Hardware Acceleration solutions for the robotics architect

Acceleration Robotics is amongst the top experts globally on the Robot Operating System (ROS), including ROS and ROS 2 computational graphs. Our hardware acceleration efforts are accelerator-agnostic (FPGAs or GPUs) and robot-agnostic. We focus on what works best to improve robotics computations. Our work is well known, widely distributed and used.

The following solutions are meant to help robotics architects design specialized robot compute architectures and streamline various robotic processes using open source including ROS and Gazebo, so that you don't spend time reinventing the wheel and re-developing what already works.

Robotic Processing Units (RPUs)

Robotic Processing Units (RPUs) are robot brains, processing units for robots that map efficiently robot behaviors (programmed as ROS computational graphs) to underlying compute resources. They empower robots with the ability to react faster, consume less power, and deliver additional real-time capabilities.

	Name	Description
	ROBOTCORE™	A robot-specific processing unit specialized in ROS computations. Features 16x CPUs, a GPU and an FPGA. This is the processing unit for the robotics architect targeting autonomous mobility, industrial manipulation and healthcare robotics applications.

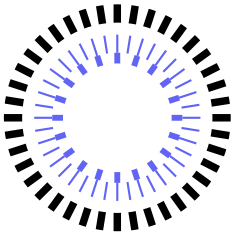
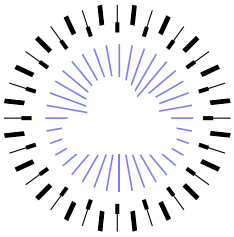
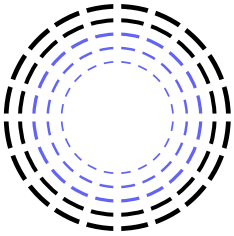
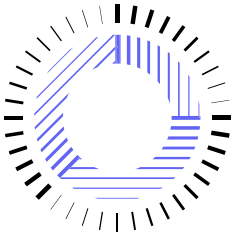
Services

The following consulting services help rapidly augment your engineering capabilities with a robotics deep domain expertise.

	Name	Description
	Robotics consulting	Hardware acceleration framework for ROS and ROS 2 extending support for leading FPGAs and GPUs.
	Robot FPGA and GPU IP design services	Tools to speed-up ROS 2 graphs with the cloud, and in the cloud. Helps roboticists launch parts of their ROS 2 computational graphs into the cloud leveraging CPU, FPGA and/or GPU cloud instances.

Tools and Robot IP Cores

ROS 2 API-compatible hardware acceleration tools and robot Intellectual Property (IP) cores (**robot cores**). Increase your robot's performance, including latency, throughput and power efficiency.

	Name	Description
	ROBOTCORE™ Framework	Hardware acceleration framework for ROS and ROS 2 extending support for leading FPGAs and GPUs.
	ROBOTCORE™ Cloud	Tools to speed-up ROS 2 graphs with the cloud, and in the cloud. Helps roboticists launch parts of their ROS 2 computational graphs into the cloud leveraging CPU, FPGA and/or GPU cloud instances.
	ROBOTCORE™ Perception	Accelerated ROS 2 robotics perception stack. API-compatible with the ROS 2 perception stack.
	ROBOTCORE™ Transform	Accelerated ROS 2 coordinate transformations (tf2). API-compatible with the ROS 2 transform (tf2) library