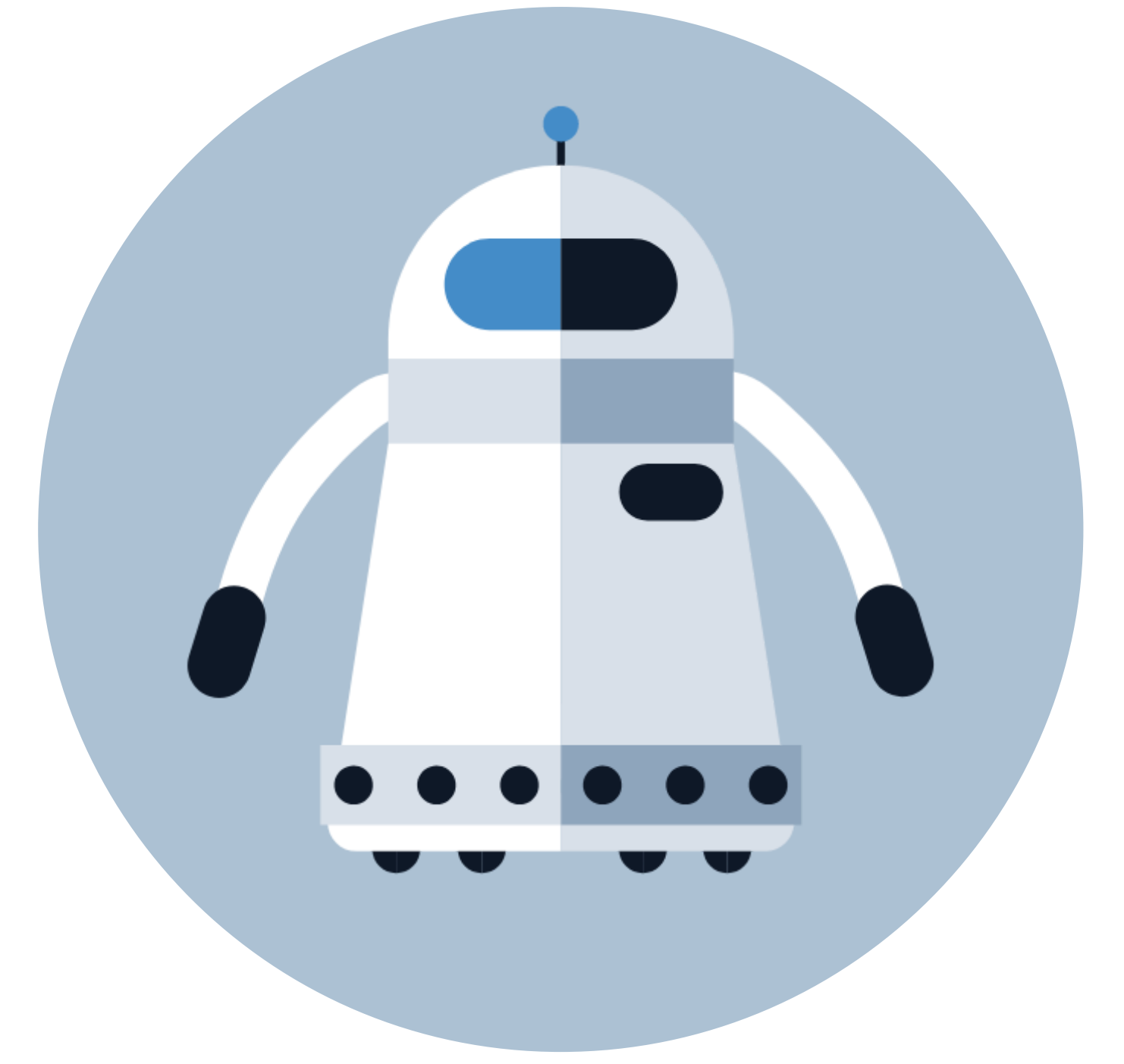


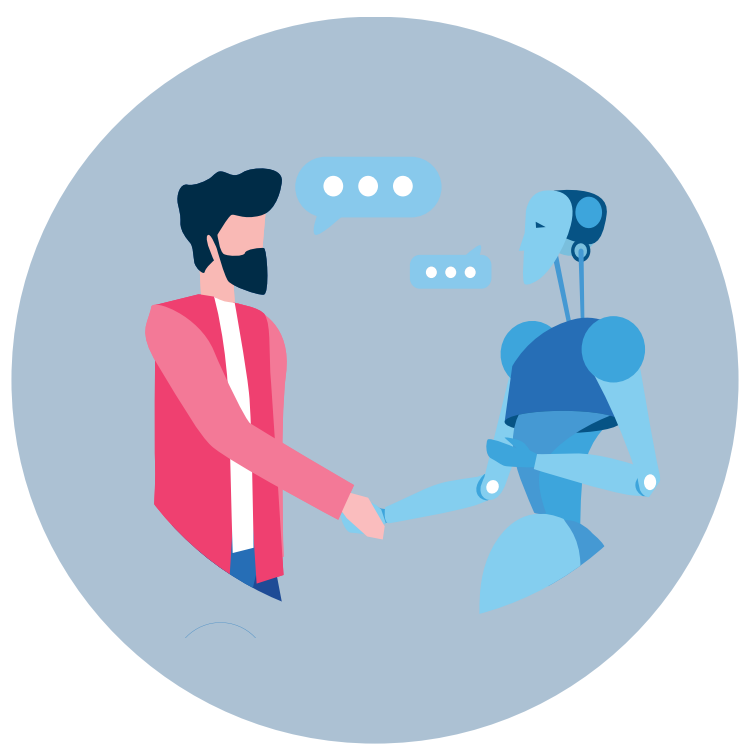
micro-ROS



micro-ROS puts ROS 2 onto microcontroller

ROS 2 (Robot Operating System 2) is a middleware, framework and toolbox for robotics software development and has basically become the largest open-source initiative in robotics.

micro-ROS is joining forces with all the capabilities of ROS 2 by bringing the ROS APIs to microcontrollers, so porting advanced application-level software (e.g., for self-localization, obstacle avoidance) is simplified.



Fast time to market

micro-ROS is enabling rapid delivery of robotic products that integrate highly resource-constrained devices.



Extended vertical adoption

micro-ROS redefines the boundaries of the ROS 2 ecosystem by extending the range of applications (Industry 4.0, IoT, ...).

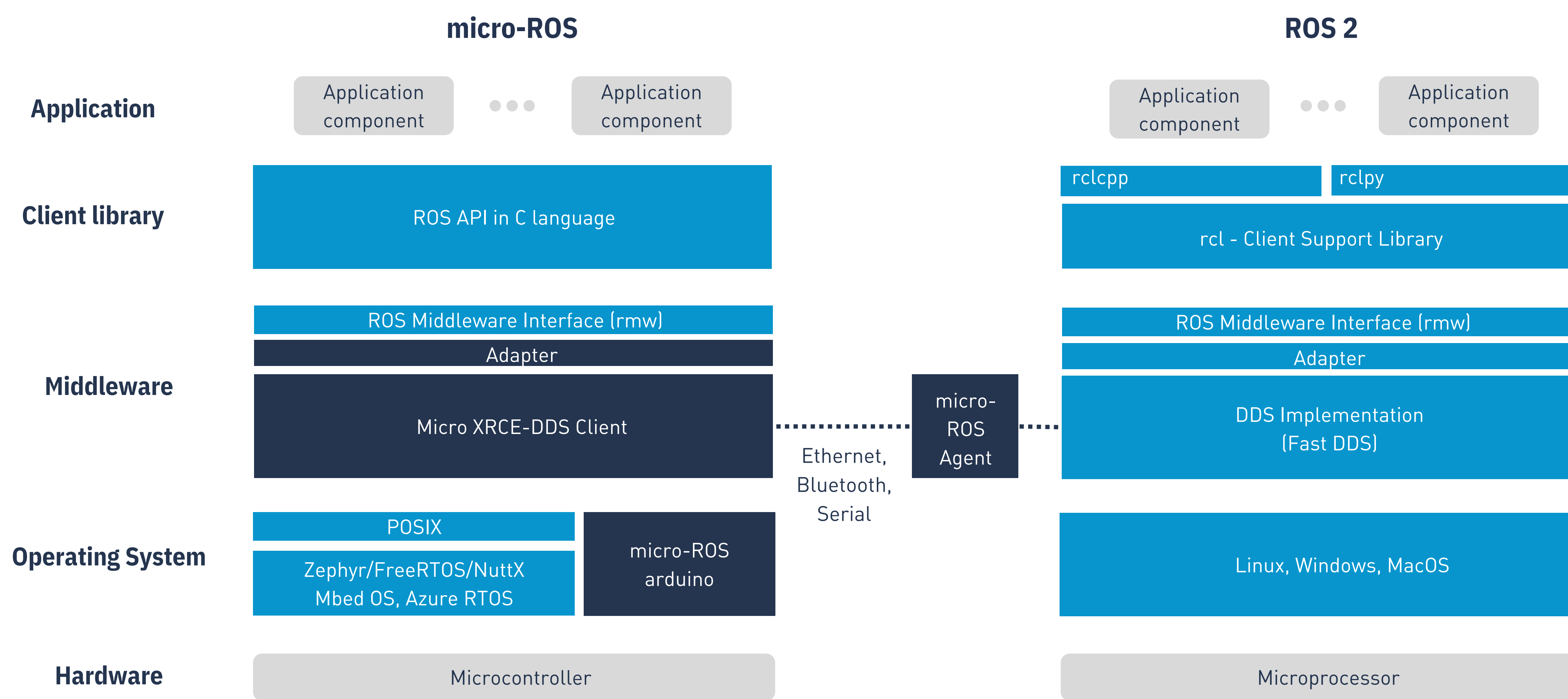
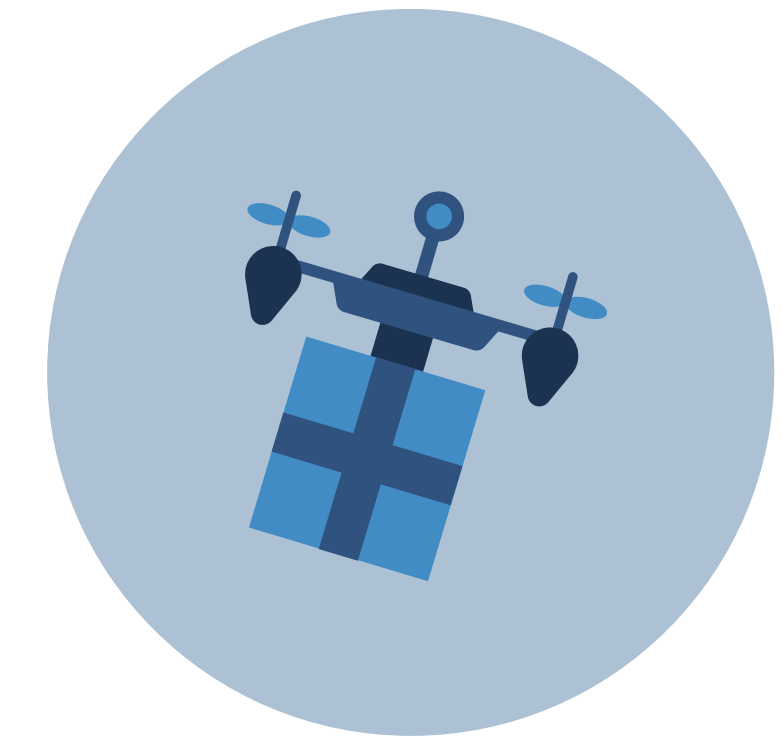
Cost and risk reduction

By integrating MCUs into ROS 2, developers benefit from all ROS 2 tools and advanced introspection, diagnostics, and other features.



Wide community support

micro-ROS is enjoying a broad support from the ROS community. It is accessing a large base of users already working with ROS 2.



The most important differences of the micro-ROS stack compared to ROS 2 are on the lower layers:

micro-ROS uses a real-time operating system (RTOS) and not a desktop operating system like Linux.

The stack's middleware implements the DDS-XRCE standard instead of DDS (Data Distribution Service).

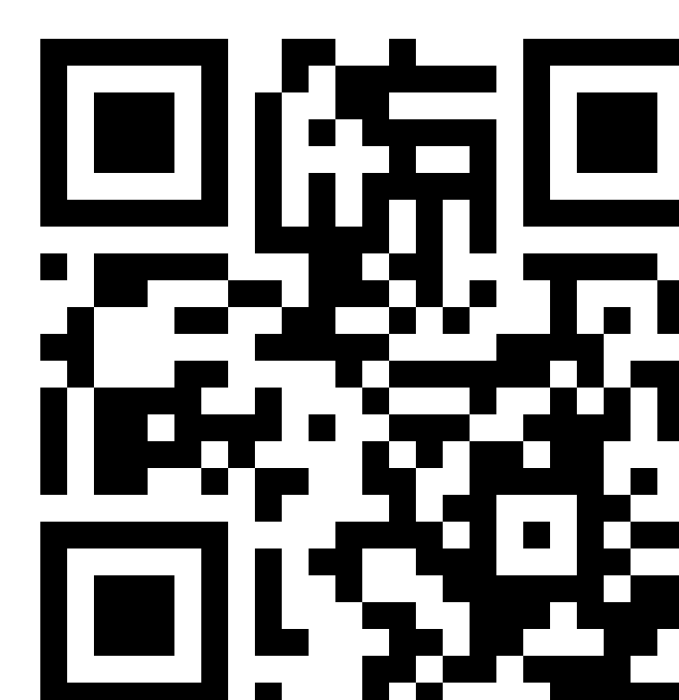
Apart of those layers, micro-ROS uses ROS 2 core stack layers, granting compatibility and ensuring long-term maintenance.

Supported HW:

ARM Cortex-M and similars, Renesas RA-Family, Espressif ESP32, Arduino, Raspberry Pi Pico, ROBOTIS OpenCR, Teensy, Crazyflie 2.1 Drone, and many other development platforms



micro.ros.org



github.com/micro-ROS

Source code • Issue tracking

contact

Info@eprosima.com

Also available in



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 780785