GRADUATE SCHOOL
Masters and PhD
DS4H
Digital Systems for Humans
Let's anticipate the digital transformation

UNIVERSITÉ CÔTE D'AZUR
ACADÉMIE D'EXCELLENCE
RÉSEAUX, INFORMATION, SOCIÉTÉ NUMÉRIQUE

Académie Réseaux, Information et Société Numérique
Ecole Universitaire de Recherche DS4H

Smart IoT for Mobility (SIM)

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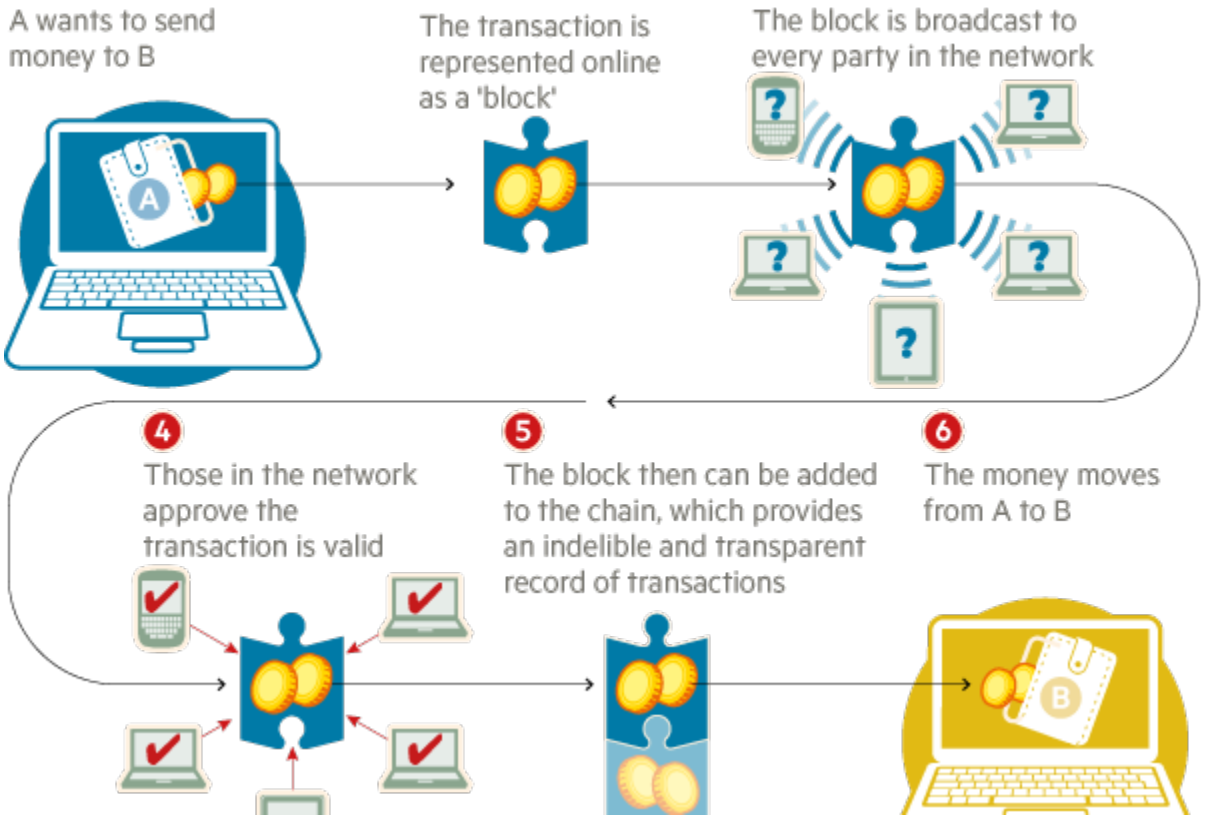
Motivations

- Blockchains are more and more interesting to develop a new collaborative economy



Motivations

- The Smart Contracts are one of the best innovations of that cyber-economy:

  A Smart Contract is an accessible and auditable program by anyone, whose execution is verifiable and therefore verified, designed to execute the terms and clauses of a legal contract automatically when certain conditions are verified.

An option contact between parties is written as code into the blockchain. The individuals involved are anonymous, but the contact is the public ledger.

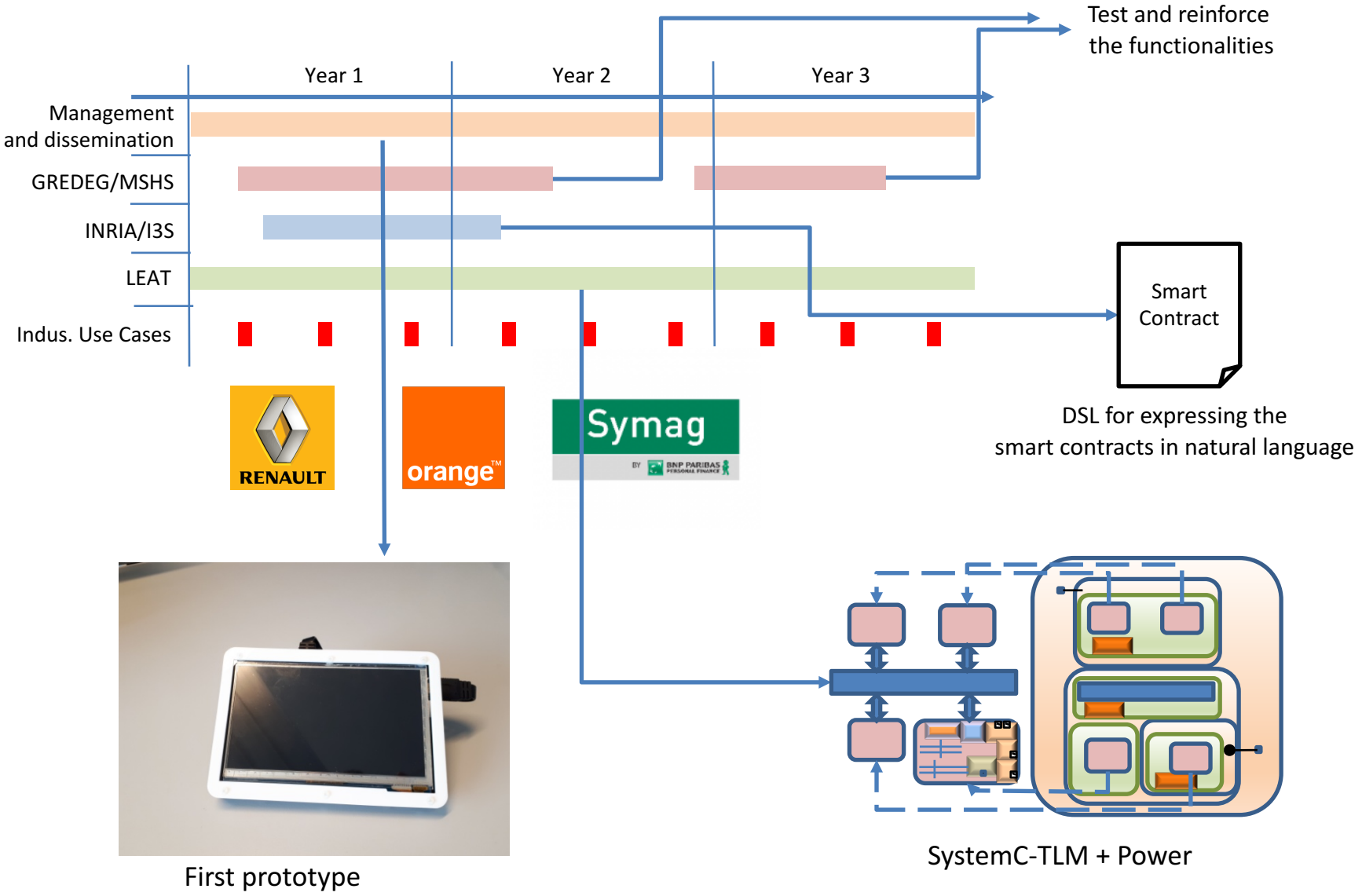
A triggering event like an expiration date and strike price is hit and the contract executes itself according to the coded terms.

Regulators can use the blockchain to understand the activity in the market while maintaining the privacy of individual actors' positions

Objectives of the project

- What are precisely Smart Contracts?
  - Lawyers
- Is it possible to define a DSL language understandable by anyone that could support the totality of Smart Contracts?
  - Computer Science
- Is it possible to implement these Smart Contracts in an IoT platform?
  - Electronics
- Are these Smart Contracts accepted by end users?
  - Economics and Experimental Economics

SIM project planning



Expected results

- Smart Contracts for the industrial use-cases will be verified by the team of lawyer
- A natural, formal Design Specific Language for expressing the Smart Contracts will be proposed
- A complete acceptability study of these Smart Contracts by the end-users will be done
- A second prototype for the execution of Smart Contracts is expected at the end of the thesis
- The experimental tests with end-users will be done

➢ A first prototype, that executes three blockchains (Ethereum, Hyperledger and R3 Corda) with the Smart Contracts will be shown as a demonstration