# RobotChain: a blockchain for registering robot events using Tezos technology

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July 2018

## 1 Abstract

There is the need for an auditable register of robot actions on a factory environment, that cannot be tampered by any of the stakeholders (main company or any of the robot manufacturers). This encompasses several different robot manufacturers and when there are problems, one wishes to know who made mistakes. By having a blockchain registering all robot events one can be sure that no one will tamper with the registers and it will be clear who made which actions. This is specially important for autonomous robots such as AGVs and for collaborative robots, which can endanger human lives.

## 2 Goals

The main goal of this thesis is to implement a blockchain for registering robotic events, based on Tezos' technology `https://tezos.com`.

It must be sufficient fast to be able to register hundreds of events per second. This is an important constraint: usual blockchain technologies are only able to process about a dozen transactions per second.

It is also important to define a simple and transparent API such that robot manufacturers can easily interface with the system.

Another important challenge is to make the processing simple enough to not have a large impact on the processing capabilities of the robots.

## 3 Tasks

T1: State-of-the-art in blockchain technologies.

T2: Implement the proposal.

T3: Make extensive evaluation on real world scenarios.

T4: Write the thesis and a scientific paper.

# 4 Schedule

| Task | Start date | Duration |
|---|---|---|
| T1 | 2018-10-01 | 1 months |
| T2 | 2018-11-01 | 5 months |
| T3 | 2019-04-01 | 1 month |
| T4 | 2019-05-01 | 2 months |