

## ExFacLab Documentation

# SDVUN<sub>x</sub>

Welcome to SDVUN<sub>x</sub>. This collection of pages will show you the main characteristics of the SDVUN mobile robots like electronics, mechanics and software.

## What is a SDVUN<sub>x</sub> mobile robot?

A SDVUN<sub>x</sub> is a mobile robot that can navigate inside the ExFacLab (Experimental Factory Laboratory), using a Lidar (or a depth camera) as obstacle detector and an on board CPU that can calculate the robot position. There are 4 SDVUN<sub>x</sub> available

- SDVUN<sub>1</sub>: The first prototype and the smallest
- SDVUN<sub>2</sub>: Second prototype with an enhanced suspension system
- SDVUN<sub>3</sub>: A smaller version of the SDVUN<sub>2</sub>
- SDVUN<sub>4</sub>: The third model with mecanum wheels and four motors

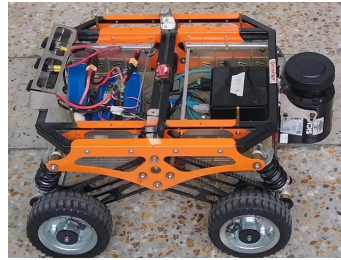
In this documentation the *x* character denotes the set of robots. Replacing the *x* with any of the 4 models will give you the specific model.



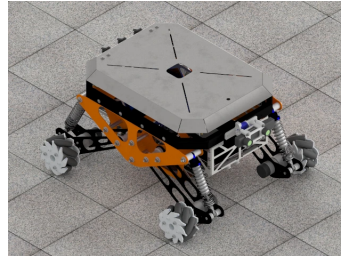
*Fig. 1* SDVUN<sub>1</sub>



*Fig. 2* SDVUN<sub>2</sub>



*Fig. 3* SDVUN3



*Fig. 4* SDVUN4

## How can I use it?

To use an SDVUNx mobile robot you need to know:

- How to turn it on
- How to start its navigation stack
- How to send navigation commands

In this documentation you'll find useful links that gives you detailed information about these topics. Also, if you need more depth, there is a technical overview of every robot.

## Some examples

Next video shows a simple experiment with three SDVUNx controlled by *SDV-Map-Viewer*, a Web Application that sends commands and shows every robot in a planar map.

**Sdv Map Viewer Demo**



This other video is a demo of *SDV-UN-Web-App*, a very basic web application that can control a single SDVUNx in the local network.

SDV-UN-Web-App



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