## Internship offer

**Topic of the internship (title)** Design and Implementation of a multi-robot system in hazardous industrial facilities

**Proposed dates of the internship**

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<th>Start</th>
<th>End</th>
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<tr>
<td>02/09/2024</td>
<td>20/12/2024</td>
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**Scientific and academic objectives of the internship:**

As part of the ANR project 12RM, the proposed work consists of designing and implementing a navigation scheme for the cooperative navigation of a multi-robot system in hazardous industrial facilities. In close collaboration with a team of researchers, the master student will:

**Design safe decentralized collision-free path planner for mobile robots:** A major part of the autonomy of agents holds on the capacity of planning feasible path in a particular environment. In hazardous industrial facilities, the environment contains some areas in which the agent cannot move. In the context of multi-robot systems, it is not only necessary to ensure a coordinate navigation of the fleet of agents in order to avoid collisions with obstacle but also to minimize the number of collision risk between robots.

**Implementation:** One crucial objective of the master student is to implement the developed planning scheme on a lab demonstrator (mobile robots MiR100) using ROS.

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**Expected profile of applicant**

**Level of study** Master

**Discipline** Automation Engineering

**Prerequisite knowledge, qualities and skills** Applicants must have a background in automation. The candidate must be autonomous and have a rigorous scientific approach.

**Language of Internship** English

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**Other specific eligibility criteria** /