The ROBHOOT consortium wants to advance the rapidly evolving digital ecosystem by making cooperative discovery a fundamental feature of it. For this purpose, a science-enabled data and causal knowledge discovery technology is not enough if they stay isolated from a discovery technology embedded in large-scale networks. To discover novel scenarios for ecosystem sustainability, Discovery in federated networks should learn to learn from heterogeneous data-sources in the context of evolutionary neural biology-inspired algorithms. To achieve scalability for the discovery in federated networks, eco-evolutionary dyamics and neural-inspired protocols in federated networks is the excellency feature of ROBHOOT v.3.0 (section 3.1.3). ROBHOOT v.3.0's team composed by SRC and UNIGRAZ, develop eco-evolutionary dynamics scenarios for ecosystem sustainability and neural biology-inspired federated networks, respectively (Box 2). The team forming ROBHOOT v.3.0 also requires contrasting skills: First, theoreticians working in eco-evolutionary dynamics guarantee scalable implementation of evolutionary processes in federated networks. Second, neurobiologists in collaboration to developers aiming to explore the role of evolving neural biology-inspired solutions accounting for heterogeneity and dimensionality in federated networks. ROBHOOT v.3.0 is a fundamental stepping-stone for developing "Cooperative Forecasting": it first guarantees proper eco-evolutionary dynamics along species-rich ecosystems is implemented. Then these species-rich ecosystems represent the basis for discovery of novel paths that increase sustainability goals. And these novel paths are searched along many nodes of a network replicating eco-evolutionary dynamics scenarios that interact and learn from each other to find better forecasting scenarios at a global scale. ROBHOOT v.3.0's implements heterogeneous groups of cooperating and competing neurons in federated networks for making cooperative forecasting a standard global property of ROBHOOT (Deliverable D3.2, Tables 3.1a-c). Milestone three generates discovery in federated networks for the sustainability of the Seas to provide populations of scenarios satisfying biodiversity and sustainability maintenance while guaranteeing commercial interest of many interacting groups and stakeholders within and among countries (Deliverable D3.6, Figure 3, blue). ROBHOOT v.3.0 contain researchers from Sweden and Austria. ROBHOOT architecture aims to guarantee strong reproducibility, automation, and visualization-communication along its whole life cycle and development. The team formed by the SDSC (D1.4, D2.4 and 3.4), ICREA (D1.3, d2.3 and D3.3, and SME (D2.5, D3.5 and D4.5), will implement reproducibility, automation, and visualization and reporting, respectively, features crossing all ROBHOOT milestones to secure dissemination along its life cycle (Figure 1 and Gantt chart).

3.4 Resources to be committed

Bibliography

[1]

[2] *Blue-cloud.*

[3] *Elixir open data.*

[4] *HOT.*

[5] *Knowledge Graph COVID-19.*

[6] *Openstreet.*

[7] International bottom trawl survey working group (ibtswg). *ICES Scientific Reports*, 2019.