# Introduction to Arduino



# What’s an Arduino

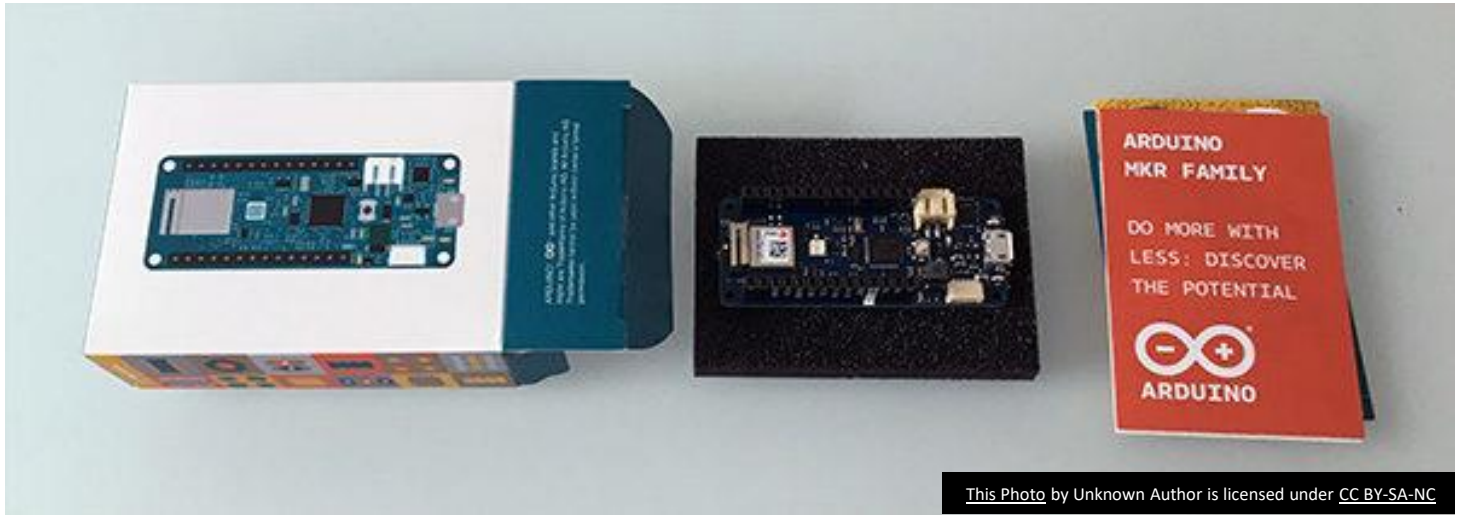
- Open-source electronics platform.
- Based on easy-to-use hardware and software.
- Designed for makers, hobbyists, and educators.

# Why Arduino

- **Versatility:** Suitable for various applications, from simple to complex.
- **Community:** Large supportive community, countless tutorials, and resources.
- **Affordability:** Budget-friendly for both beginners and experts.

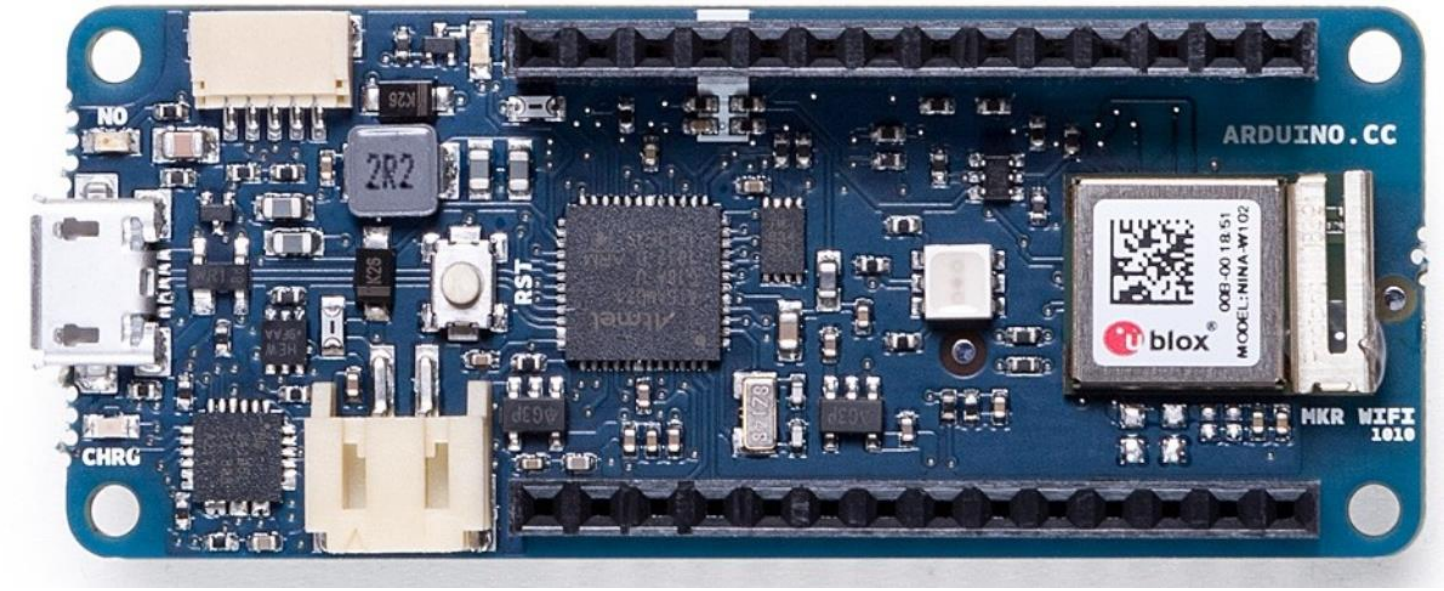
# Arduino MKR WiFi 1010

- Compact form factor designed for IoT projects.
- Integrated WiFi & Bluetooth connectivity.
- Based on the SAMD21 Cortex-M0+ 32bit low power ARM MCU.



# MKR WiFi 1010 Features

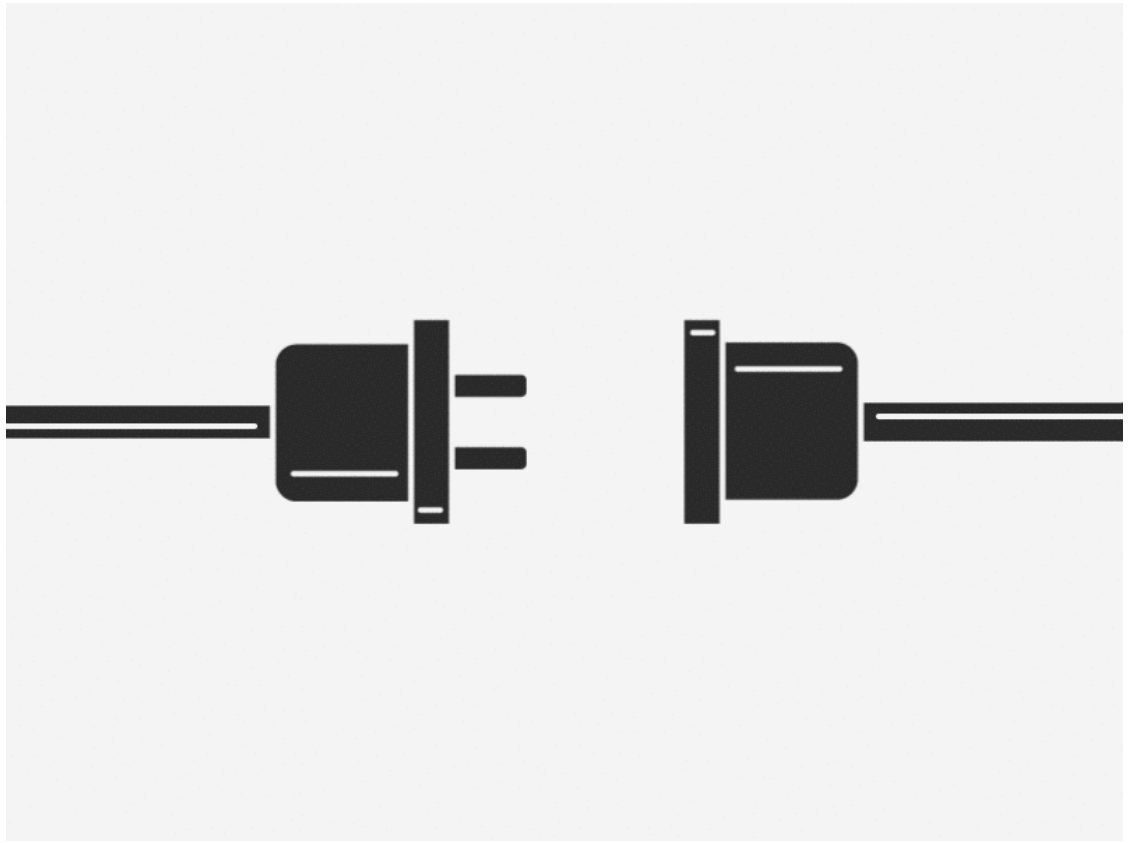
- On-board IMU (Inertial Measurement Unit).
- Secure ECC508 crypto chip for secure connection to Wi-Fi.
- Battery operation with solar panel charging provision.



# Getting Started with Arduino

1. Download and install the Arduino IDE.
2. Connect Arduino to PC via USB.
3. Select the correct board and port in the IDE.

4. Demo…



# Hello World!

- Create a new sketch in the Arduino IDE.
- Write a simple program (e.g., Blink an LED).
- Compile and upload to the board.

# Sensors Actuators

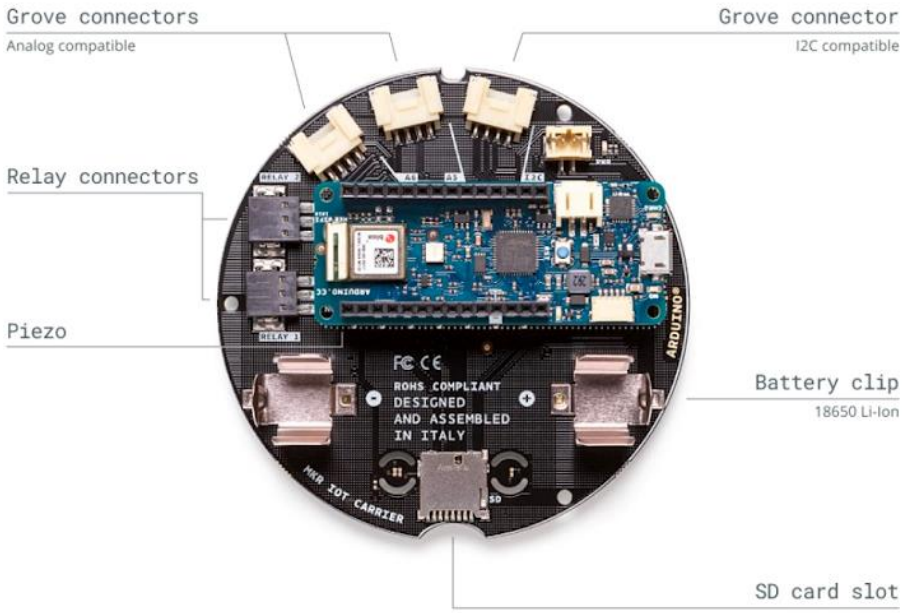
- Use libraries to enhance functionality.
- Connect sensors, actuators, and modules.
- Create interactive projects, home automation, and more






# MKR Carrier

- Hardware On Top
- “The sensors, circuits and display integrated on the MKR IoT Carrier leave you free to focus on prototyping and programming your next IoT projects.”

# What could possibly go wrong?

- As with any development cycle, there will be bugs
- Using the Serial Monitor for debugging.
- Common issues: Incorrect connections, wrong board settings, software compatibility.
- Community forums and online resources for help.