

solutions for sustainability in ecosystems. **Discovery of novel EEDA and ENDI in the context of diversifying traits, interactions, technologies and human groups for biodiversity maintenance have been hardly been investigated in this context so far.** Predictors related to biodiversity, technological and social analysis will be tested and further developed to enable robust predictions. Altogether, this project will lay the foundation for future sustainability studies.

- (II) **Future social/economic impact or market creation:** Our approach uses a novel technology to integrate many data types and discovery paths to make ecosystems sustainable. This will allow us to use the technology in public and private industry to generate robust scenarios when facing complex problems including global sustainability challenges (e.g., global health, food and feed production, ecosystems degradation).
- (III) **Impact on transparency:** Decision making and governance at local, regional and global scales require access to reproducible information containing viable sustainability scenarios. ROBHOOT consortium brings together different partners in the fields of computer science, neurobiology, complex system, biology, social sciences, evolutionary ecology and one SME, all focusing on reproducibility, automation, visualization and reporting scientific data to different audiences.
- (IV) **Ecosystem health impact:** ROBHOOT focuses on discovery solutions for exploited ecosystems. It uses a case study for the Oceans and provides solutions for ecosystem sustainability, thereby connecting ecosystem sustainability and ecosystem health. This feature aligns with the EU Reflection paper towards a Sustainable Europe by 2030 and the UN's Sustainable Development Goals. ROBHOOT can be seen as a horizontal enabler for a scientific-based transition to sustainability-based technology on large amounts of heterogeneous data, artificial intelligence and EEDA solutions.
- (V) **Building leading research and innovation capacity across Europe:** This consortium brings together excellent partners from the fields of computer science, machine learning, deep learning networks, neurobiology, complex systems, experimental biology, biology and evolutionary ecology, physics, theory and applications of complex systems in social networks, delivering a highly innovative science-enabled technology focusing on sustainability solutions. All consortium partners exhibit a long-standing experience in interdisciplinary research across the boundaries of the individual disciplines. A web-based sustainability discovery portal will be produced (WP4), which will allow researchers, NGOs, managers and the public to train students in the discovery process to manage overexploited ecosystems. This will also allow us to scale up the number of people participating in the sustainability process thus mobilizing forward-thinking researchers and excellent young researchers to work together and explore what may become a novel paradigm in sustainability research.

## 2.2 Measures to maximize impact

### Dissemination and exploitation

A plan for dissemination and exploitation (PDE) will be developed and managed under WP4. It will address the project strategy and concrete actions related to: i) Dissemination: Open Access format; ii) Data Management: how data will be handled; iii) Protection: IPR strategy; iv) Exploitation, namely "business models", and v) Communication, particularly the different actions to communicate the project's results and demonstrators to key groups of end-users.

- (I) **Open Access:** Project reports and ISI journal publications will be under the Open Access format. Following the Open Science principles, software and scientific publications will be deposited in the online institutional repositories and on the EC Participant Portal. ZENODO (<http://zenodo.org>), recommended by the European Research Council and the EC, and supported by EUs OpenAire platform (<https://www.openaire.eu/>) will be also used for dissemination and communication purposes (publications, presentations, datasets, images, videos/audio and interactive materials such as lectures).
- (II) **Open access to research data:** recommended data repositories (e.g. PANGAEA, NASA Goddard Earth Sciences Data and Information Services Center) will be used to share the generated data and software. Open-source codes and analysis of standardized inputs/outputs and software will be made public through an online platform with the aim of converting it in *the Reference Point* for any future research in knowledge discovery.
- (III) **Data management:** Good research data management practice will ensure all the data is registered, stored, made accessible for use, managed over time and/or disposed of, according to legal, ethical, funder requirements and good practice. This management will provide benefits such as reducing the risk of data loss, improving data workflows and data availability and discovery, visibility of research