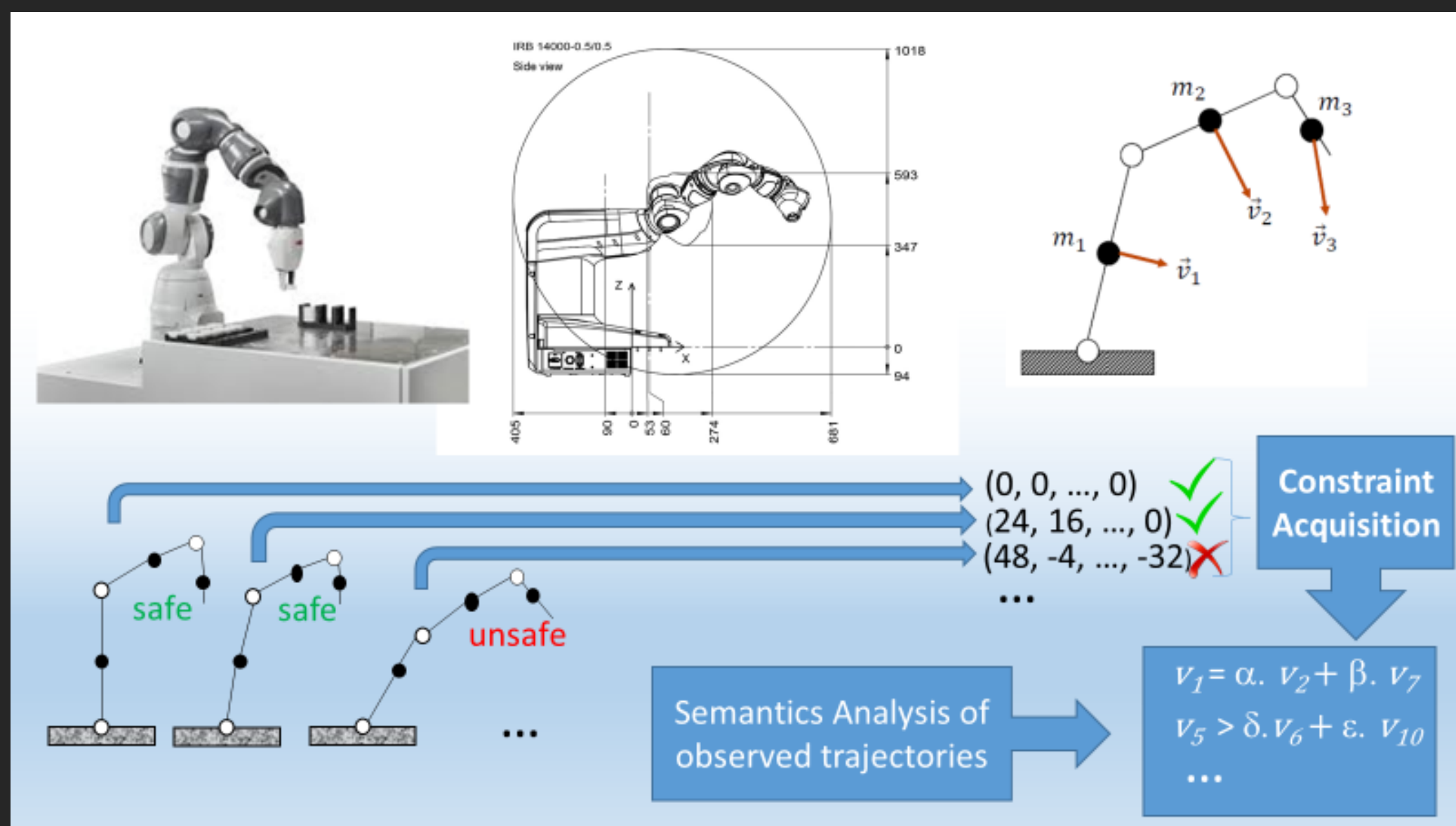# T-Largo: Testing of Learning Robots

In a nutshell:

- Develop new scientific foundations for testing human-machine collaborative robots
- Constructing an open test platform dedicated to collaborative robots
- <u>Impact:</u> Scientific breakthroughs on testing robots equipped with artificial intelligence
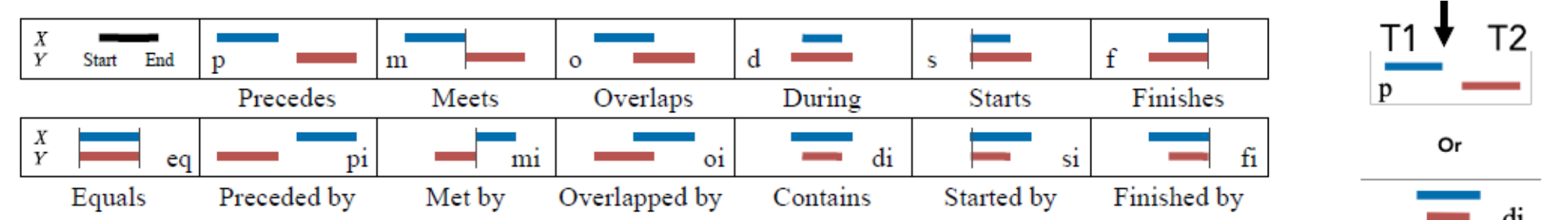
Methods

Constraint Acquisition

$$Learn\ L\ s.t\ f \subseteq sol(L)$$
$$and\ sol(L) \subseteq f \qquad f : e \rightarrow \{0, 1\}$$

Qualitative Constraints

- Relations between entities
- Expressed as disjunctions
- Eg: temporal networks

Ongoing challenges

- Constraint acquisition for learning safety-related robot movements
- Query-based constraint acquisition of qualitative constraints
- Constraint acquisition of preconditions through dynamic analysis
- Testing deep learning based computer vision models
- Stress test generation using constraint optimization
- Test selection and test execution scheduling for industrial robots
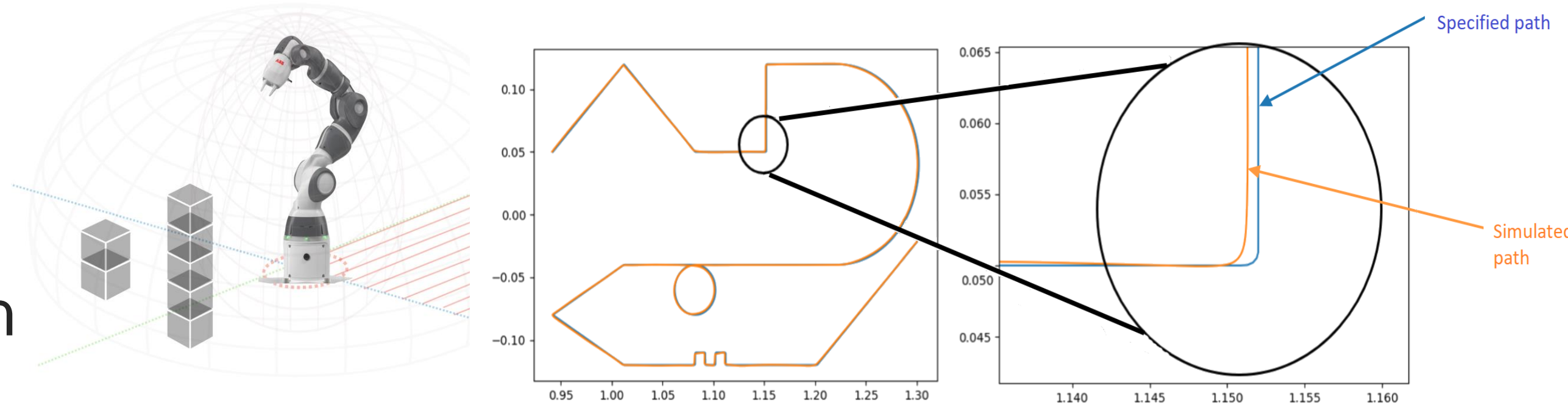
Robtest
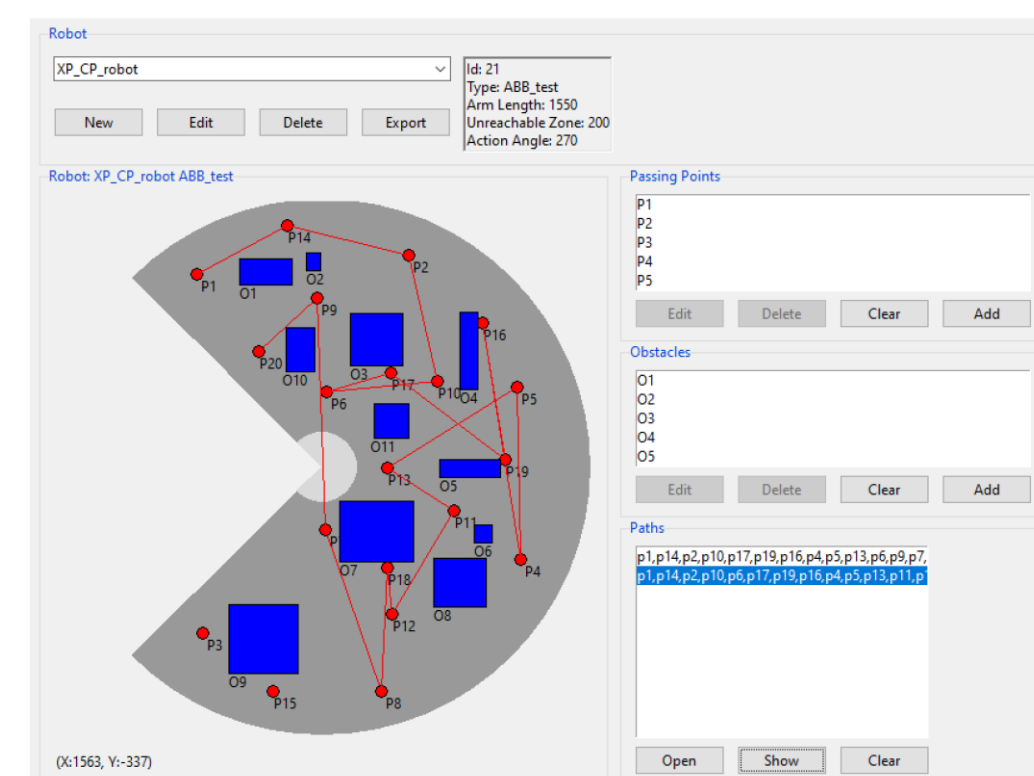
Main personel

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