ROSCon FR&DE 2025

WORKSHOPS

Workshop Title	Introduction au plugin Ethercat_ros2_driver
Names of principal instructors	Philippe ZANNE (CNRS/ICube), Manuel YGUEL (Unistra/ICube), Florian Weißhardt (Synapticon)
Number of supplementary instructors	1
Maximum of participants	20
Language	English
Workshop duration	4h
Required material	A laptop with an ethernet connector (or an adapter: e.g. USB-Eth), with ubuntu 22.04/24.04 with ROS2 and ROS2 control installed
Skills required for participants	Intermediate / Expert

Brief description	This workshop teaches you how to generically integrate EtherCAT hardware into the ROS 2 ecosystem using the ethercat_driver_ros2 plugin.
	Participants will learn how to describe their hardware using configuration files, interact with devices via command-line tools, and develop custom ROS 2 controllers to operate actuators.

Topics covered include:

* Overview of the EtherCAT bus and useful Linux tools
* Refresher on ros2_control
* Introduction to ethercat_driver_ros2
* Configuration of an EtherCAT module for ethercat_driver_ros2
* Implementation on an actuator and its CiA402 driver
* Development of a custom ros2_control controller
* Implementation of an emergency stop using the FSoE protocol (time permitting)
* Debug with the EtherCAT bus and the Synapticon hardware

Hands on training with Synapticon drives will be done by groups of 4. |