IRP 1 : Individual Research Project

Topic

Strengthening European financial service providers through applicable reinforcement learning

Involvement

- IRP belongs to WP3 (Explainable and fair AI)
- WP Leader: BFH (Bern)
- Two supervisors from secondments: CAR, and ECB

Objectives

Reinforcement Learning (RL) has become popular for **automating uncertain decision-making in complex environments**. Deep reinforcement learning can make impressive algorithmic decisions in closed environments, but real-world applications in open environments are harder. **This project examines how RL can advance digital finance.**
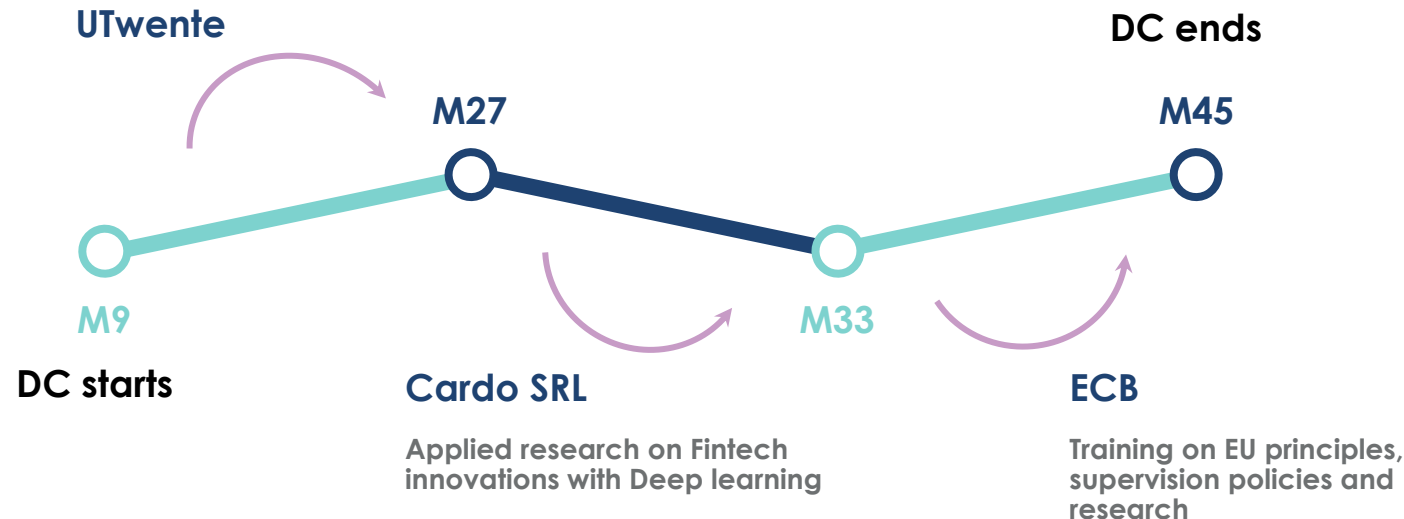
Deliverables

The project will address several RL implementation issues in digital finance. Utility-based RL deliverables will improve **financial decision-making** by developing **multi-criteria analysis, extreme scenarios, and risk management methods**. RL in decision-support will be **optimised for explainability, regulatory compliance, model abstractions, and human judgement**. We will also examine technological challenges like **Digital Twin environments, machine learning pipelines, and digital finance ecosystem integration.**

TIMELINE

IRP 1

UTwente

M27

DC ends

M45

M9

DC starts

M33

Cardo SRL

Applied research on Fintech innovations with Deep learning

ECB

Training on EU principles, supervision policies and research

DIGITAL