

Acceleration Robotics collaborating with AMD to design next-generation robotic compute architectures with ROS

Acceleration Robotics, who leads the ROS 2 Hardware Acceleration community efforts, will collaborate with AMD to develop new robotic capabilities with its Adaptive SoCs and SOMs

VITORIA-GASTEIZ, Spain – [Acceleration Robotics](#) –a robotics semiconductor startup based in the Basque Country, Spain– will collaborate with [AMD](#), the industry's high performance and adaptive computing leader to expand its presence in the robotics market through the development of new robotics capabilities for AMD Kria system-on-modules (SOMs) and adaptive system-on-chips (SoCs).

Previous to the AMD acquisition of Xilinx, Acceleration Robotics had worked closely with Xilinx to create various robotics-specific hardware designs and fulfill the objective of enabling roboticists to use Xilinx adaptive computing solutions with the Robot Operating System (ROS). The relationship is now expanding into AMD products optimized for ROS 2, which presents a more modern and popular robotics framework.

ROS is the common language in robotics and most companies building real robots use it today (see [public list](#) of companies using ROS). The ROS-based robotics market was valued at \$42.69 billion in 2021¹ and is projected to reach \$87.92 billion in 2030. Moreover, about 55% of the total commercial robots to be shipped in 2024 will use ROS². The Acceleration Robotics and AMD collaboration will focus on improving robotics computations with ROS 2 in several areas including the robotics message-passing infrastructure, robotics perception, control or navigation among others.

¹ [ROS Based Robot Market by Robot Type](#)

² [The Rise of ROS: Nearly 55% of total commercial robots shipped in 2024 Will Have at Least One Robot Operating System package Installed](#)

[V ctor Mayoral-Vilches](#), a former Systems Architect at Xilinx and the founder of Acceleration Robotics, will lead the collaboration from Acceleration Robotics' side. Their results are partially being disclosed through the [ROS 2 Hardware Acceleration Working Group](#) and contributed back to the ROS community: *"We are excited to see our continued effort with Xilinx extending into AMD and look forward to a close collaboration with their engineering teams on producing architectural blueprints for robotics using ROS. AMD's technology is a perfect fit for robots, wherein latency and determinism rule over everything else. We're especially thrilled to explore how AMD FPGAs, adaptive SoCs and SOMs, as well as other compute solutions can be mixed together to create robot-specific processing units, what we call Robotic Processing Units (RPU)s".*

About Acceleration Robotics

[Acceleration Robotics](#) is a firm focused on designing customized brains for robots to hasten their response time. Founded by top robotic experts to deliver semiconductor building blocks for robots, the company leverages GPUs and FPGAs to create custom hardware that speeds up a robot's operation.