



Why Pro?

WHY PRO?



Millions of users and thousands of companies worldwide use Arduino as an innovation platform. Arduino has drawn on this experience in frictionless design to enable enterprises to quickly and securely connect remote sensors to business logic within one **simple IoT application development platform**.



FAST BUSINESS TRANSFORMATION

We empower enterprises to invent and keep up-to-date their business models and solutions along their complete journey, from concept to market.



SECURE AND SCALABLE AS STANDARD

The latest generation of Arduino Pro solutions allows simplicity of integration and a scalable, secure, and reliable service.



NO VENDOR LOCK-IN

Securely connect remote sensors to business applications with Arduino IoT Cloud or third-party cloud services of your choice.



CROSS-PLATFORM

Re-use your code with other hardware; it is possible to port existing code among different Arduino Pro products.



LOW POWER BOARDS READY FOR IOT APPLICATIONS

Arm® Microcontrollers performance combined with battery management, on-board hardware security, and wide range of connectivity options spanning WiFi, BLE, LoRa®, LTE Cat-M and NB-IoT.

			8	Arduino Pro
				Verticals

ARDUINO PRO VERTICALS

Developers, engineers, and professionals have successfully embedded Arduino into a wide variety of IoT applications to solve real-life problems:

MANUFACTURING MACHINES AND PROCESSES

- Connected production devices
- Sensorized condition monitoring
- Compact machine automation
- Logistics / Material handling / AGVs

AGRICULTURE / CONSTRUCTION / REMOTE MONITORING

- Connected farming equipment
- Connected construction / Tech mobile equipment (e.g. cranes, paving, waste collection, street cleaning)
- Connected city installations (e.g utilities, road signs, ads/billboards)
- Agriculture data acquisition and automation
- Structural monitoring (e.g. bridge, pipeline, water)

IOT BUILDING AUTOMATION / PHYSICAL SECURITY

- Intruder and fire detection systems
- Light / Shutter / Climate control
- Energy management
- Augmented house / Voice Control / Remote
- Access control

LAB PROTOTYPING

- Quick external sensors validation
- Initial POC evaluation
- Easy access to I/O's

TRACKING / ACCESS CONTROL SYSTEMS

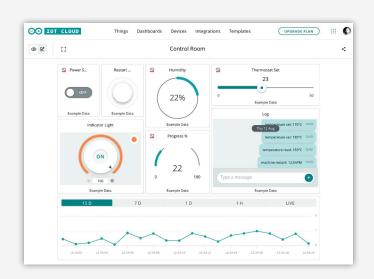
- · Social distancing
- Optimized employee flows
- Geofencing

WEARABLE / MOBILE DEVICES

- Sport diagnostics (e.g. helmets, jackets)
- Work enhancement (e.g. exoskeleton, helmets)
- Light transportation
- Farming (e.g. animal diagnostics)



Arduino IoT Cloud





ARDUINO IOT CLOUD

Arduino IoT Cloud is a simple, secure way to connect remote sensors to business applications using environment familiar to millions of users.

Monitor and control your devices using the widget-based dashboard, connect live sensor data to a spreadsheet, automate alerts using webhooks, or even design a custom application using the API. Arduino IoT Cloud brings together the best worlds – frictionless development and a secure, scalable service.

As a Pro customer we encourage you to request a quote with our representatives.

PRICING Arduino IoT Cloud (WiFi, LoRa®)	Free plan	Entry plan	Maker plan	Maker Plus plan
Cost (excl. tax)	Free	\$2.99 / month	\$6.99 / month	\$23.99 / month
Arduino devices (e.g. MKR, Portenta)	2	10	25	100+
Dashboard sharing			/	✓

PRICING
Arduino IoT Cloud (Cellular SIM included)

Per device (5MB cellular data per month included)

\$1.50 / month

CONNECT, MANAGE, AND MONITOR

With the Arduino IoT Cloud web app on desktop or mobile you can quickly connect, manage, and monitor your devices from anywhere in the world. Arduino IoT Cloud will also automatically create the code to program your device with – just add a couple of lines to customize it how you want. If you're new to Arduino, don't worry, there's example code for hundreds of sensors and actuators.

BUSINESS LOGIC

Stream sensor data to a spreadsheet, database, or automate alerts and actions using simple webhooks. Examples for connecting to Google Spreadsheets, Amazon Alexa, and many more third party services are available. Developers can also create custom apps using Arduino IoT Cloud APIs.

SECURITY

Arduino IoT Cloud uses best practices without you having to worry about the details. All IoT device communications to the cloud use the industry standard SSL protocol for encryption. Arduino MKR and Arduino Portenta board families have on-board crypto-authentication chips and are further secured using X.509 certificate-based authentication.

Arduino CLI



ARDUINO CLI

Designed for power users; everything you need from the command line. Arduino CLI is a single binary providing a builder, Boards and Library management, device programming, and much more.

Arduino CLI allows you to include Arduino in your Makefile or integrate with Atom, Eclipse, Emacs, Vim, VSCode, or whatever development workflow / IDE you are familiar with.

PROVEN IN USE

Arduino CLI is the backbone of the Arduino Create Web Editor serving over a million users.

SUPPORTED PLATFORMS

You can run Arduino CLI on both ARM® and Intel® (x86, x86_64) architectures. This means you can install Arduino CLI on a Linux system or on your servers, and use it to compile Sketches targeting the boards of your choice.

GETTING STARTED

You can find documentation, source code and binaries downloads at: github.com/arduino/arduino-cli

Arduino CLI is open source but companies wishing to incorporate it in end products can also contact us for a commercial license.

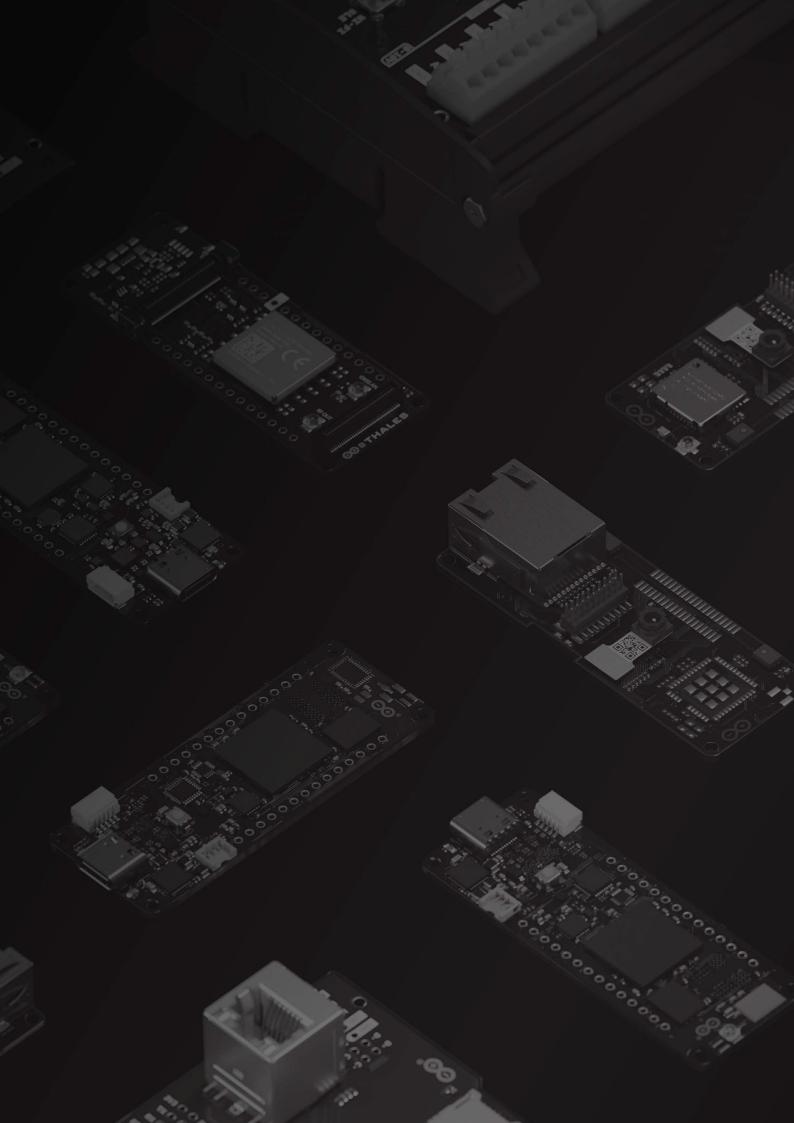
EXAMPLE USE

With **Arduino CLI** you can install project dependencies with just one command:

arduino-cli lib install "WiFilO1" "WiFilO1OTA"

Arduino CLI can also output JSON for easy parsing by other programs:

```
arduino-cli --format json lib search wifinina | jq
{
"libraries": [
"Name": "WiFiNINA",
"Author": "Arduino",
"Maintainer": "Arduino <info@arduino.cc>",
"Sentence": "Enables network connection (local
and Internet) with the Arduino MKR WiFi 1010,
Arduino MKR VIDOR 4000 and Arduino UNO WiFi
Rev.2.",
"Paragraph": "With this library you can
instantiate Servers, Clients and send/receive
UDP packets through WiFi. The board can connect
either to open or encrypted networks (WEP,
WPA). The IP address can be assigned statically
or through a DHCP. The library can also
manage DNS.",
"Website": "http://www.arduino.cc/en/Reference/
WiFiNINA".
"Category": "Communication",
```



Portenta H7

ARDUINO PORTENTA H7



PROGRAM IT WITH HIGH-LEVEL LANGUAGES AND AI WHILE PERFORMING LOW-LATENCY OPERATIONS ON ITS CUSTOMIZABLE HARDWARE.

KEY APPLICATIONS:

- High-end industrial machinery
- Laboratory equipment
- Computer vision
- PLCs
- Industry-ready user interfaces
- Robotics controller
- Dedicated stationary computer
- High-speed booting computation (ms)

For more info visit: arduino.cc/pro/hardware/ product/portenta-h7

Portenta H7 simultaneously runs high level code along with real time tasks. H7's main processor is a dual core unit made of a Cortex® M7 running at 480 MHz and a Cortex® M4 running at 240 MHz. The two cores communicate via a Remote Procedure Call mechanism that allows calling functions on the other processor seamlessly.

Both processors share all the in-chip peripherals and can run:

- Arduino sketches on top of the mbedOS
- Native mbed applications
- Micropython via an interpreter
- TensorFlow Lite

The onboard wireless module allows to simultaneously manage WiFi and Bluetooth connectivity. The WiFi interface can be operated as an Access Point, as a Station or as a dual mode simultaneous AP/STA and can handle up to 65 Mbps transfer rate. Bluetooth interface supports Bluetooth Classic and BLE.

The Portenta H7 follows the Arduino MKR form factor, but enhanced with the Portenta family 80 pin high-density connector.

MAIN PROCESSOR	STM32H747				
DISPLAY CONNECTOR	=	& MIPI D-PHY TO I OUNT LARGE DISPLA			
OPERATIONAL TEMPERATURE	-40 °C TO +85 °C (EXCL. WIRELESS MODULE)		-10 °C TO +55 °C (INCL. WIRELESS MODULE)		
USB-C	HOST / DEVICE	DISPLAYPORT OUT	HIGH / FULL SPEED	POWER DELIVERY	
CAMERA INTERFACE	8-BIT		UP TO 80 MHZ		
HIGH DENSITY CONNECTORS	TWO 80 PIN CONNECTORS WILL EXPOSE ALL OF THE BOARD'S PERIPHERALS TO OTHER DEVICES				
MKR HEADERS	USE ANY OF THE EXISTING INDUSTRIAL MKR SHIELDS ON IT				



ARDUINO PORTENTA VISION SHIELD



A RAPID SOLUTION FOR EMBEDDED MACHINE LEARNING COMBINING VISION, AUDIO AND CONNECTIVITY

PROFESSIONAL COMPUTER
VISION, DIRECTIONAL AUDIO
DETECTION, ETHERNET, AND
JTAG FOR ARDUINO PORTENTA

For more info visit: arduino.cc/pro/hardware/ product/portenta-vision-shield

Designed to expand the power of the Portenta H7 with audio and vision detection, the **Portenta Vision Shield** has an ultra low-power camera, two microphones, and connectivity - Ethernet or LoRa®. This shield represents an efficient and certified solution to bring industry-rated features to your Machine Learning applications.

The Portenta Vision Shield comes with a 324x324 pixels camera module which contains an Ultra Low Power Image Sensor that can capture gestures, ambient light, proximity sensing, and object identification. The two omnidirectional built in digital-microphones can capture sounds to the videos that can be stored on a MicroSD Card.

The Portenta Vision Shield comes in two versions, with Ethernet or LoRa® modules. Using OpenMV, any professionals, researchers and developers can develop low cost Python powered camera vision and audio applications.

The LoRa® module option is specifically designed for edge ML applications, enabling low-power, long distance communication over LoRa® wireless protocol and LoRaWAN™ networks. The Ethernet version is perfect for all those wired applications that need high bandwidth data transfer speed.

CAMERA	HIMAX HM-01B0 CAMERA MODULE
RESOLUTION	320 X 320 ACTIVE PIXEL RESOLUTION WITH SUPPORT FOR QVGA
IMAGE SENSOR	HIGH SENSITIVITY 3.6µ BRIGHTSENSETM PIXEL TECHNOLOGY
MICROPHONES	TWO MP34DT06JTR MICROPHONES
CONNECTIVITY	ETHERNET OR LoRa®
INTERFACES	JTAG
DIMENSIONS	66 X 25MM



Arduino Pro

Portenta Machine Control

ARDUINO PORTENTA MACHINE CONTROL



The Portenta Machine Control adds Industrial IoT capabilities to standalone industrial machinery. It enables the collection of real-time data from the factory floor and supports the remote control of equipment, even from the cloud, when desired.

Thanks to its computing power, the Portenta Machine Control enables a wide range of predictive maintenance and Al use cases. It can be programmed using the Arduino framework or other embedded development platforms.

THE SIMPLEST WAY TO ADD A POWERFUL BRAIN TO YOUR MACHINES

KEY BENEFITS:

- Shorter Time-To-Market
- Single entry point for enabling complex scenarios, supporting multiple different machines
- Industry 4.0 enabler
- Enhance existing products with minimal effort
- Make equipment smarter to be ready for the AI revolution
- Add connectivity for monitoring and control
- Interact with your equipment with advanced HMI displays
- Tailor it to your needs, with programmable I/O pins
- Secure and robust by design
- Modular design for adaptation & upgrades
- Open new business model opportunities (e.g. business-as-a-service)

UPGRADE EQUIPMENT OR DEVELOP NEW DISTINCTIVE PRODUCTS

The Portenta Machine Control **enhances existing products** with minimal effort, allowing companies to implement a **standard platform across different equipment models**. It is now easy to create an infrastructure of interconnected machines, which can be controlled onsite or via the cloud when needed; moreover, human-machine interaction can be further enhanced via mobile apps thanks to **BLE connectivity**. Arduino is a popular technology that has been adopted by many customers worldwide to reduce time to market; there is a huge number of ready-to-use software libraries that make it easier to interact with sensors and actuators.

IMPROVE CUSTOMER EXPERIENCE

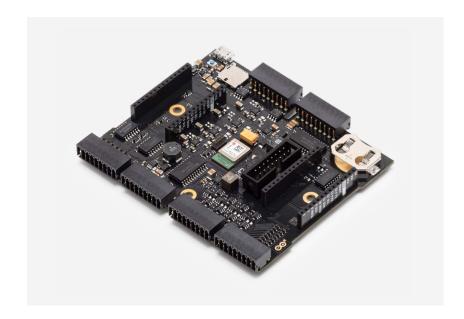
Monitoring customer usage of equipment can provide valuable production data, useful to minimize downtime, perform predictive maintenance, and carry out calibration activities. Customers can be supported remotely, in order to optimize field engineer workload as well as spare parts availability. In addition, the constant monitoring of the equipment parameters often makes achieving industry certifications easier.



Arduino Pro

Edge Control

ARDUINO EDGE CONTROL



A REMOTE MONITORING AND CONTROL SOLUTION, OPTIMIZED FOR OUTDOOR ENVIRONMENTS.

KEY BENEFITS:

- Precision farming & process automation
- Improved yield & lower production risks
- Real-time & historical data
- Monitors environmental conditions
- Powered by solar panels
- Easy installation
- Connect easily with sensors/devices
- Operates in high & low temperatures
- Choice of connectivity types
- Supports TensorFlow Lite micro for tiny machine learning applications

The Arduino Edge Control can be positioned anywhere and is suitable for precision farming, smart agriculture, and other applications requiring intelligent control in remote locations. Power can be either supplied via solar panel or DC input.

Remotely control your application through the Arduino Cloud (or third-party services) using a choice of connectivity options suitable to the location. The Arduino Edge Control features built-in Bluetooth and its connectivity can be expanded with 2G/3G/CatM1/NB-IoT modems, LoRa®, Sigfox, and WiFi by adding any one of the MKR boards.

The Arduino Edge Control is capable of connecting sensors and drive actuators like latching valves (common in agriculture). Moreover, it has the capability to provide real-time monitoring over the entire process, thereby reducing production-related risks.

Particularly suited to smart agriculture, the sensors can collect real-time data such as weather conditions, soil quality, crop growth, amongst others. Once sent to the Arduino Cloud, the data value chain becomes valuable analytics that supports business processes at various levels (e.g. crop yield, equipment efficiency, staff performance, etc.). The Arduino Edge Control has the capability to improve crop quality and reduce human effort/error by automating processes like irrigation, fertilization, or pest control.

Read more about Edge Control's features, application examples, schematics, connectors and other technical aspects in its datasheet. To learn more about how you can use the Edge Control, check out how to get started.

For more info visit: arduino.cc/pro/hardware/ product/edge-control

ARDUINO NICLA FAMILY

Arduino's tiniest industrial-oriented board

Easily deploy low-power AI and machine learning within existing infrastructures. Fully equipped with industrial-grade sensors, the Nicla boards are designed to work as an autonomous, battery-operated system.





Arduino MKR Family

ARDUINO MKR FAMILY

	MKR WiFi 1010	MKR FOX 1200	MKR WAN 1310
START LEVEL	Beginner	Intermediate	Intermediate
CONNECTIVITY	WiFi (ESP32), BLE	Sigfox	LoRa®
PROGRAMMING METHODS	Arduino, Arduino, Arduino PRO IDE, CLI CLI CLI		Arduino, Arduino PRO IDE, CLI
IDEAL FOR	IoT, getting Started with IoT, smart home, home automation, healthcare	IoT, agriculture, smart cities, environmental monitoring	IoT, agriculture, smart cities, environmental monitoring, industry 4.0
AT A GLANCE	Entry point to IoT. Coverage on short range distances, perfect indoor with WiFi connection	Free access to Spot'it geolocation service, coverage on long range distance, perfect for remote and rural areas covered by Sigfox. Low power consumption	Coverage on long range distances, dense urban indoor areas, rural regions. Low power consumption
ENCRYPTION, CRYPTO AUTHENTICATION	Yes	Yes	Yes
BASED ON	MCU - Microchip® ATSAMD21 (Arm® Cortex®-MO+ processor), WiFi - u-blox NINA-W102 (ESP32)	MCU - Microchip® ATSAMD21 (Arm® Cortex®-MO+ processor), Sigfox - ATA8520	MCU - Microchip® ATSAMD21 (Arm® Cortex®-MO+ processor), LoRa® - Murata CMWX1ZZABZ"
CERTIFICATIONS	CE, FCC, RoHS Compliant	CE, FCC, RoHS Compliant	CE, FCC, RoHS Compliant

Arduino MKR Family

ARDUINO MKR FAMILY



A family of boards and shields for engineers and developers to easily add wireless connectivity along with other functionalities to their applications in a secure, powerful and a cost efficient manner



ARDUINO MKR WiFi 1010

The basics to build secure WiFi and Bluetooth applications.

For more info visit: store.arduino.cc/mkr-wifi-1010



ARDUINO MKR FOX 1200

Add Sigfox connectivity to IoT solutions with low power consumption.

For more info visit: store.arduino.cc/mkr-fox-1200



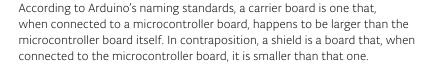
ARDUINO MKR WAN 1310

Send data securely over LoRaWAN $^{\text{TM}}$ with minimal power consumption.

For more info visit: store.arduino.cc/mkr-wan-1310

Arduino MKR Shields and Carriers

ARDUINO MKR SHIELDS AND **CARRIERS**



Similarly to the Shields, the Carrier boards are circuit boards plugged at the bottom of the MKR boards to extend their features, to add special connectors or functionalities to the board.



ARDUINO MKR MOTOR CARRIER

Connect several motors and sensors for your mechatronics applications.

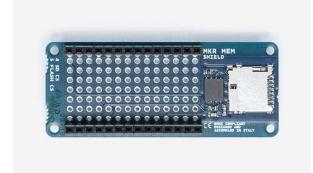
For more info visit: store.arduino.cc/mkr-motor-carrier



ARDUINO MKR CONNECTOR CARRIER

Select among a long list of possible add-ons and easily plug them to any MKR board.

For more info visit: store.arduino.cc/mkr-connector-carrier



ARDUINO MKR MEM SHIELD

Add Flash memory and microSD storage, implement OTA functionalities.

For more info visit: store.arduino.cc/mkr-mem-shield

Arduino Pro

Arduino MKR Shields and Carriers

ARDUINO MKR SHIELDS AND CARRIERS



ARDUINO MKR ENV SHIELD

Collect environmental data, such as temperature, humidity, atmospheric pressure and UV radiation.

For more info visit: store.arduino.cc/mkr-env-shield



ARDUINO MKR RGB SHIELD

Visualize information through this RGB display.

For more info visit: store.arduino.cc/mkr-rgb-shield



ARDUINO MKR THERM SHIELD

Capture temperature information from type K and DS18Bxx thermocouples.

For more info visit: store.arduino.cc/mkr-therm-shield



ARDUINO MKR IMU SHIELD

Industry-rated 9 axis IMU sensor with extra I2C connector.

For more info visit: store.arduino.cc/arduino-mkr-imu-shield

Arduino NANO Family

ARDUINO NANO FAMILY

Tiny and powerful boards offering the possibility of running embedded machine learning (AI). Including series of embedded sensors and Bluetooth; ideal for wearables, drones, or any design made to last.



ARDUINO NANO 33 BLE

Tiny and powerful board that incorporates 9 axis inertial sensor.

For more info visit: store.arduino.cc/nano-33-ble



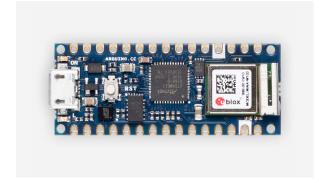
ARDUINO NANO 33 BLE SENSE

Sense the environment, detect movement, or capture sound without any extra components.

The Arduino Nano BLE Sense comes with a series of embedded sensors:

- 9 axis inertial sensor: what makes this board ideal for wearable devices
- humidity, and temperature sensor: to get highly accurate measurements of the environmental conditions
- barometric sensor: you could make a simple weather station
- microphone: to capture and analyse sound in real time
- gesture, proximity, light color and light intensity sensor: estimate the room's luminosity, but also whether someone is moving close to the board

For more info visit: store.arduino.cc/nano-33-ble-sense



ARDUINO NANO 33 IoT

The easiest and cheapest point of entry to enhance existing devices (and creating new ones) to be part of the IoT and designing pico-network applications.

For more info visit: store.arduino.cc/nano-33-iot



PARTNERSHIP PROGRAM: WORKS WITH ARDUINO™

KEY BENEFITS:

- Listing for the product's related library and code examples on the Arduino IDE and Create Web Editor
- Works with Arduino™ program logo to use on the product, packaging, and marketing materials
- Listing on the Arduino Store and inclusion in the linecard for Arduino's global distribution network
- Visibility on Arduino's social channels (Facebook, Instagram, Twitter, and LinkedIn)
- The Intellectual Property of the product belongs to you, the program partner

Arduino changed the world by catalysing innovation – in return the Arduino community built entirely new industries including wearables, drones and 3D printers.

Amazon, Arm®, Bosch, Google, Intel®, Microsoft, and Samsung are just a few of the companies who have partnered with Arduino.

To expand the Arduino ecosystem and provide partners with the opportunity to market their products to over 30 million active users, Arduino has launched the **Works with Arduino™** program.

WORKS WITH ARDUINO™

Validate your design – the Arduino team will check it works with Arduino.

Differentiate your products – display the **Works with Arduino™** program mark on your products and website.

Raise awareness – joint marketing to millions of followers on Arduino's Social Media.

Product feedback to dream of – Thanks to our open source philosophy, Arduino community users collaborate and contribute to the development of our ecosystem and therefore to the development of your products.

MARKET YOUR PRODUCT TO OVER 30 MILLION ACTIVE USERS

Partner with Arduino to develop and bring your products to market. Through the **Works with Arduino™** program we will validate your products are compliant with Arduino technologies, and provide access to the millions of Arduino users worldwide working in the Arduino ecosystem.

If you are a start-up or an established company, a maker or a professional developer, the **Works with Arduino™** program is there for you. As long as your product concept is compatible with Arduino and is not a copy or clone of an existing Arduino product, then we are open to assess your idea (under mutual NDA) for inclusion in the program.

FLEXIBLE APPROACH TO PARTNERSHIP

Choice of revenue models based upon the level of involvement by Arduino.

Varying degrees of service available, from reviewing product design and documentation for compatibility with Arduino, through to organization of manufacturing, packaging, distribution, and sales.

If you are interested in joining the Works with Arduino™ program please contact: pro@arduino.cc







X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Development Boards & Kits - AVR category:

Click to view products by Arduino manufacturer:

Other Similar products are found below:

3264 ATAVRPARROT ATSAMR21B18MZ210PAT CS-EASE-03 EV35F40A ARDUINO ENGINEERING KIT REV2 EXPLORE IOT KIT EV70N78A 1222 MIKROE-2474 1260 KIT0018 1405 DEV-10914 1500 1639 1657 174 193 2000 2010 3208 ATRCB256RFR2 ATXMEGAA1U-XPRO 2085 ATSTK600-SC48 2290 2488 DEV-11520 2590 296 3000 ATAVRBLE-IOT ATTINY416-XNANO DFR0010 DFR0100 DFR0164 DFR0191 DFR0221 DFR0222 DFR0225 DFR0233 DFR0282 DFR0327 DR10027 KIT0111 K030007 DFR0351 DEV-13614 KIT-14265