Ned

Meet **Ned**,

the 6-axis robot designed for **Education** and **Research**.

NIRYO

We have at heart to democratize robotics.

By launching the Niryo One, three years ago, we joined students in the **learning of robotics and industry 4.0,** by supplying them with 6-axis, open-source robots, designed in a similar way than industrial robots. The Niryo One is also used in **R&D laboratories** to test new uses of collaborative robotics.

Today, let's meet **Ned**, Niryo One's successor.

CONCEPTION

Including many improvements, **Ned** is designed to reproduce all the movements required in the most advanced uses in industry 4.0, with a **precision of 0.5mm** and a **repeatability of 0.5mm**.

Ned's **aluminium structure** makes it exemplary **robust**, allowing it to accomplish with **fluidity** the movements required for your robotics projects.

This cobot takes advantage of the capacities of the **Raspberry Pi 4**, with a **64-bit ARM V8 high performance processor**, **2Gb of RAM** and an **improved connectivity**.
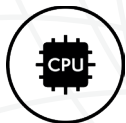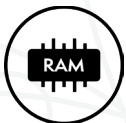
| **ARM V8**	**2 Gb RAM**	**USB 3.0**	**WIFI 5**	**Bluetooth 5.0**
1.5 GHz	LPDDR4	jusqu'à 5 Gb/s	802.11 b/g/n/ac	Low Energy

Ned is a **collaborative robot** based on **Ubuntu 18.04** and **ROS** (Robot Operating System) **Melodic**, an open-source solution created for robotics.

Through ROS, **Ned** has multiple libraries allowing you to conceive many programs, from the most simple to the most complex ones, responding then, in a **flexible** way, to your needs.
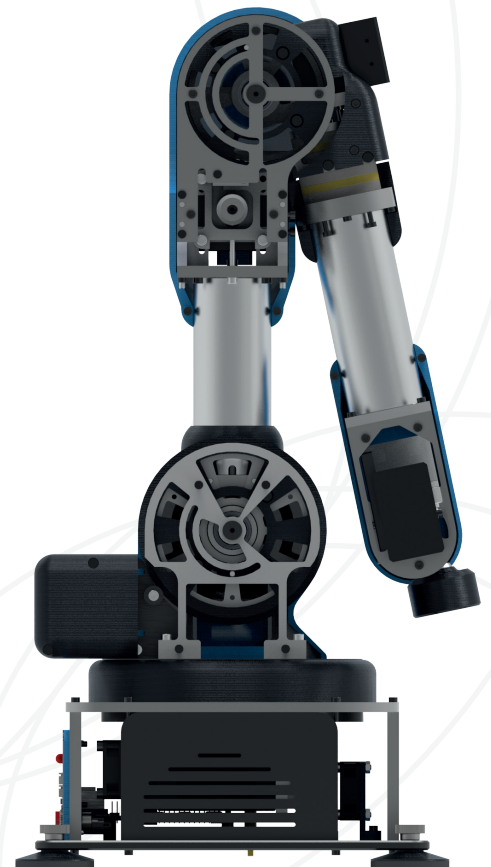
USES

As part of education and research, Niryo gives you the possibility, with Ned, to have a collaborative robot allowing you to prototype uses faithful to the industry reality:

- Our desktop application Niryo Studio is designed with a **visual programming interface** based on Blockly (similar to Scratch). This interface does not require any programmation skill to command the robot and is perfect for creating simple programs.
- **Create your own programs** allowing you to create complex processes, such as programs made for multi-robot or needing the use of artificial intelligence for the vision.
- **Prototype complete industrial scenarios** such as Pick & Place, which consists in taking an object so as to move it, and Pick & Pack, which allow to take an object and insert it in the packaging, as well as many other things.

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ECOSYSTEM

Ned is desiged to work with our **ecosystem thought for industry 4.0**:

- Our **Conveyor Belt** allows you to prototype processes that you can use on **production lines**. This Conveyor Belt can be controlled by **Ned**, the **Niryo One**, or with the provided autonomous controller.
- Our **Vision Set** implements a camera on the wrist of the robot and provides a workspace to use **vision related functions** by using **image recognition**. With its landmarks, define your own workspace and use **advanced image processing functions thought for Industry 4.0**.

TOOLS
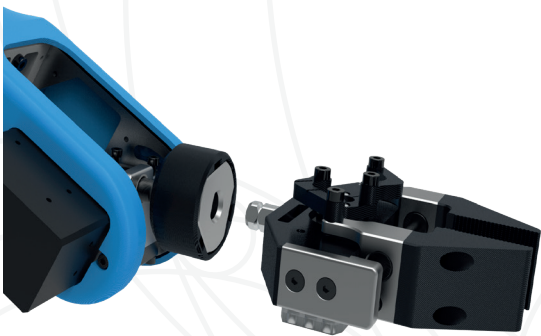
Ned is now equipped with the **EasyConnect** system that improves the way you change the tool.

A **modular gripper** is also provided with the robot. This new gripper allows you to handle a lot of different objects. If you have a 3D printer, you can also **create your own jaws to adapt it to your various projects**.

In addition to this modular gripper, you can also find more accessories on our website, such as a **large gripper**, an **adaptive gripper**, a **vacuum pump** as well as an **electromagnet**, giving you the opportunity to handle a broad number of objects.

HOW TO CONTROL NED?

There are many options at your disposal to control **Ned**:

- As easy as a press on a button, you can activate **Ned**'s **learning mode** and position it manually to let it learn the positions and reproduce them when you need it too.
- With Niryo Studio, our free desktop application, **use blocks to create your own programs** in a **visual and intuitive programming interface**. This interface is based on Blockly (Similar to Scratch) and will **allow you to develop robotics programs without any prior programming knowledge**.
- You can use an **Arduino** or a **Raspberry Pi** to control **Ned** through its digital inputs and outputs.
- For the most advanced users, dive into the **ROS code**, use our **API (Python, Modbus, TCP)** to control **Ned**, or **develop your own controller**, according to your preferences and needs (computer mouse, keyboard, game controller, Leap Motion, ...).

To learn more about **Ned**, contact us on
niryo.com

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