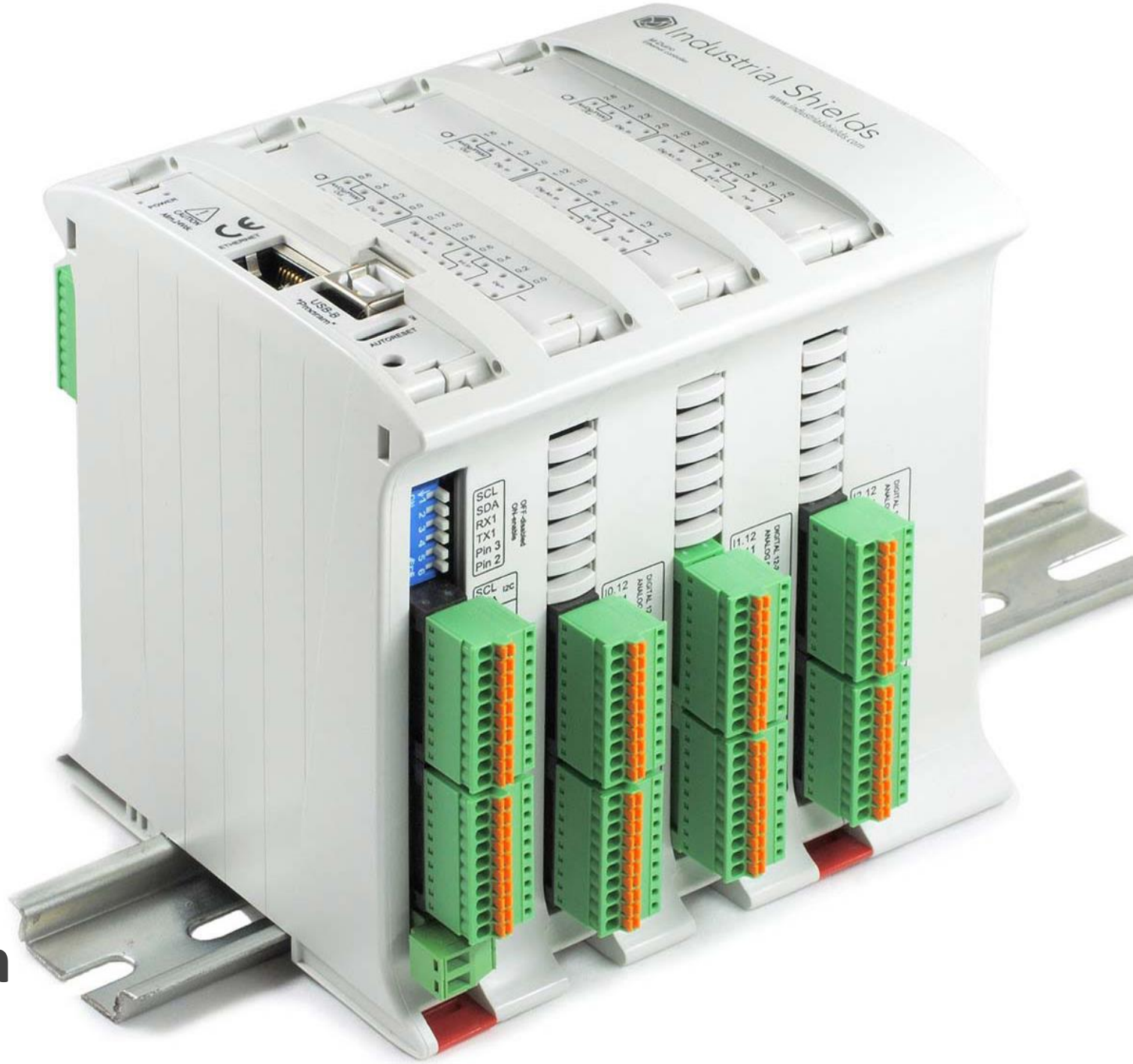
Industrial Shields

Automation Solutions

Industrial Controllers and Panel PCs based on Open Source Hardware



Industrial Democratization

Industrial Shields

Our Goals

To provide **low cost solutions for automation**, specially for **industrial markets** and also for the ones who are entering in this solutions in **Universities, High Schools and hobbyist** markets.

The **Open Source Hardware** solutions are still not widely introduced in the **industrial sector**, it is a **growing market** and **we are its pioneers**.

The balance between **quality and cost is very important** for us and so for the market, using **Open Source** solutions we can provide more specifications at a better price.

Even more, the **Open Source** solutions are more **flexible and accessible** than the standard industrial solutions and there are many available resources. Furthermore, the software is **free of license.**

Industrial Shields are conceived with a perspective focused on **Industry 4.0** and the **Internet of Things**.

+ 100.000
Sold equipments

+ 90
countries

RoHS COMPLIANT

ISO 9001 CERTIFICATION

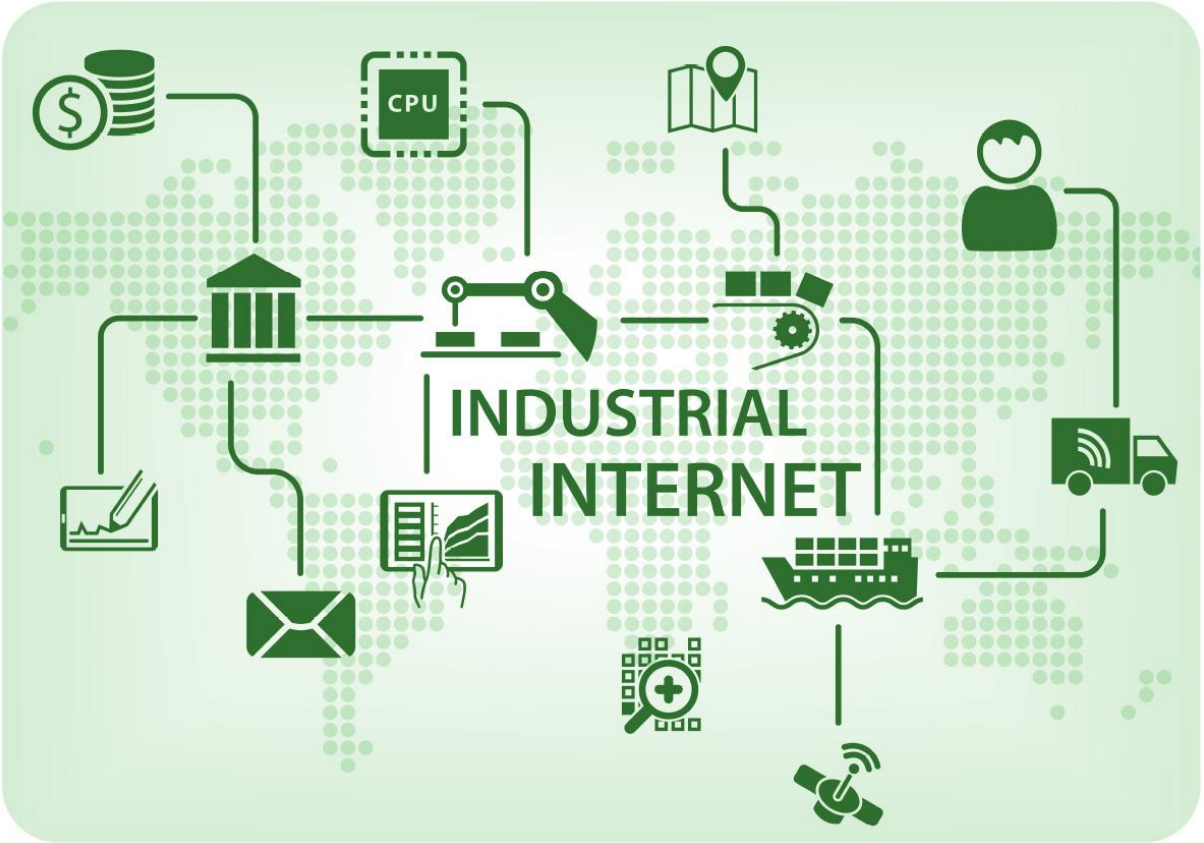
Intertek

Industrial Shields

Markets, Solutions and Applications

Multiple solutions of automation, monitoring and control for every market need.

Monitoring
Control
Automation



Industrial Shields

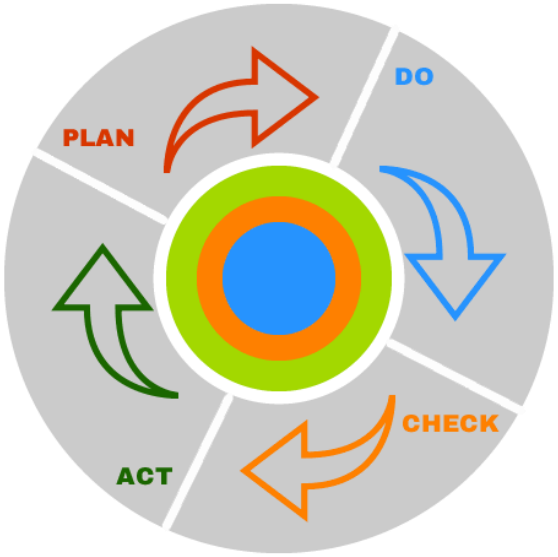
Industrial Quality

Regulations

EN 61010-1 (General safety requirements).
EN 61010-2-201 (Particular requirements for control equipment).
IEC 61131-2
EMC: FCC Part 15
EN 61000-6-2:2005 (Immunity)
CE and RoHS certified
Short-Circuit, Over Load and ESD protected

Robustness

Encasing
Connectors
DIN Rail



Standarization I/Os

Analog (0-10V)
Digital (0-24V)
Relay (230V)

Protections

Internal power supply
Galvanic isolation
Diode protected outputs
Reversal polarity protection
Supply overcurrent fuse
Overvoltage protected (resistor) inputs
EMC (according to IPC-2221)
- Different ground planes (single common point)
- Coupling capacitors

Industrial Shields

Worldwide Presence

We have presence in more than 90 countries

Already working with some of the greatest distributors

Digi-Key CORPORATION

RS

MOUSER ELECTRONICS

RobotShop

SALTOKI

Industrial Shields

ARDUINO

Horizon 2020
European Union Funding
for Research & Innovation

Evolving

Flirting with Arduino in the earliest 2007. In Q3 of 2019 we started an H2020 Project

2007

First contact with Arduino through IEEE-UNEDsb.
First prototype.

2010

First shield for industrial labelling machine.

2012

Boot & Work Corp is created.
Objective: create standard and industrial products based on Open Source.

2013

Best innovative company award in Barberà del Valles (Barcelona).
The Ardbox is coming.

2014

Industrial Shields brand is created.
First unit sold to Libya.

2016

Presence in more than 20 countries
5 distributors: UK, Germany, USA, Italy and México.
More than 500 customers.

2017

Presence in 75 countries.
More than 17 distributors.

2018

Trade Shows in Barcelona, Paris, Bangalore.
Investment in improving facilities, quality process, industrial certifications.

2019

Presence in 90 countries.
More than 25 distributors.
H2020 accepted and running.
ETL Draft certification, awaiting last audit.

Industrial Shields

10IOs Family

Automation based on Arduino Nano or ESP 32
Up to 10 Inputs & Outputs
Digital, Analog and Relay

Industrial Protocols
Ethernet, RS232, RS485, I2C, SPI,
Modbus, USB, WiFi, Full-Half Duplex

10IOs Models

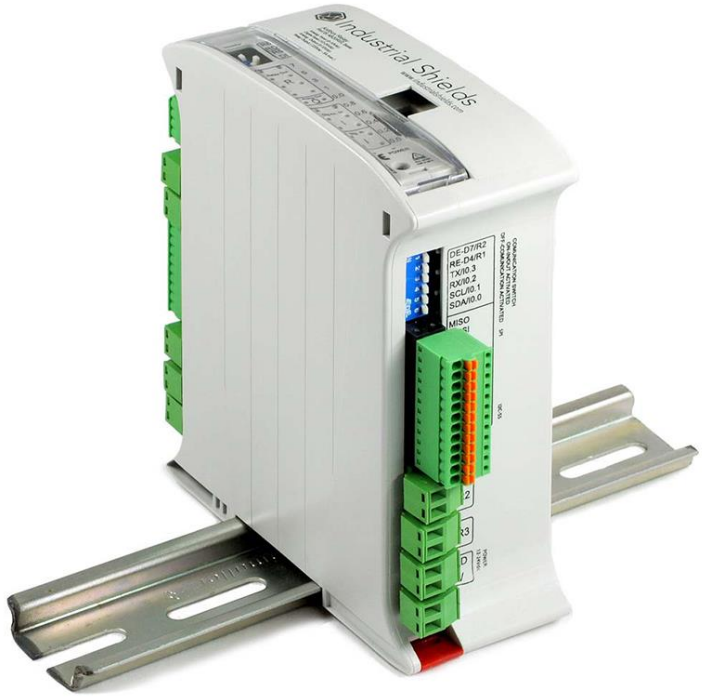
Industrial Shields

ARDUINO

20IOs Family

Automation based on Arduino Leonardo
Up to 20 Inputs & Outputs
Digital, Analog and Relay

Industrial Protocols
RS232, RS485, I2C, SPI,
Modbus, USB, Full-Half Duplex



20IOs Models

20 Ardbox Analog | 20 Ardbox Relay

Industrial Shields

ARDUINO

Ethernet Family

Automation based on Arduino Mega
Up to 58 Inputs & Outputs
Digital, Analog and Relay

Industrial Protocols
RS232, RS485, I2C, SPI, Modbus,
Ethernet, Full-Half Duplex

Ethernet Models

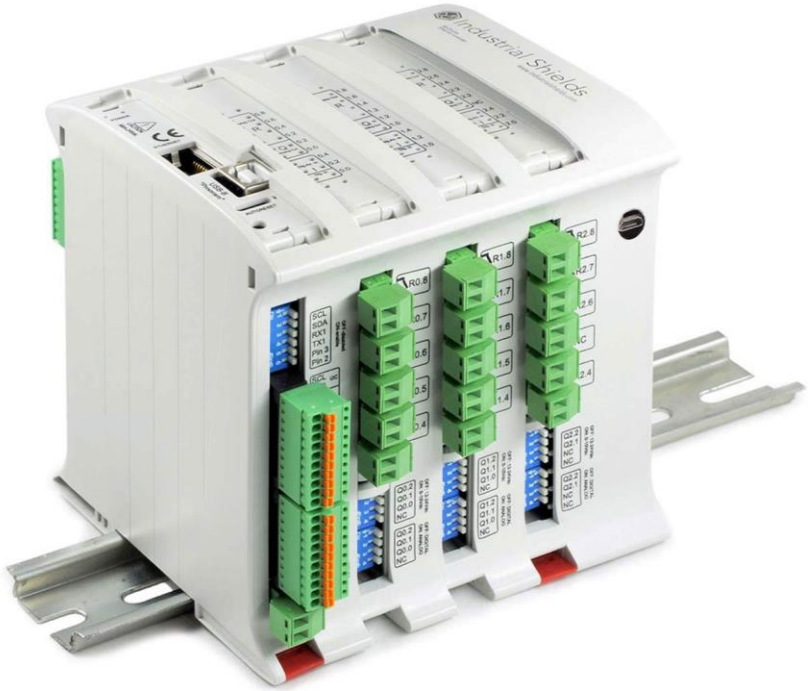
19R | 21 | 38R | 38AR | 42 | 50RRA | 53AAR | 54ARA | 57R | 57AAR | 58

Industrial Shields

ARDUINO

Wi-Fi Family

Automation based on Arduino Mega
Up to 58 Inputs & Outputs
Digital, Analog and Relay



Security: WPA2-PSK

Wi-Fi:
802.11 b/g/n 802.11 n (2.4 GHz),
up to 150 Mbps

Bluetooth 4.2 BR/EDR BLE dual mode controller +12 dBm transmitting power, NZIF receiver with -97 dBm BLE sensitivity

Wi-Fi Models

20 Ardbox Analog | 20 Ardbox Relay | 19R | 21 | 38R | 38AR | 42 | 50RRA | 53AAR | 54ARA | 57R | 57AAR | 58

Industrial Shields

ARDUINO

GPRS Family

Automation based on Arduino Mega
Up to 58 Inputs & Outputs
Digital, Analog and Relay

Industrial Protocols
RS232, RS485, I2C, SPI, Modbus,
Ethernet, Full-Half Duplex

GPRS Models

20 Ardbox Analog | 20 Ardbox Relay | 19R | 21 | 38R | 38AR | 42 | 50RRA | 53AAR | 54ARA | 57R | 57AAR | 58

Industrial Shields

PLC Raspberry Pi

Automation based on Raspberry Board
Up to 58 Inputs & Outputs
Digital, Analog and Relay

Security: WPA2-PSK

Wi-Fi:
802.11 b/g/n 802.11 n (2.4 GHz), up to 150 Mbps

Bluetooth 4.2 BR/EDR BLE dual mode controller +12 dBm transmitting power, NZIF receiver with -97 dBm BLE sensitivity

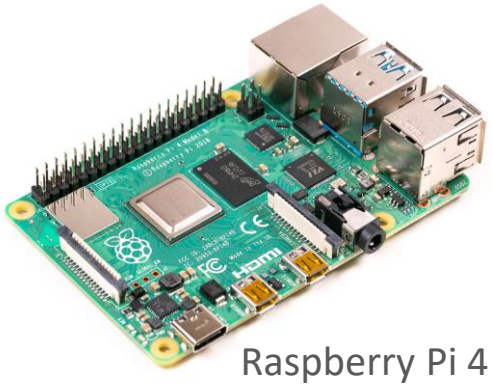
PLC Raspberry Models

20 Ardbox Analog | 20 Ardbox Relay | 19R | 21 | 38R | 38AR | 42 | 50RRA | 53AAR | 54ARA | 57R | 57AAR | 58

Industrial Shields

Panel PC Family

HMI Interface based on Raspberry Pi
10.1” Screen
Linux / Windows 10 IoT
Quad-Core ARM Cortex-A72 1.5GHz
Wireless Industrial Solution
USB (2) Port x 2.0
(one of them is used for the touch screen)
USB (2) Port x 3.0
10x GPIO, SPI, I2C, UART
Capacitive LDVS
I2C, RS232, RS485, Ethernet Port



Raspberry Pi 4

Industrial Shields

Panel PC Family

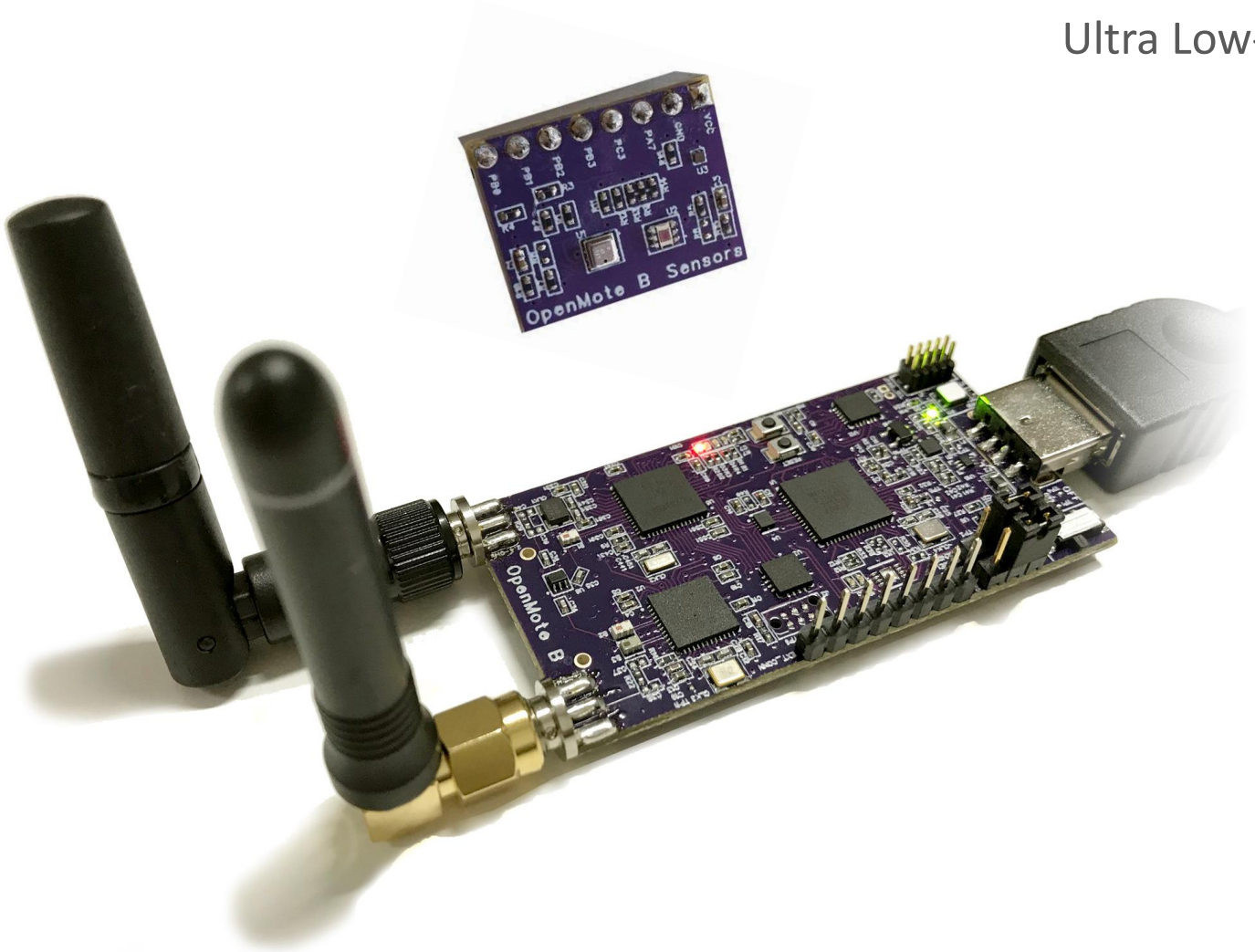
HMI Interface based on Raspberry Pi
7” Screen
Linux / Android
Quad-Core ARM Cortex-A53802
1.4GHz Wireless Industrial Solution
3x USB 2.0
8xGPIOs
Capacitive LDVS
I2C, RS232, RS485, Ethernet Port

Raspberry Pi 4

Industrial Shields

OpenMote B IOT Family

Ultra Low-power board to work with IoT applications



2.4GHz SMA Antenna
SubGHz SMA Antenna

IoT OpenMote B's sensor board
Humidity ·
Temperature ·
Pressure ·
Brightness meters ·

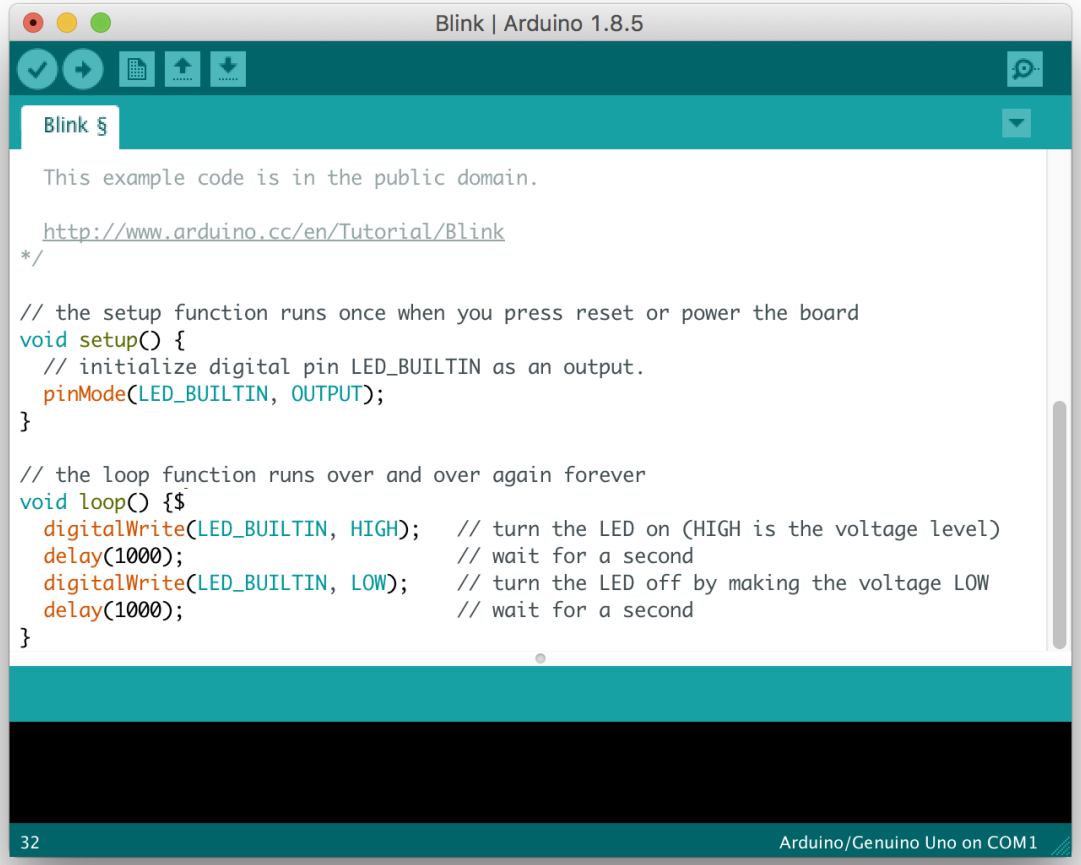
Supports all IEEE802.15.4g modulations

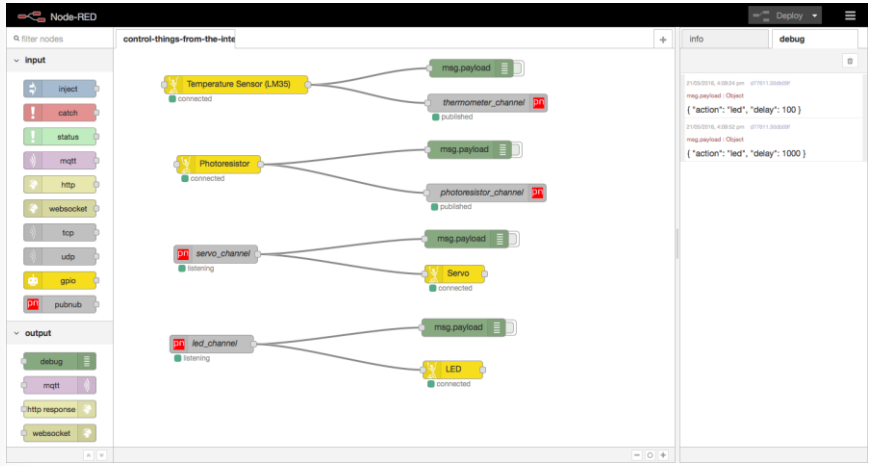
Industrial Shields

Software Options

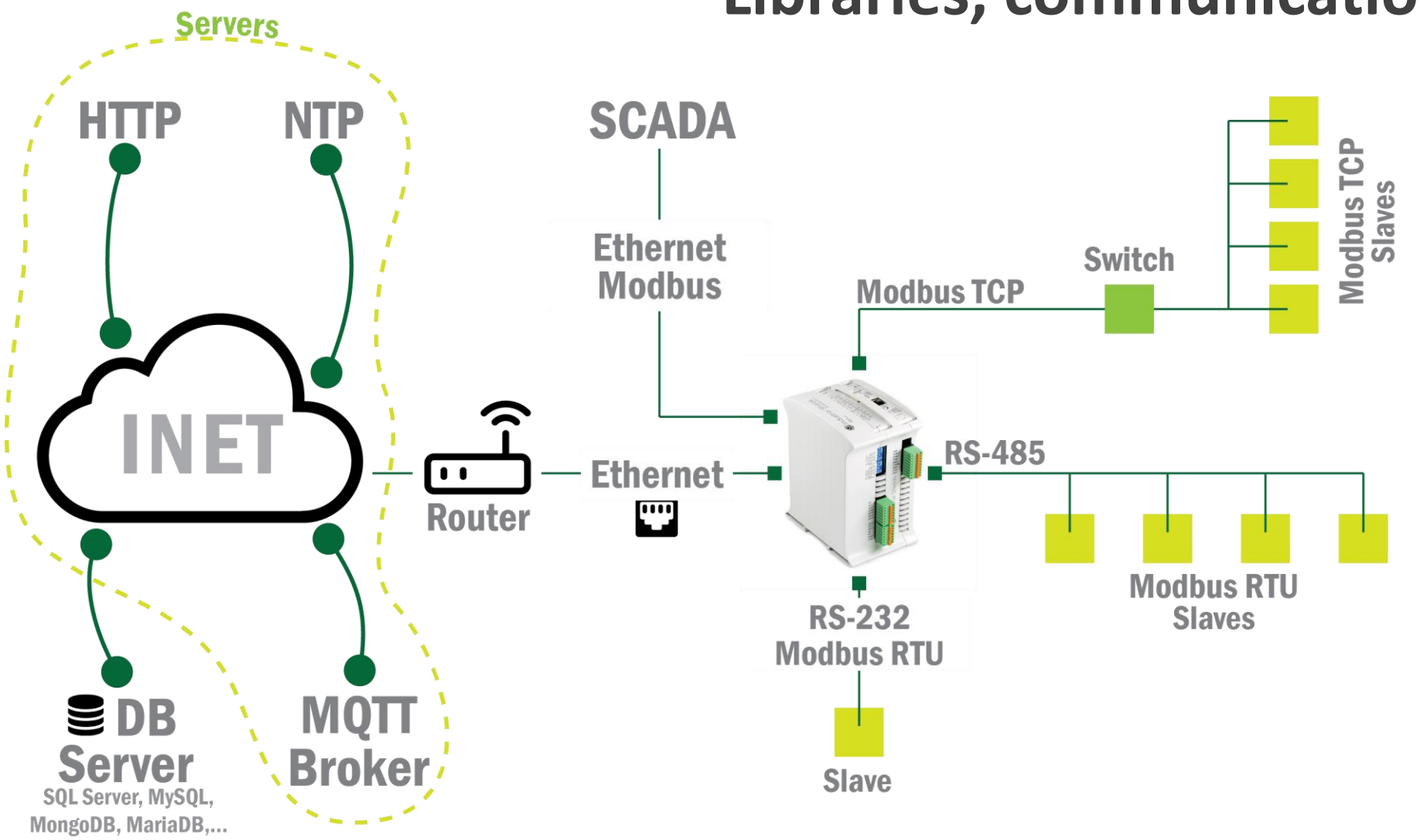
Multiple options like Arduino IDE to program the PLCs.
Software available to download for free.
Savings in short, mid and long term
Multiple platforms available:

Electron · Codebender · Stino · Eclipse · Visual Studio · Gedit · Komodo Edit · MariaMole · Zeus · Atmel Studio · AVR-GCC · CodeBlocks · ROBOTC for Arduino · Xcode · ArduinoDroid · Notepad++ · Programino · and more...





Libraries, communications, protocols



Use several protocols like RS-232, RS-485, Modbus TCP, or using ethernet, etc.

Send and receive information from several server types (HTTP, NTP, MQTT) or DB Servers.

Industrial Shields

Some of our customers

Industrial Multinational companies, integrators, public sector, universities, …

ARUP
asecs.
barting
AITECSA®
Aqua Vision
CEIIA
Whirlpool CORPORATION
IFIC INSTITUT DE FÍSICA CORPUSCULAR
WARWICK THE UNIVERSITY OF WARWICK
DLE TECHNOLOGY BEYOND
teswater
CHRONIX
Manter
NARIT
onyx SYSTEMS
VALMECAS VÁLVULAS Y MECANIZADOS
DAMARC
Honeywell
enagas
AJUNTAMENT DE REUS
ŠOLSKI CENTER CELJE
CanMax GROWING SOLUTIONS
BHi Baz Houston International MANUFACTURING SOLUTIONS
MIT
UNIVERSITY OF SPLIT
elausa electronics
BORPLASTIKA
ARIDA
CRUSE Digital Imaging Equipment We love reality
TEKNOLOGISK INSTITUT
MEI®
asimov
CLEMSA
arsys
tedisel medical
RITSUMEIKAN UNIVERSITY
GIMAR
BRUNS
Ajuntament de Sabadell
airseas
Patras Science Park Επιστημονικό Πάρκο Πατρών
Vestas
brembo
CONDESA GRUPO
vixionere
CUBOID Unattended Retail Solutions
Auto Elect BV Zeewolde
Azucarera la vida sabe mejor
Complete Calibrations Sales & Calibration Services
RED ELÉCTRICA DE ESPAÑA
Bosonit
Iaac Institute for advanced architecture of Catalonia
BOSE
BAYER
SALTOKI
PUSAN NATIONAL UNIVERSITY
BÜHLER CONSULTING
The Walt Disney Company
CTME
TESTOR
solacar
aemsys
UMONS Université de Mons

Industrial Shields

Boot & Work Corp. S.L.
Fabrica del Pont 1-11
(Recinte industrial del Pont Vell)
Sant Fruitós de Bages, 08272
(Barcelona) · Spain
(+34) 938 760 191 · info@industrialshields.com