Aerial Robot for Sewer Inspection

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Innovant amb les empreses
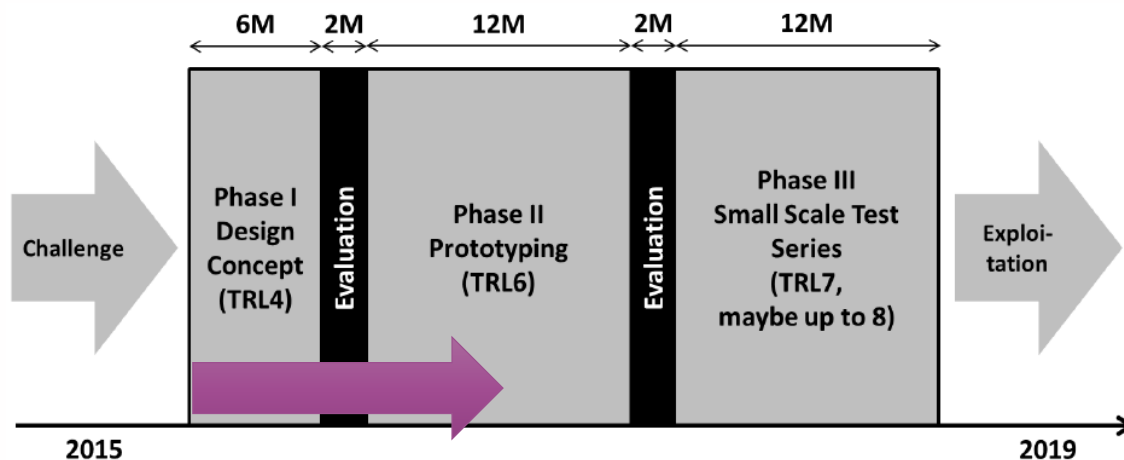
ECHORD++ PDTI

Urban Robotics Challenge

Robots for the inspection of the sewer network in cities

ECHORD++ stimulates the interaction between robot manufacturers, researchers and users.

The **city of Barcelona** has provided its sewer network as use-case and test site.

Together they define the **technical requirements**

Scenario

Urban Robotics Challenge

ARSI Consortium

Urban Robotics Challenge

The consortium covers the entire value chain including:

• FCC: world reference company in environmental urban services.

• EURECAT: Research Centre with experience in both aerial robots for harsh environment and perception.

• SIMTECH: company specialised in aerial robots operation, manufacturing, simulation and training.

• IBAK: worldwide leader in sewer inspection robots manufacturing

ARSI Concept

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ARSI is composed by:

- four spherical cameras for structural assessment
- LED based illumination
- range sensor for reactive navigation with specialized planners
- air and gas monitoring sensors
- constant live communications

Sewer inspection in realistic environment

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https://youtu.be/AeK-dMsfpQw

Phase 2
Developing autonomy – Assistive modes
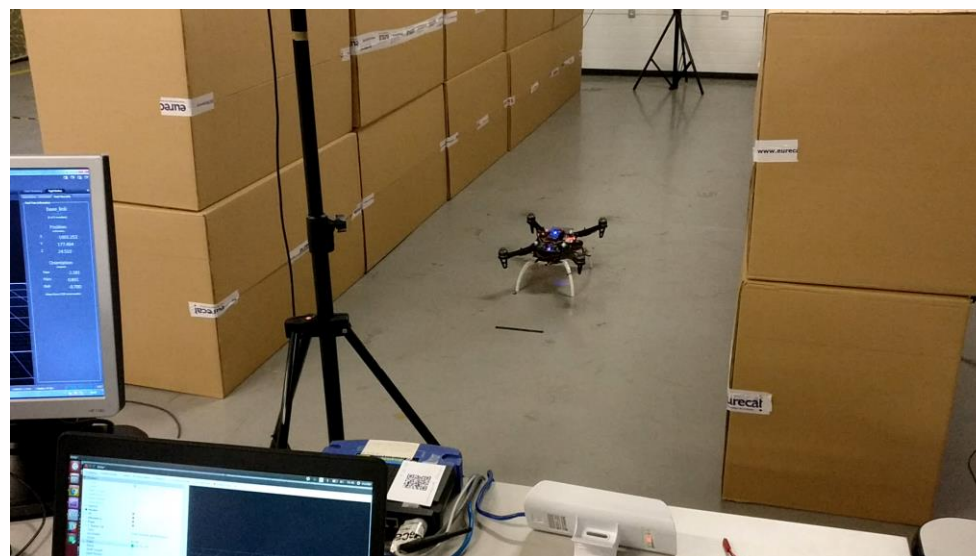
Specialized Path Planners
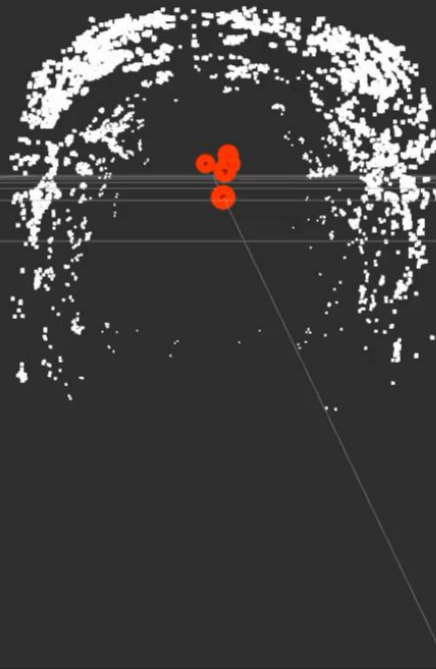
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Wall following

Tunnel following

Phase 2
Evaluating localization methods

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Phase 2
Developing structural assessment
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Next steps

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Finalize localization, both local and global

Robustify specialized assistive planners

Develop structural assessment based on 3D reconstruction

Validate on the sewer

Thanks

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