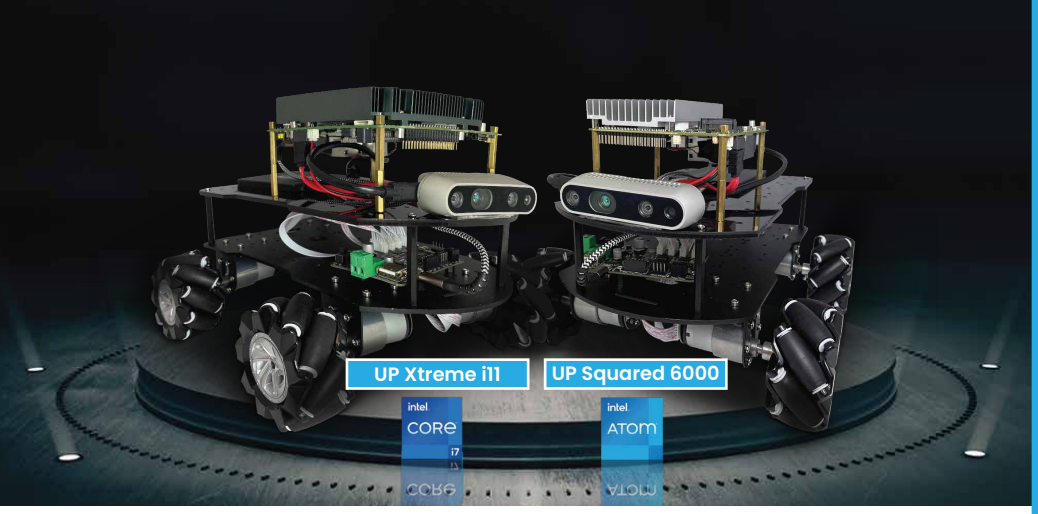
THE NEW GENERATION OF ROBOTICS DEVELOPMENT KIT



Key Strengths

Omnidirectional AMR Development Platform. Powered by Intel®
Complete hardware package for AMR development includes a computing unit, vision unit (Intel® RealSense™ Depth Camera D435i), and Mecanum wheels robot.

Powerful Software Suite for AMR Development
Based on the Robot Operating System 2 (ROS 2), Intel EI for AMR offers containerized software packages for sensor data acquisition, classification, environment modelling, action planning, action control.

Vision from Edge to Cloud
Intel® RealSense™ depth camera D435i offers the widest field of view of all Realsense cameras, along with a global shutter on the depth sensor that is ideal for fast-moving applications.

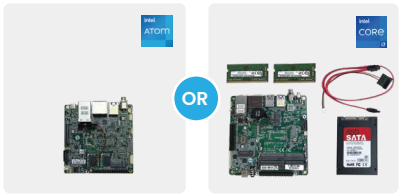
shop@up-board.org

UP Xtreme i11 & UP Squared 6000 Robotic Development Kits

- powered by the 11th Gen Intel® Core™ processors with Iris® Xe graphics and the latest Intel Atom® x6000E Series processors to offer both high-performance and power-efficient options, respectively.

- A complete package that comes with a compute unit, a 3D vision camera, and a driving system (motor control board, motors and wheels).
- Preconfigured with the Intel Edge Insights for Autonomous Mobile Robots (Intel EI for AMR) to develop, build, and deploy end-to-end mobile robot applications with this modular software development kit that includes libraries, middleware, and sample applications based on the open-source ROS2.
- Deliver a pre-validated AMR platform to accelerate deployment of ROS2 based AMR applications.

Learn More!



Hardware overview

- UP Xtreme i11 main board with the Intel Core™ i7-1185GRE, up to 4.40 GHz
- Intel® Iris® Xe Graphics
- 16GB (2x 8G) SO-DIMM DDR4
- 128GB 2.5″ SSD
- 1x 12V8A (96W) power supply for UP Xtreme i11 mainboard

OR

- UP Squared 6000 main board with the Intel Atom® x6425RE, 1.90 GHz
- Intel® UHD Graphics
- Onboard 8GB LPDDR4
- Onboard 64GB eMMC
- 1x 12V6A (72W) power supply for UP Squared 6000 main board

Comes with
- Intel® RealSense™ depth camera D435i
- Intel® AC9260 WiFi Kit (via M.2 2230)
- Mecanum wheels robot (motor control board powered by STM32f103rct6)
- 1x 12V5A (60W) power supply for motor control board

Software overview

- Ubuntu 20.04
- ROS2 Foxy
- MRAA and UPM I/O and sensor libraries *
- Intel® Edge Insights for Autonomous Mobile Robots (EI for AMR) which includes
  - Intel® Distribution of OpenVINO™ Toolkit
  - Intel® oneAPI Base Toolkit (Base Kit)
  - Intel® RealSense™ SDK 2.0
  - ROS 2 Sample Applications

***Support for boards with 40pin GPIO function**

Live Test of Robotic Operation Applications

Run sample applications on a mobile robot kit or development kit based on Intel® hardware to perform robotic operations such as object detection, simultaneous localization and mapping (SLAM), navigation, and object avoidance.

Evaluate Applications for Optimization

Collect benchmark data, perform experiments, and evaluate applications as they are developed to optimize any applications running on EI for AMR solutions.

Customize Reference Software for Autonomous Mobile Robots

Modify reference software with artificial intelligence and SLAM algorithms or replace software modules with custom solutions to meet your application needs.

ROS2 intel. REALSENSE oneAPI OpenVINO

UP! Bridge the gap
Beatrix de Rijkweg 8
5657 EG, Eindhoven
Netherlands
shop@up-board.org