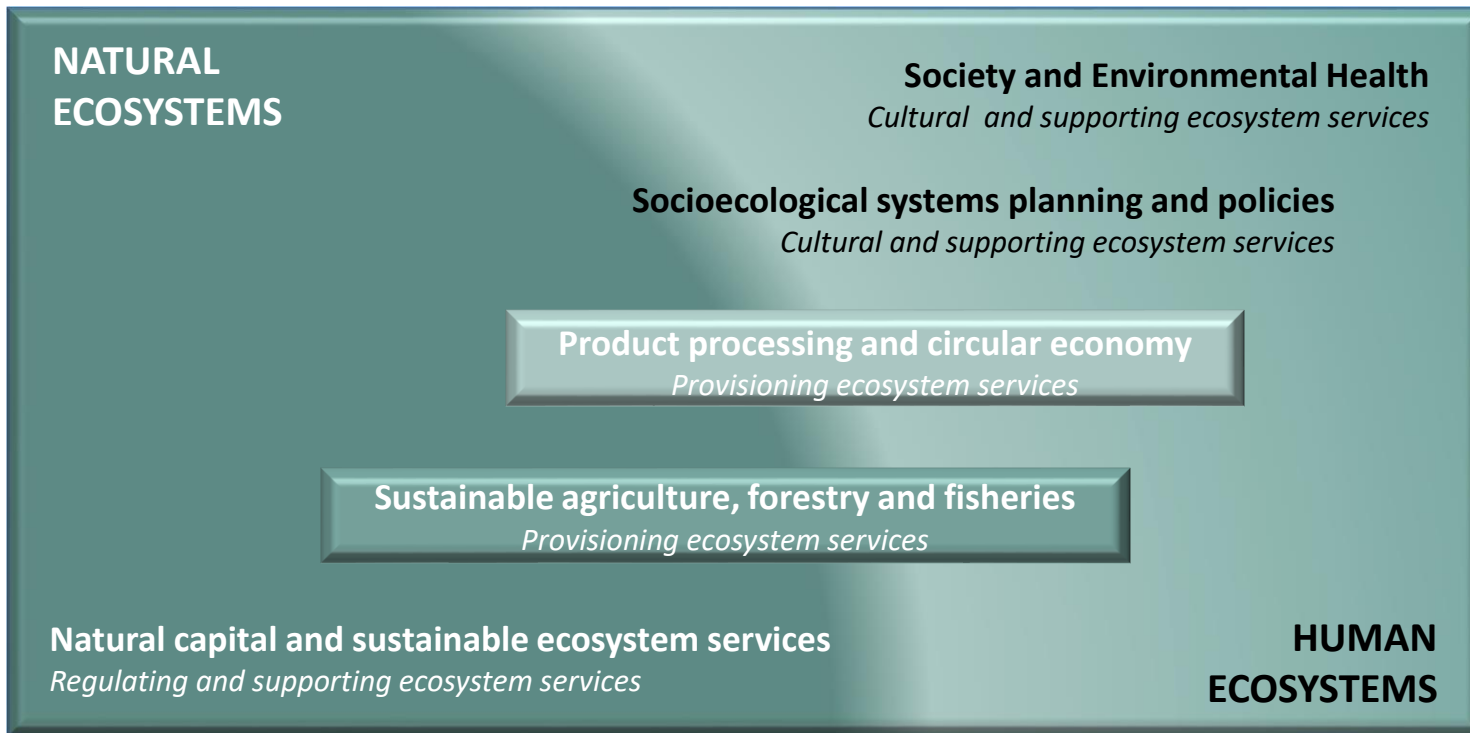
TERRA THEMATIC LINES



RESEARCHERS INDIVIDUALLY INVOLVED IN THE STRUCTURE
TL HAVE A CHAIR AND CO-CHAIR FROM DIFFERENT CENTRES



A gradient from green capital, least disturbed, conservation areas in green to more disturbed, used or managed areas





TERRA THEMATIC LINES

MULTIDISCIPLINARITY AROUND LAND USE AND SERVICES

TL1 Natural capital and sustainable ecosystem services: to explore inter-links between biodiversity, ecological resilience and nature's contributions to people well-being

TL2 Sustainable agriculture forestry and fisheries: harvesting food, wood, fibre and wildlife materials from land, soil and water while safeguarding the integrity of natural biological resources

TL3 Products processing and circular economy: sustainable processing to reduce the environmental impact of land use and generate eco-friendly products

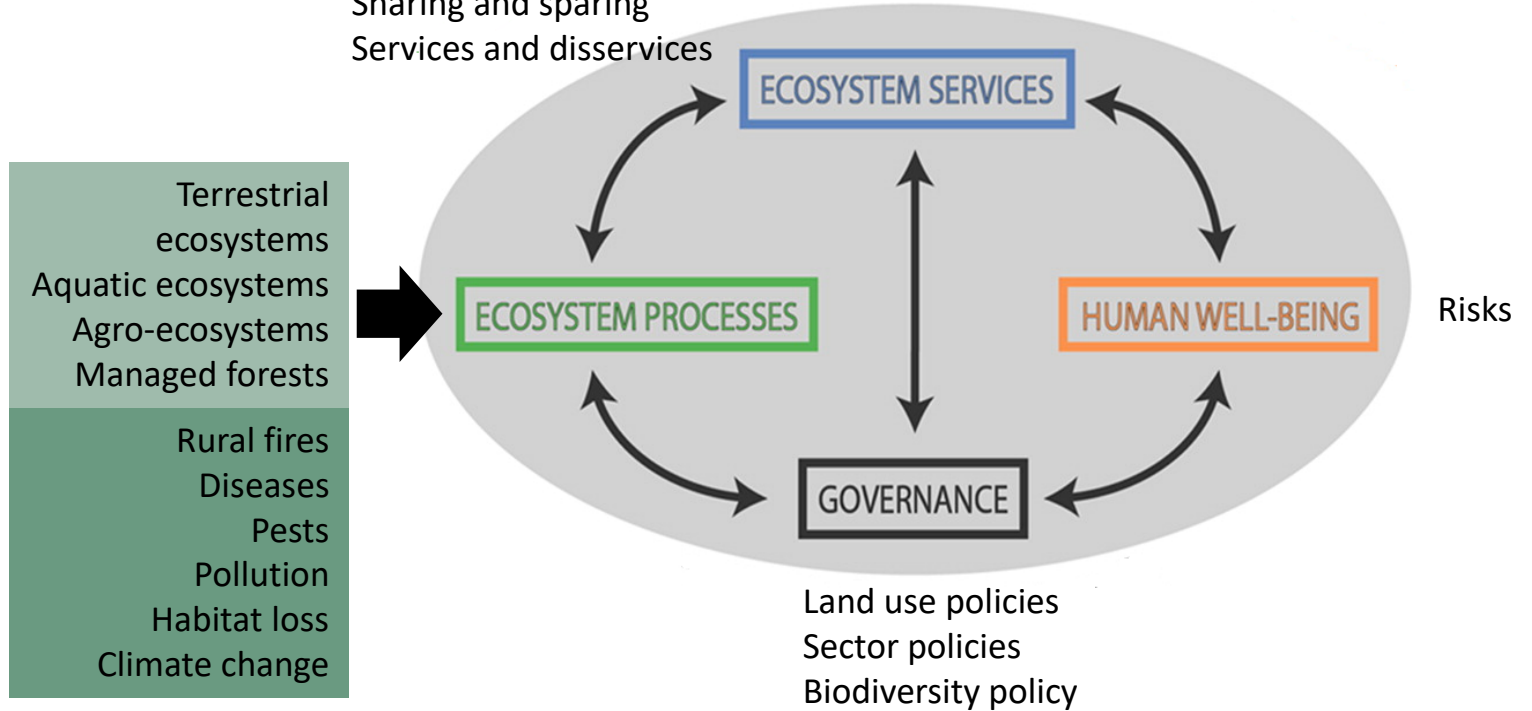
TL4 Society and environmental health: interactions between the physical and social environments and development of preventive and sustainable approaches

TL5 Socioecological systems, planning and policy: addresses climate change impact on society, adaptation to/and disaster risk management

BUILD AROUND THREE MAJOR NEXUS

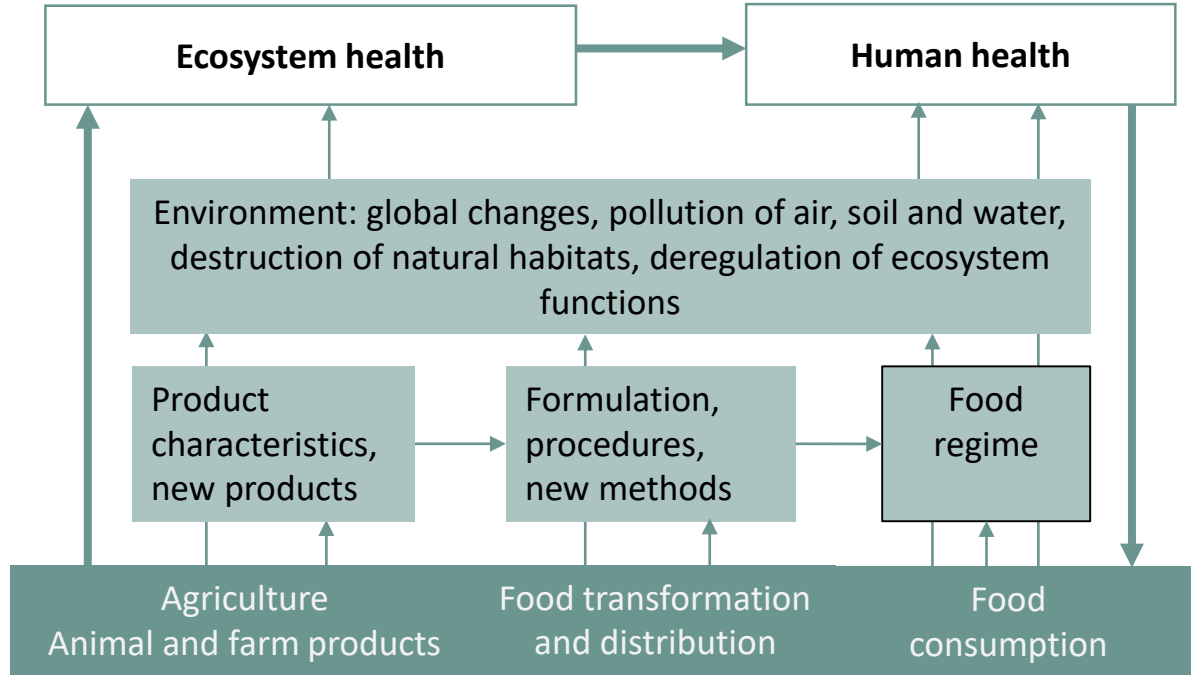


Direct and indirect value of forest, farm and wild products
 Sharing and sparing
 Services and disservices



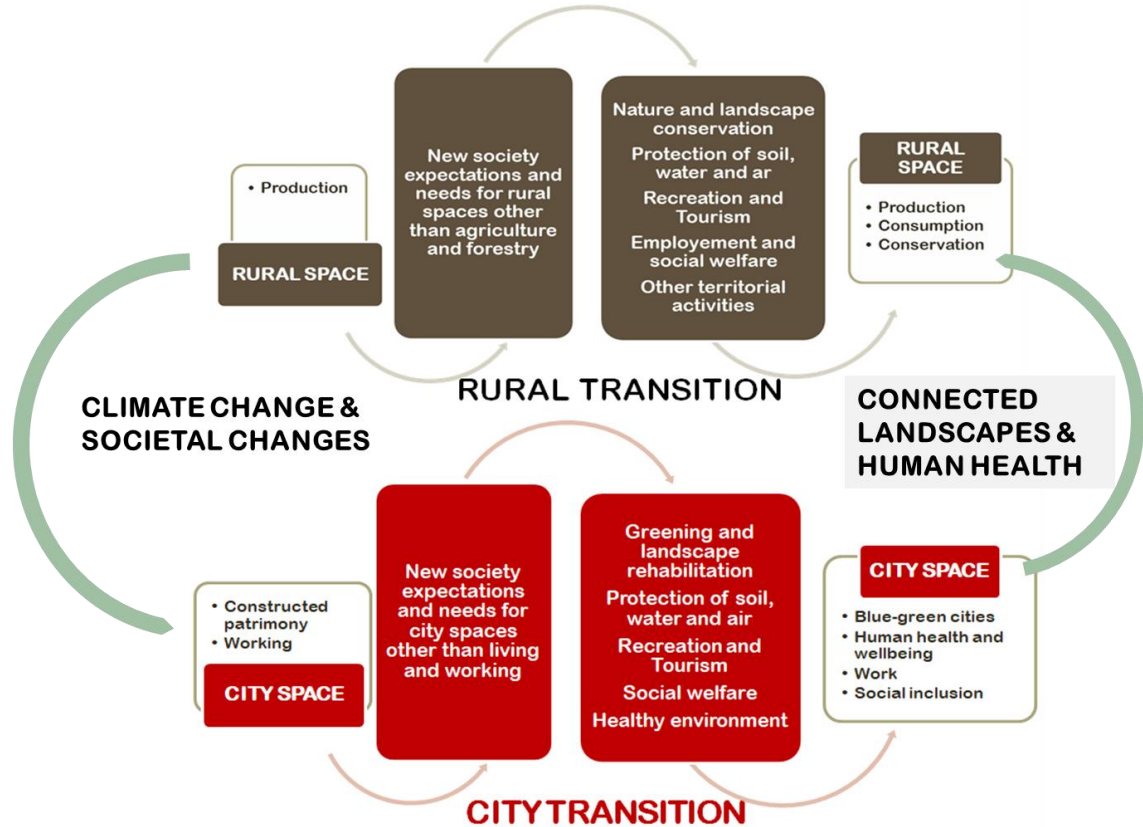


Land use policies
Sector policies



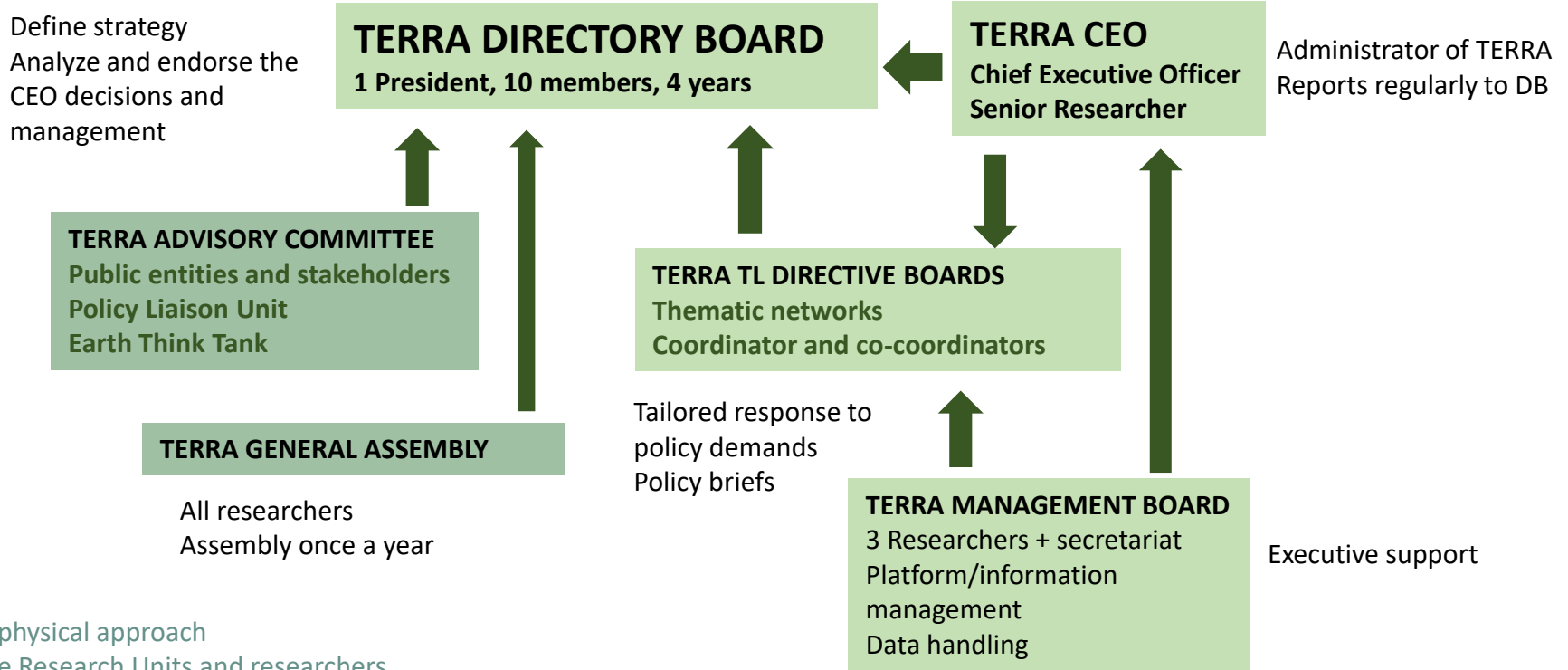


Land use policies
Sector policies





TERRA: GOVERNANCE STRUCTURE

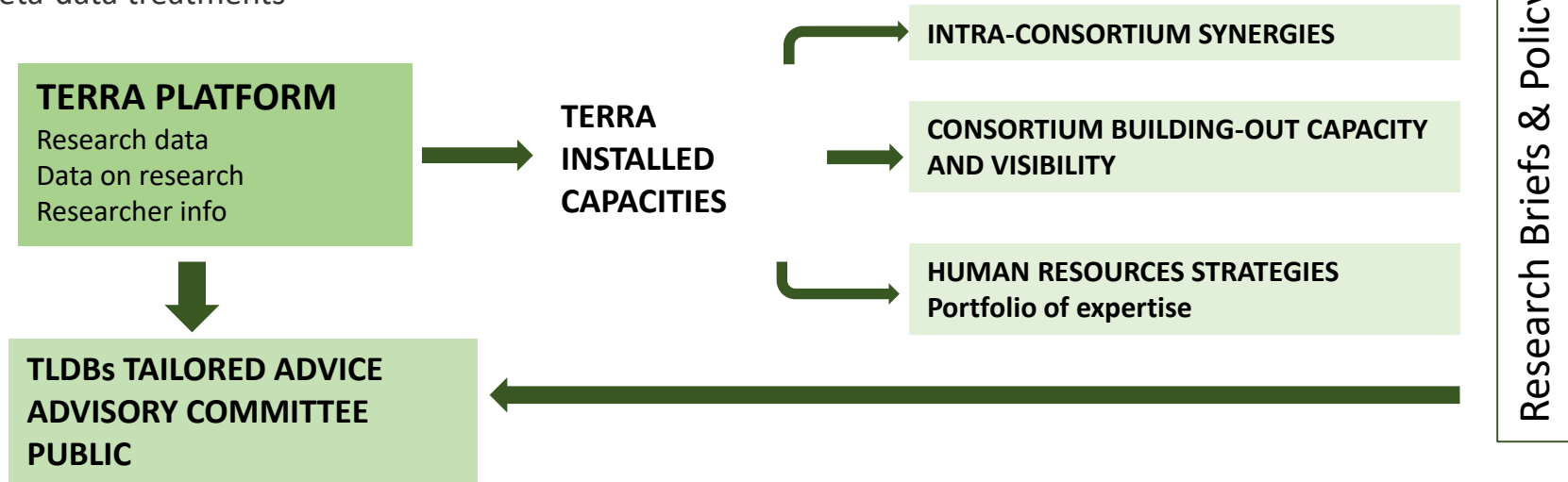


- A non-physical approach
- Link the Research Units and researchers
- Operationalize public support, research careers and fund raising
- Foster unity and cooperation



TERRA PLATFORM: A PUBLIC SERVICE

- Forefront visibility of TERRA
- Portfolio of researchers, research and policy support
- Include long term field monitoring data in all land ecosystems – embryo for an RI
- Intra-TERRA synergies for data treatments and conceptual ideas
- Meta-data treatments

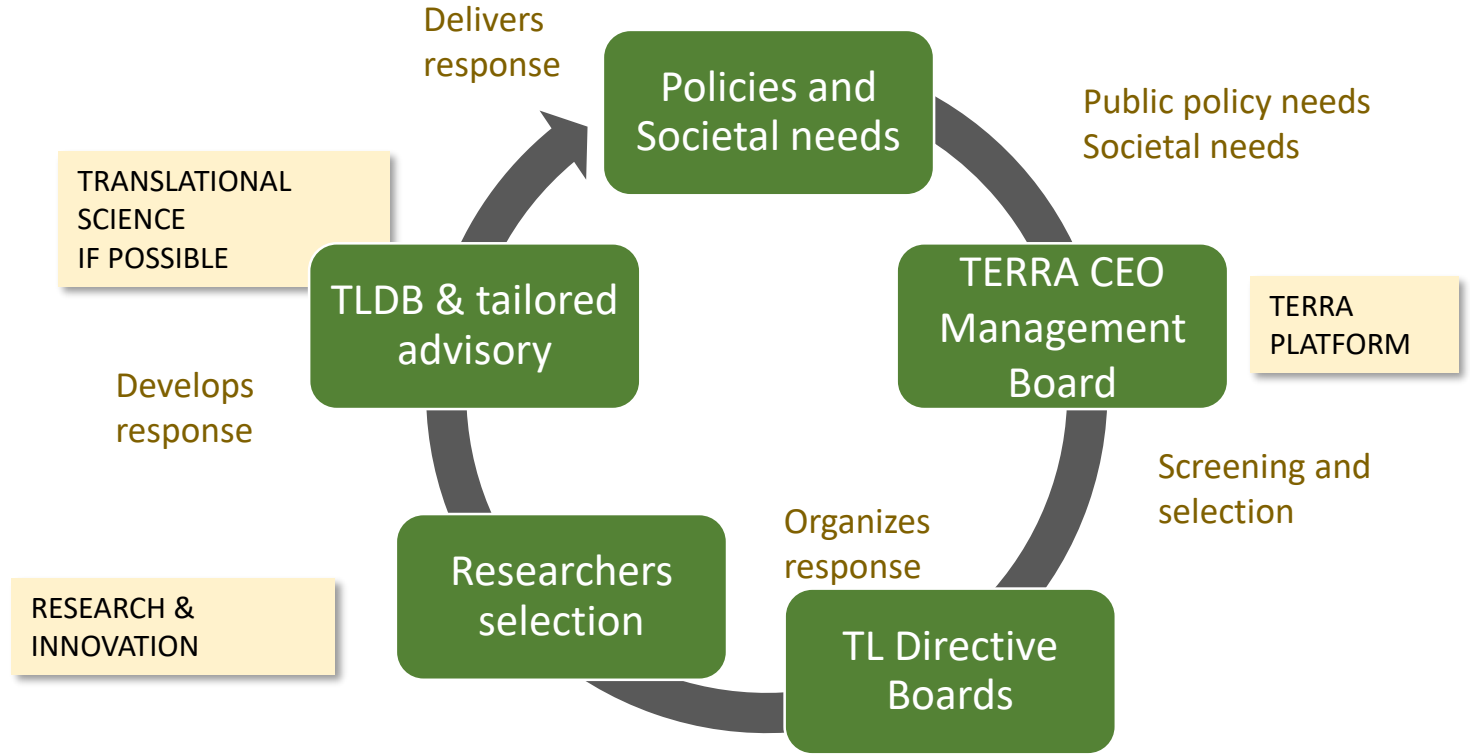


OPEN-ACCESS DATA COLLECTED, CURATED AND SHARED UNDER FAIR PRINCIPLES



TERRA: TAILORED ADVISE TO PUBLIC POLICIES

- Problem-solving
- Efficient
- Fast
- Transparent
- Decentralized
- Cooperative





TERRA: ON-GOING PARTICIPATION IN STRATEGIC AGENDAS AND ADVISORY COUNCILS

- **FCT Research and Innovation Agendas**

AgroFood, Forests and Biodiversity , Climatic Change, Urban Science and Future Cities, Circular Economy, Tourism Recreation and Hospitality, Social Inclusion and Citizenship, and Health, Clinic Research and Translation ...

- **International Research and Innovation Agendas**

Mediterranean Forest Research 2010-2020, WWF New Generation Plantations, European Food Safety Authority (EFSA), World Health Organization ...

- **Science Councils and International Advisory Boards**

FCT, INRAE, European Food Safety Authority, Forest Science and Technology Centre of Catalonia, EU Scientific Forum on Invasive Alien Species, International Union for Conservation of Nature, IUFRO, WHO, ...

- **National Advisory Councils**

National and Regional Water Councils, the National Irrigation Council, the National Education Council, the Advisory Council for the CAP20-30, the Council for OGMs of ASAE, ...

- **Directives' support**

Water Framework Directive, Habitats Directive, Nature 2000, Nitrate Directive, Floods Directive, Pesticide Directive...



5 CASES OF SUCCESS OF TERRA IN SUPPORT OF PUBLIC POLICIES

1. **Rural fire, a strong need for land management:** research outputs applied in support of fire management decision making, both by public and private organizations
2. **Food safety and plant protection, towards an ecological paradigm:** collaboration with the European Food Safety Authority (EFSA) in the development of risk assessment schemes of plant protection products
3. **Sustainable foods products:** Awarded Innovation for the Portuguese food companies for developing new sustainable foods with positive impact on health, under the principles of circular economy
4. **Supportive healthy environments :** collaboration with WHO to act on health promotion and disease prevention through the creation of health supportive environments
5. **Lisbon Metropolitan Area and climate change adaptation:** elaboration of Lisbon Metropolitan Plan for Climate Change Adaptation



TERRA OFFERS SUPPORT TO THE EUROPEAN AND NATIONAL GREEN TRANSITION

- The Biodiversity Strategy for 2030
- The “From Farm to Fork” strategy
- The sustainable agriculture policy fostered by CAP
- The New Urban Agenda (2016)
- Strategic Framework for the Climatic Policy and the Carbon neutral strategy
- European Innovation Partnership for competitive and sustainable farming and forestry
- European Innovation Partnership for Smart Cities and Communities
- European Innovation Partnership Farming Systems Transition: agroecology living labs and research infrastructures
- National Innovation Agenda responding to the Green Deal, **Terra Futura**
- National Strategy for Adaptation to Climate Change
- National Plan for Integrated Management of Rural Fires
- National Health Plan and National Mental Health Program

LINKS TO PERIN

- Mission 1: Adaptation to climate changes and society transformation (TL1,TL2)
- Mission 3: Healthy oceans, seas, coastal and inland waters (TL1, TL2)
- Mission 4: Climate neutral and smart cities (TL5)
- Mission 5: Food and Soil health (TL2, TL3)



TERRA INVOLVEMENT IN RESEARCH INFRASTRUCTURES

GOAL: CONSOLIDATE PARTICIPATION, STIMULATE ITS SERVICES

Collaboratory For Geosciences

<https://www.c4g-pt.eu/pt/>



Portuguese Research Infrastructure Of Scientific Collections

<https://www.prisc.pt/index.php/prisc>



Food Nutrition And Health Europe

<https://fnhri.eu/>

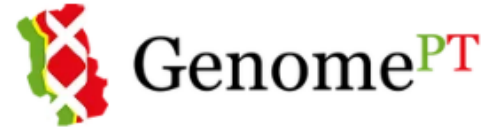


<http://www.porbiota.pt/>



Genomept National Facility For Genome Sequencing And Analysis

<https://www.genomept.pt>



Social Sciences, Arts And Humanities

<https://rossio.fcsh.unl.pt>





TERRA: SUPPORT FROM PUBLIC ADMINISTRATION AND STAKEHOLDERS

ALL THE MORE RELEVANT NATIONAL POLICY-MAKING AUTHORITIES IN THE DOMAIN OF TERRA SEND SUPPORT:

<https://www.isa.ulisboa.pt/cef/cef/laboratorio-associado-terra/>

DGAV, Direção-Geral de Alimentação e Veterinária
<http://www.dgv.min-agricultura.pt/portal/page/portal/DGV>

IPMA, Instituto Português do Mar e da Atmosfera
<http://www.ipma.pt/pt/ndex.html>

DGADR, Direção-Geral de Agricultura e Desenvolvimento Rural
<https://www.dgadr.gov.pt/>

DGS, Direção Geral da Saúde
<https://www.dgs.pt/>

DGT, Direção Geral do Território
<https://www.dgterritorio.gov.pt/>

ICNF, Instituto de Conservação da Natureza
<https://www.icnf.pt/>

Gabinete de Políticas, Planeamento e Administração Geral
<https://www.gpp.pt/index.php/>

APA, Agência Portuguesa do Ambiente
<https://www.apa.pt/>

Instituto Nacional de Investigação Agrária e Veterinária
<http://www.inia.vet.pt/>

Permanent
members of the
Advisory
Committee

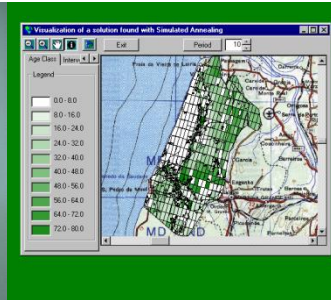
OTHER RELEVANT REGIONAL PUBLIC AUTHORITIES,
STAKEHOLDERS AND INTERNATIONAL INSTITUTES
ALSO SEND THEIR SUPPORT

Non-permanent
members of the
Advisory
Committee



TERRA: SUPPORT OF RESEARCH CAREERS

1. A qualified and challenging environment
2. Good facilities, equipment and experimental possibilities
3. A good network of research peers and publishing links
4. Possibility to train their communicating skills
5. Possibility to recruit and supervise graduation and doc students





TERRA: RESEARCH ATTRACTIVENESS LAST FIVE YEARS

Bibliometric indicators (sum or average for centres)	Units	Values
Total number of WoS papers (and in total)	sum	3238 (6446)
Total number of citations (and in total)	sum	>50 000 (>120 000)
Highly cited papers	sum	40
Editing positions journals and special issues editors	sum	146
Number of programs and projects evaluated in Portugal and abroad	sum	613
PhD thesis finished	sum	91
Non-Portuguese admitted in PhD programmes %	average	18.8
Number of non-Portuguese in fixed contracts	average	11%

67.3% publications in cooperation with foreign researchers

More than 50 COST ACTIONS in which we participated

8 international/joint PhD programs
9 national PhD programs
3 international MSc

A ERC Grant: GREEN

TERRA EMPLOYMENT COMMITMENT FROM ALL INSTITUTIONS



24 NEW PERMANENT RESEARCH POSITIONS FOR NON-ACADEMIC RESEARCHERS IN 5-YEARS



DECLARAÇÃO

(Nos termos do nº 2 do artigo 51 do Regulamento de Atribuição do Estatuto e Financiamento a Laboratórios Associados)

O INSTITUTO SUPERIOR DE AGRONOMIA/UNIVERSIDADE DE LISBOA (ISA/ULISBOA), pessoa coletiva de direito público, com o NIF 505869721, sito na Tapada da Ajuda, 1349-017 Lisboa, declara que, para efeitos da candidatura TERRA - Laboratory for Sustainable Land Use and Ecosystem Services para atribuição do Estatuto e Financiamento de Laboratório Associado, se compromete, a concretizar o disposto nas alíneas i) e j) do nº 1 do artigo 51º do Regulamento de Atribuição do Estatuto e Financiamento a Laboratórios Associados. Em particular, compromete-se, nos termos da legislação e regulamentos que lhe for aplicável, no prazo máximo de 5 anos, após a atribuição do Estatuto e Financiamento do Laboratório Associado e respetivo financiamento, a contratar 4 investigadores de carreira para integrar o Centro de Investigação em Agronomia, Alimentos, Ambiente e Paisagem [Linking Landscapes, Environments, Agriculture And Food] do ISA/ULisboa, contribuindo assim para que o número de investigadores de carreira com contrato de trabalho por tempo indeterminado (excluindo os que estejam contratados como docentes) seja de pelo menos 10% dos investigadores doutorados integrados no Laboratório Associado TERRA Lab.

Lisboa, 29 de outubro de 2020

O Presidente do ISA-ULisboa
António José Guerreiro de Brito
(António Guerreiro de Brito)



DECLARAÇÃO

(Nos termos do nº 2 do artigo 51º do Regulamento de Atribuição do Estatuto e Financiamento a Laboratórios Associados)

ASSOCIAÇÃO PARA INVESTIGAÇÃO E DESENVOLVIMENTO DA FACULDADE DE MEDICINA, pessoa coletiva de direito público, com o NIF 503218111, sito na Av. Infante D. Henrique, Piso 01, 1649-028 Lisboa, declara que, para efeitos da candidatura TERRA - Laboratory for Sustainable Land Use and Ecosystem Services para atribuição do Estatuto e Financiamento de Laboratório Associado, se compromete, a concretizar o disposto nas alíneas i) e j) do nº 1 do artigo 51º do Regulamento de Atribuição do Estatuto e Financiamento a Laboratórios Associados. Em particular, compromete-se, nos termos da legislação e regulamentos que lhe for aplicável, no prazo máximo de 5 anos, após a atribuição do Estatuto de Laboratório Associado e respetivo financiamento, a contratar 3 investigadores de carreira para integrarem o Instituto de Saúde Ambiental [Institute of Environmental Health], contribuindo assim para que o número de investigadores de carreira com contrato de trabalho por tempo indeterminado (excluindo os que estejam contratados como docentes) seja de pelo menos 10% dos investigadores doutorados integrados no Laboratório Associado TERRA Lab.

Lisboa, 2 de novembro de 2020

Presidente
José Fernando de Freitas Veloso
Vice-Presidente
António Cândido Vaz Carneiro



DECLARAÇÃO

(Nos termos do nº 2 do artigo 51º do Regulamento de Atribuição do Estatuto e Financiamento a Laboratórios Associados)

UNIVERSIDADE DE COIMBRA, pessoa coletiva de direito público, com o NIF 500000000, sito no Largo do Paço das Escolas, 3004-531 Coimbra, declara que, para efeitos da candidatura TERRA - Laboratory for Sustainable Land Use and Ecosystem Services para atribuição do Estatuto e Financiamento de Laboratório Associado, se compromete, a concretizar o disposto nas alíneas i) e j) do nº 1 do artigo 51º do Regulamento de Atribuição do Estatuto e Financiamento a Laboratórios Associados. Em particular, compromete-se, nos termos da legislação e regulamentos que lhe for aplicável, no prazo máximo de 5 anos, após a atribuição do estatuto de Laboratório Associado e respetivo financiamento, a que o número de investigadores de carreira com contrato de trabalho por tempo indeterminado (excluindo os que estejam contratados como docentes) seja de pelo menos 10% dos investigadores doutorados integrados na Unidade ISD da Universidade de Coimbra, efetua esta candidatura. Explicitando-se para o efeito que o número de contratos para investigadores de carreira em sede de candidatura, são:
- CFE - Centre for Functional Ecology - Science for People & the Planet, 8 investigadores de carreira.

Coimbra, 28 de outubro de 2020

Reitor
Amílcar Falcão
Ramos Ferreira



Instituto de Geografia e Ordenamento do Território
UNIVERSIDADE DE LISBOA

DECLARAÇÃO

(Nos termos do nº 2 do artigo 51º do Regulamento de Atribuição do Estatuto e Financiamento a Laboratórios Associados)

INSTITUTO DE GEOGRAFIA E ORDENAMENTO DO TERRITÓRIO, pessoa coletiva de direito público, com o NIF 508955645, sito na Rua Branca Edmé Marques, 1600-270 Lisboa, declara que, para efeitos da candidatura TERRA - Laboratory for Sustainable Land Use and Ecosystem Services para atribuição do Estatuto e Financiamento de Laboratório Associado, se compromete, a concretizar o disposto nas alíneas i) e j) do nº 1 do artigo 51º do Regulamento de Atribuição do Estatuto e Financiamento a Laboratórios Associados. Em particular, compromete-se, nos termos da legislação e regulamentos que lhe for aplicável, no prazo máximo de 5 anos, após a atribuição do Estatuto de Laboratório Associado e respetivo financiamento, a contratar 4 investigadores de carreira para integrarem o Centro de Estudos Geográficos [Centre of Geographical Studies], contribuindo assim para que o número de investigadores de carreira com contrato de trabalho por tempo indeterminado (excluindo os que estejam contratados como docentes) seja de pelo menos 10% dos investigadores doutorados integrados no Laboratório Associado TERRA Lab.

Lisboa, 29 de outubro de 2020

O Presidente do IGOT-ULisboa

(Assinatura Qualificada) José Manuel Henriques Simões
Assinado de forma digital por Manuel Henriques Simões
Data: 2020.10.29 11:03:42
Prof.º Doutor José Manuel Simões



TERRA: NEW PROPOSED RESEARCH POSITIONS

- 1 TERRA CEO, data science and research group management
- 3 Data science and TERRA platform enforcement
- 2 Soil and water conservation, recovery and reuse
- 2 Plant pest management and invasive species
- 1 Wine production and technology
- 1 Digitalization and artificial intelligence in agriculture and forestry
- 2 Resilient landscapes under climate change
 - 1 Nature-based solutions and practices
 - 2 Eco-efficiency and zero-waste strategies
 - 2 Planning and policy of forest and agricultural systems
- 1 Nutrition quality and farm-fork linkage
- 2 Health and mental health promotion, and its environmental drivers
- 2 Disaster risk assessment at several scales including climate change threats
 - 1 Planning of sustainable and resilient cities
 - 1 Socio-economic dynamics of less developed areas

Existing areas and researchers

Novel areas of research in TERRA

Specific-theme researchers

Team leader researchers

ADDED VALUE to current research

Career support



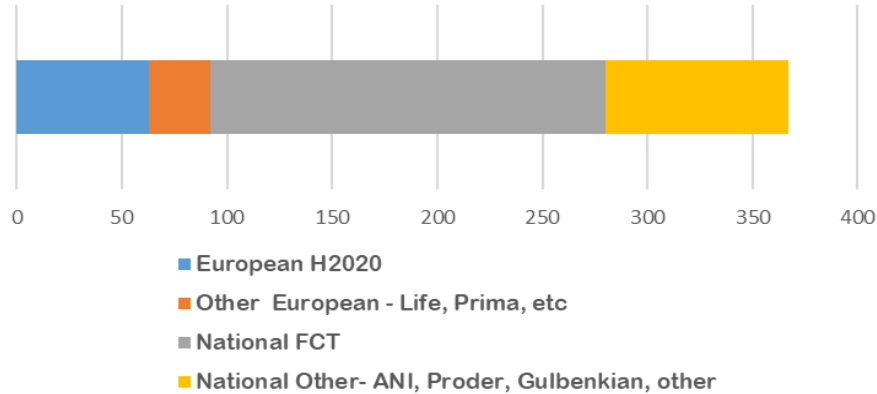
TERRA FOLLOW-UP OF THE RESEARCH CAREERS

	Project Researchers	Present researchers in the career	TERRA career researchers
Term	Potentially temporary	Permanent	Open-end contract
Objective	Project needs	Institutional needs	Collective TL needs
Recruitment	International	Variable	International
Evaluation Board	CV screening and interviews PI and project team	CV and career evolution inside the system	CV screening and interview, Directive Board in charge
Mentoring	Optional	Rare, usually institutional	Done by tutors designated by the TL
Probation system	No probation	No probation in the past, usually 3 year in present	3 year probation minimum
Evaluation post-probation period	Pro-forma evaluation	Report of activities, variable format	Based on research outputs and the adequacy to the specific characteristics of the position (theme or leader)

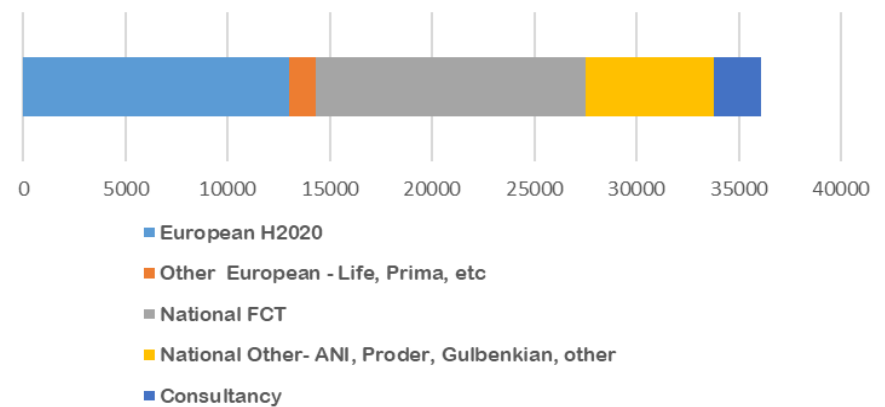


TERRA: CAPACITY TO ATTRACK FUNDING

Number of research projects 5 years only portuguese participation



Funding income 5 years only portuguese participation



Other sources of funds: Municipalities; Regional Authorities; Administration; Companies; European Commission, Joint Research Centre; Marie Skłodowska-Curie programs (INTEGRIM, MigRural, MedChange, SharingSpace), ERC grants (Green), ERASMUS+ programs (Vinifera, MedFor, LandCare), UNESCO, FAO, World Bank, European Space Agency

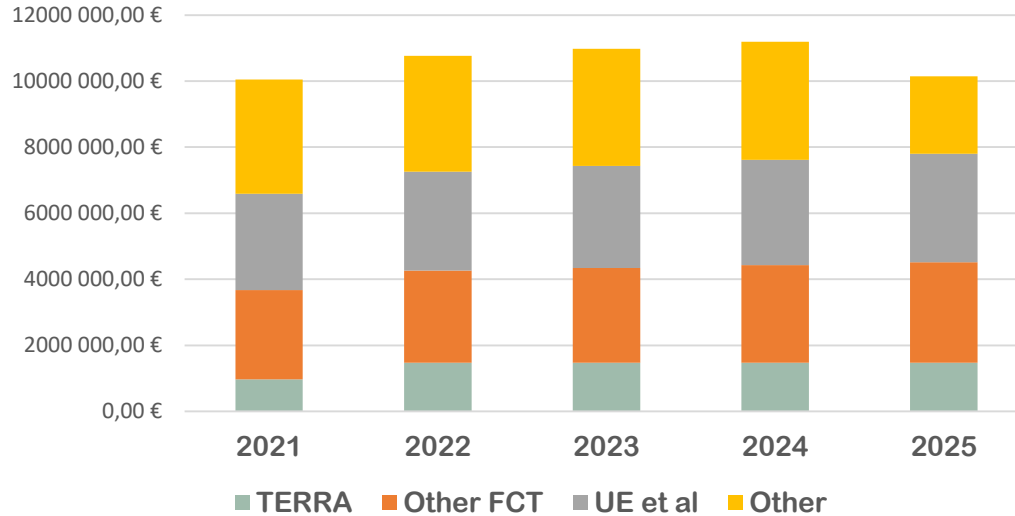
33 MILLION EUROS IN THE LAST 5 YEARS IN COMPETITIVE FUNDING

367 projects, of which 92 European H2020

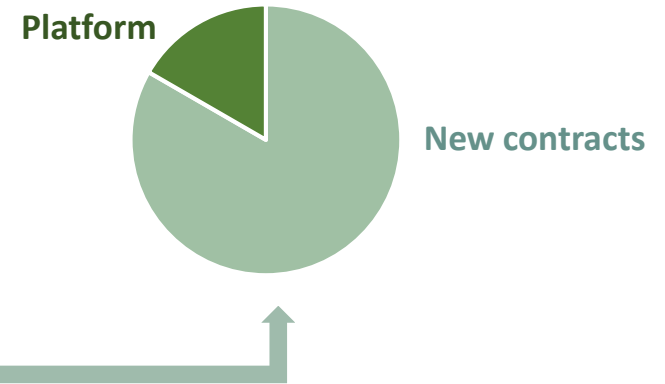


TERRA: REQUESTED FUNDING

Funding of research units and TERRA



Requested funding of TERRA



The funding proposed

will upscale the quantity and quality of research
will supply a public service through the platform and public policy support
will serve our VISION: a better future for our land and humankind



STRENGTHS OF TERRA LABELLING PROPOSAL

- We propose a Lab to address a MAJOR challenge of the decade
- Up to the present, NO ASSOCIATED LAB is focused in Agriculture, Forest and Land Use
- We are numerous and diverse, with a wide range of possibilities to offer tailored public policy advice
- We are complementary and dedicated to link subjects and policy sectors
- We are experienced in fund raising, and resilient to adverse funding situations
- We have long-term field data and hands-on experience
- We have an excellent record of research and research career support ensuring quality screening and career opportunities
- We have strong connections with stakeholders, especially in Central Region and Tagus area
- We have strong connections and experience in public policies: the central, regional and local administration know us and trust us.



TERRA

Laboratório para a sustentabilidade
do uso da terra e dos serviços de ecossistemas

"Learning new ways to inhabit the Earth is our biggest challenge. Bringing us down to earth is the task of politics today."

Bruno Latour, "Down to Earth", 2018

