

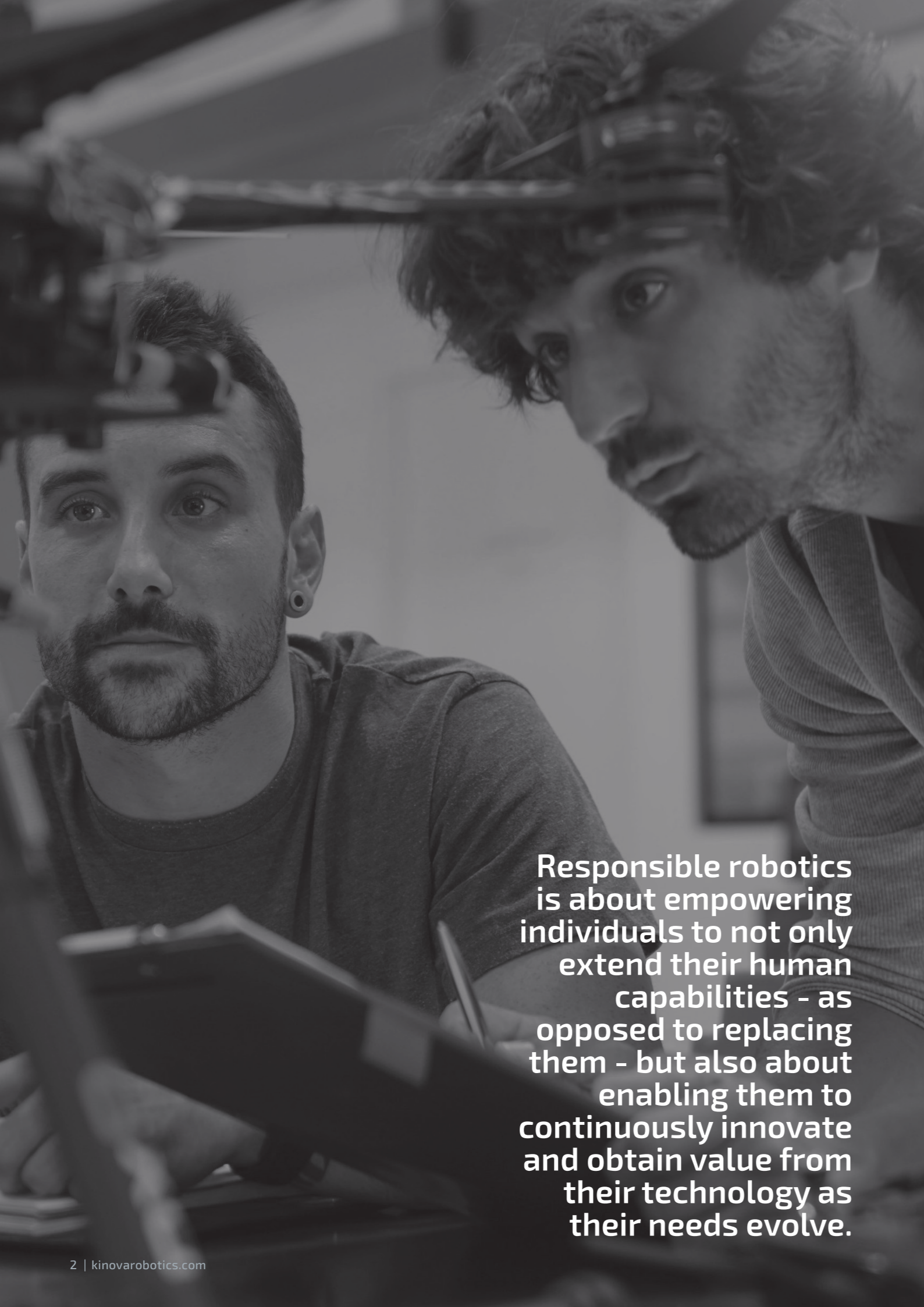


Pathbreaking  
robots for  
pathbreaking  
research

Introducing  
**KINOVA® Gen3**  
*Ultra lightweight  
robot*

**KINOVA**  
Achieve Extraordinary





Responsible robotics is about empowering individuals to not only extend their human capabilities - as opposed to replacing them - but also about enabling them to continuously innovate and obtain value from their technology as their needs evolve.

## Opening a world of possibilities in research

Since the launch of Kinova's first assistive robotic arm for people with limited upper-body mobility, we've dedicated ourselves to our mission by designing innovative robotic technology that empowers people to achieve extraordinary things in their personal and professional lives.

The result? Kinova's third generation of ultra lightweight robots, designed to meet the needs of today's and tomorrow's academic and industry researchers through the most open hardware and software architecture.

Everything about the KINOVA® Gen3 Ultra lightweight robot is next-generation because it's enabled by our unique, open and intuitive software framework and application development platform, KINOVA® KORTX™.

Introducing the most scalable, flexible and adaptable service robot on the market, enabling researchers to customize it as their needs evolve.





# One robot, all your research needs

Extremely versatile, the KINOVA® Gen3 Ultra lightweight robot is designed for efficiency and portability between research teams, applications, projects and environments.

# Transcend your physical limitations with unprecedented control

## BUILT FOR SAFETY AND SECURITY

The KINOVA® Gen3 Ultra lightweight robot is built for human-robot interaction. Its deliberate design and functionality ensure safety and performance in any research environment.

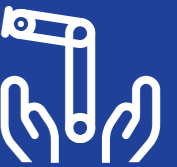
- › 3D visualization of volumetric safety zones
- › Collision avoidance
- › Configurable safety features



Low power  
consumption



Ultra lightweight



Portable



Best  
payload-to-weight  
ratio



## CONNECTIVITY

The controller makes it simple to connect your robot in a number of convenient ways and is adaptable for multiple application needs.

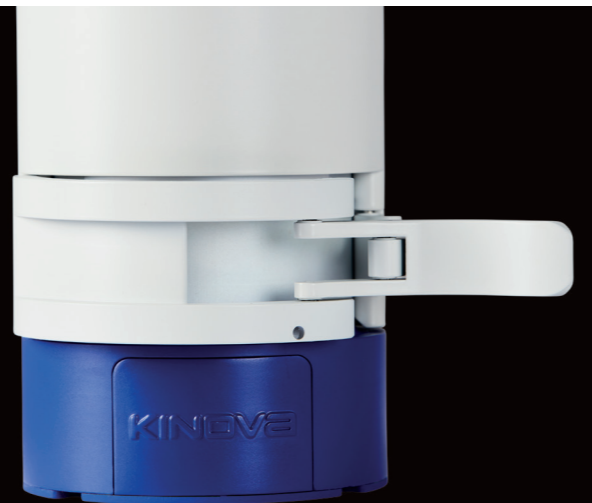
- › Wi-Fi
- › Bluetooth
- › Two USB Type A (Joystick)
- › Micro USB
- › Ethernet connector (1 Gbps)
- › HDMI connector (2D Video)
- › User expansion connector (GPIOs, Power)
- › Power connector

## SERVOING MODE

Direct access to each individual actuator (closed-loop control at 1 kHz)

## QUICK CONNECT

Connect your robot with multiple controllers as required - each of which can be optimized for a specific task.



## EMBEDDED VISION

Built from the ground up with researchers in mind, the KINOVA® Gen3 Ultra lightweight robot is the first with built-in discrete 2D and 3D sensors, ideal for vision-based applications.



## INTERFACE MODULE

Simple connectivity with a wide variety of end effectors, instruments and sensors

- › RS-485
- › Ethernet 100 Mbps
- › GPIOs
- › I<sup>2</sup>C
- › UART
- › Power

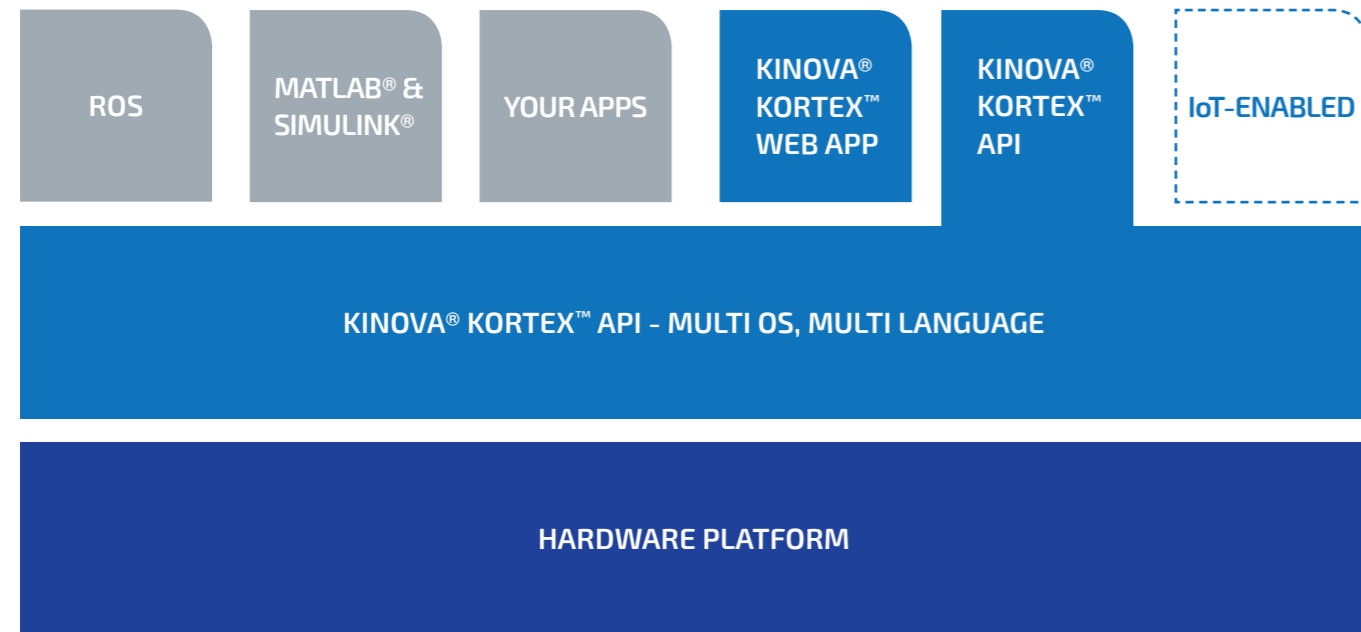


- › UNLIMITED JOINT ROTATIONS
- › SMART ACTUATORS WITH EMBEDDED CONTROLLER
- › TORQUE SENSOR IN EACH JOINT
- › 7 DOF

# KINOVA® KORTEX™ Software for evolving researcher needs

In order to keep up with the speed of innovation, it's essential that technology be open, scalable, flexible and adaptable. Which is why our third-generation ultra lightweight robot is enabled by KINOVA® KORTEX™, our just-released, pathbreaking software framework and application development platform.

Offering you the ever-expanding functionality needed to continuously push the boundaries of knowledge and innovation, KINOVA® KORTEX™ empowers you with unprecedented control to adapt your robot to your specific needs, and evolve with the latest trends in robotics.



- › Adaptable for any level of expertise – ready to program tasks
- › Advanced programming environment (C++ or Python)
- › Built-in functionality using ROS or MATLAB® and Simulink®
- › Intuitive web application connects from any desktop or mobile device without software installation



MathWorks is an Alpha user of the KINOVA® Gen3 Ultra lightweight robot, and the robot offers use of the MATLAB® and Simulink® tools.

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KINOVA®  
KORTEX™  
Enabled

*An obvious reference to the cerebral cortex and more especially the motor cortex, the part of the brain responsible for voluntary movements, the name Kortex suggests the crucial notion of control. It tells users they can count on easy and intuitive control of the Kinova robot. At the same time, the brain metaphor evokes the tremendous sophistication befitting a product of this calibre, power and wide-ranging capacity.*



*Discover the only robotic hardware and software designed for researchers, to offer portability, modularity and evolving capabilities as our community continues to grow.*

# Achieve Extraordinary

RA-LS-L53k-INT-EN 201809-1.0

**KINOVA**

[kinovarobotics.com](http://kinovarobotics.com)