

Description of risk	Objective	WP	Proposed risk- mitigation measures
Evolutionary semantic algorithms insufficiently developed: Medium	2	WP1	Consider more developed genetic programming methods to infer data interactions.
Multilayer metrics accounting for spatiotemporal patterns along many datasets insufficiently developed: Low	2	WP1	Implementation of more standard complex networks metrics to characterize data knowledge discovery.
Low number of training data available: Medium	2,3	P2	Alternative methods focusing on matrix decomposition methods.
Automated evolutionary-inspired expressions for causal knowledge discovery insufficiently developed: Medium	2,3	WP2	Symbolic regression methods to full automation for causal discovery accounting for evolutionary rules.
Eco-evolutionary dynamics of multiple traits in species-rich ecosystems insufficiently developed: Medium	1-4	WP3	Mean-field approximations using classical ODE systems and novel universal differential equations for scientific machine learning.
Evolutionary neurobiology-inspired federated networks insufficiently developed: Medium	1-4	WP3	Spiking neural network models as alternatives to evolutionary neural biology-inspired algorithms in federated networks.
Cooperative forecasting mixing eco-evolutionary dynamics and neural nets in large scale federated networks insufficiently developed: Medium	1-4	WP3	Mix eco-evolutionary dynamics models with less alternative neural nets models working a smaller spatiotemporal scales.

2 Impact

2.1 Expected impact

- Scientific and technological contribution to the foundation of a new future technology:** ROBHOOT targets novel approaches towards sustainable ecosystems. One of the tasks in WP3 focus on the discovery of novel evolutionary neurobiology-inspired algorithms to provide results for sustainability fisheries. Solutions around WP3 ultimately depend on merging WP3 with the rest of WP's in the proposal. For example, it is known that sustainable ecosystems strongly depend on many data sources collected by different groups using different technologies (refs +++). ROBHOOT discover data interactions combining fisheries, stakeholders, and technology data, the data knowledge discovery graph, as a first step towards the discovery process. ROBHOOT also infer the technological and environmental changes and the processes underlying the empirical patterns, the causal knowledge discovery, to provide the existing sustainability status in a human-disturbed ecosystem. Altogether, this project will lay the foundation for future sustainability