IRP 11: Individual Research Project

Topic

Applications of Agent-based Models (ABM) to analyse finance growth in a sustainable manner over a long-term period
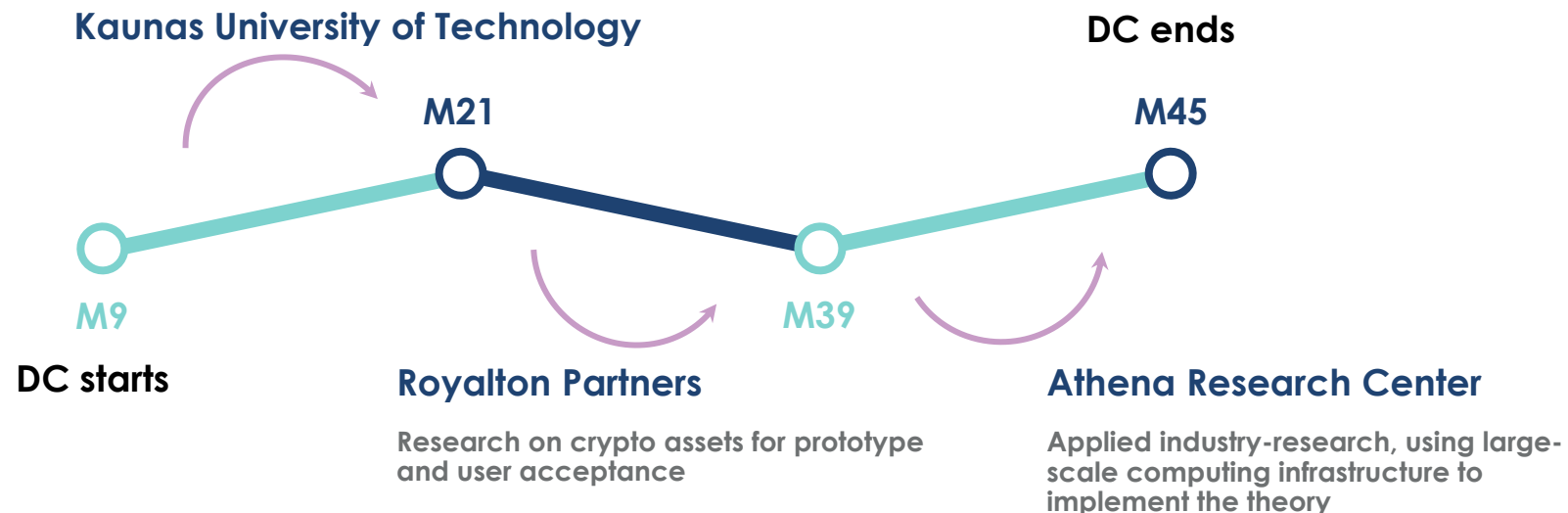
Involvement

- IRP belongs to WP5 (Sustainability of digital finance)
- WP Leader: UNA (Naples)
- Two supervisors from secondments: ROY, and ARC

Objectives

Agent-based systems are computer models that simulate the behaviours and interactions of autonomous agents, either as individuals or in groups, in order to gain a deeper understanding of how a system behaves and what factors influence its outcomes. In agent-based modelling, a system is represented as a collection of autonomous decision-making units, or agents (ABM). Each agent evaluates its own situation and makes decisions according to a set of rules. Agents are capable of a variety of appropriate behaviours for the system they represent. ABM has been utilised in numerous financial investigations. The literature contains few ABM studies that model economies and markets while assuming the industry's adoption of sustainable finance.

Deliverables

This study aims to use agent-based models to simulate different market scenarios in which industry agents take sustainable actions. Long-term financial growth will be analysed, and the findings will aid in the **development and modification of industry policies and strategies**. A **public repository** containing a library of the developed **agent-based models** is another anticipated outcome.

TIMELINE

IRP 11

Kaunas University of Technology

M21

DC ends

M45

M9

DC starts

M39

Royalton Partners

Research on crypto assets for prototype and user acceptance

Athena Research Center

Applied industry-research, using large-scale computing infrastructure to implement the theory

DIGITAL