:::ROS 2™

A Proven Path to Production Robots

From prototypes to mission-critical robots across space, medical, and defense - ROS™ 2 is powering the world's most advanced production systems.

The Misconception: "ROS is only for research."

The Reality:

> ROS 2 is the foundation for many commercial robots deployed worldwide.

> While ROS 1 has deep academic roots, ROS 2 was re-engineered from the ground up for real-world, production-grade performance.

> Built on DDS middleware - the same technology used in aerospace, automotive, and industrial systems - ROS 2 provides an ecosystem of pre-built robotics capabilities, modular architectures, and enterprise-grade scalability.

1,560+	100%	47M	887K
Known companies deploying ROS	All top 20 commercial robot arm vendors support ROS	Monthly global ROS package downloads	Active Website Users Per Year

ROS is trusted by leading organisations

intel   HUAWEI   NASA   BOSCH   amazon   NVIDIA   HYUNDAI   AMD   BMW GROUP   iRobot

Qualcomm   Johnson&Johnson   PHILIPS   UNIVERSAL ROBOTS   Canonical   FANUC   ANALOG DEVICES   CLEARPATH

Visit the picknik.ai/hardware-ecosystem to see 100+ additional vendors that support ROS 2 compatibility.

Proven Across Critical Industries

Space

NASA and partners have used ROS to control ISS-launched humanoids, free-flyers, and soon robotic arms in space applications.

Medical

ROS 2 powers FDA-regulated surgical systems and other medical robotics applications.

Military

Defense programs increasingly rely on ROS 2 for autonomy and modular payload integration for rugged, fielded platforms.

Why ROS 2 Works for Production

Reliable, real-time messaging
via DDS with fine-tuned QoS controls

Security-first design, with built in authentication, encryption, and isolation

Massive ecosystem of commercial companies providing supported software such as Qualcomm, PickNik, Foxglove, ReRun, Formant, NVIDIA, etc

Long-Term Support (LTS), releases like ROS Humble and Jazzy for predictable maintenance

Financial and Strategic Benefits

Mitigate Vendor Lock-in:

ROS 2, as an open-source standard, ensures you are not locked into one vendor's proprietary software, giving you long-term strategic flexibility.

Reduced Time-to-Market (TTM):

The massive ecosystem and pre-built packages translate directly into faster development and deployment compared to starting from scratch.

Lower Barrier to Entry/Talent:

A large, global community means easier hiring and a continuous flow of innovation that your internal team benefits from.

Production Readiness

Objection	Reality
"ROS 2 isn't reliable enough."	ROS 2 is built on the proven DDS middleware used in aerospace & automotive industries, offering reliability and flexibility.
"Open source can't be supported."	Many companies like PickNik, Intrinsic, SwRI, Ekumen, Fraunhofer, and A-Star support ROS for companies.
"Open source is not secure enough"	Most of the internet runs on open source, especially security software, and it has been long proven to be more secure than closed source.
"It's not safe for production."	Medical, space, and defense deployments already prove ROS 2's safety and reliability under strict regulations.

Key Organizations Supporting ROS

open source robotics alliance

:::ROS industrial™

THE AUTOWARE FOUNDATION

PICKNIK

Get in touch

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About PickNik Robotics

Founded in 2015, PickNik Robotics develops MoveIt Pro, the world's leading robotic arm developer and runtime platform built on ROS. MoveIt Pro enables advanced robotic arm control and mobile manipulation.