# ROSCon FR&DE 2025

# WORKSHOPS

| | |
|---|---|
| Workshop Title | Building Real-Time Robotic Systems with QNX and ROS2 |
| Name of principal instructor | Erik Johnson (QNX) |
| Number of supplementary instructors | 4 |
| Maximum of participants | 30 |
| Language | English |
| Workshop duration | 2h |
| Required material | Each participant should have a laptop with a USB port. |
| Skills required for participants | Beginners |

| | |
|---|---|
| Brief description | QNX is a real-time operating system (RTOS) engineered for deterministic behaviour, fault isolation,<br>and high reliability - properties essential for safety-critical applications in automotive, medical, and<br>industrial domains.<br><br>QNX is a POSIX-compliant microkernel RTOS that can provide hard real-time scheduling and a clear path towards safety certification making it ideal for building robotic systems.<br><br>This workshop presents a practical workflow to deploying ROS2 on QNX through freely available development<br>tools and a pre-configured Raspberry Pi image.<br><br>It will also show how the wide array of powerful ROS2 packages can be cross-compiled for and used on QNX. Potential issues and best practices for using ROS2 on QNX will be discussed throughout.<br><br>This workshop will provide a general introduction to the QNX RTOS, including relevant design features like<br>its microkernel and POSIX nature.<br><br>It will show participants how to access QNX development tools and the Raspberry Pi image.<br><br>Then it will demonstrate the process of cross-compiling ROS2 for QNX.<br><br>The participants will go hands-on to explore the command line of a running QNX Raspberry Pi<br>and learn useful commands for introspection of the system (e.g. pidin, slog2info).<br><br>They will run example ROS2 nodes that illustrate the real-time nature of QNX.<br><br>Finally an example will be given of cross-compiling a complex ROS2 package on QNX : ros2_control.<br>Throughout the workshop, potential issues and best practices specific to using ROS2 on QNX will be highlighted.<br><br>Raspberry Pi will be available for participants to experiment on during the workshop. |