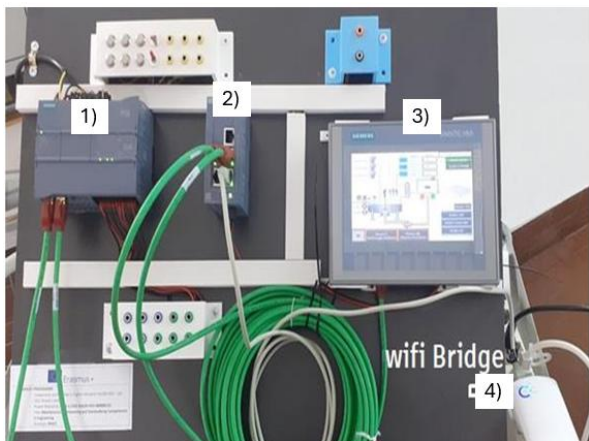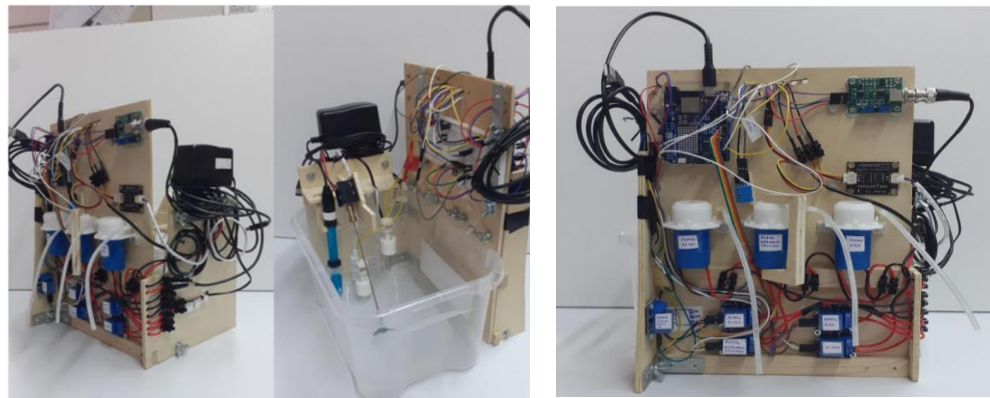# List of Parts

1. PLC S-7 1200 CPU 1215C AC/DC/RLY;
2. SCALANCE XB005 Ethernet Switch;
3. SIEMENS HMI Panel KTP700;
4. Wireless Wifi Extender and Tp-Link Access Point.

List of Parts

5. **Main structure:** 4L plastic tank, mounted on a plywood frame;
6. **Sensors:** pH, TDS, temperature and level, fixed to the structure;
7. **Pumps**: 3 peristaltic pumps for dosing the solution;
8. **Mixer:** propeller, to stir the nutrient solution;
9. **Supports:** the level sensors are supported by a plastic interlocking structure;
10. **Electronics:** Arduino, breadboard, relays and control/power circuits integrated into the structure**.**

List of Tools
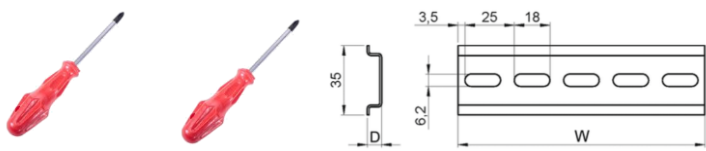
- n.2 Screw driver, Philips and FlatHead;
- n.32 Screw
- n.3 Din 35mm guide (W=25 cm)

Procedure

1. Step 1: Screw the 3D printed parts (Fig 1) in their desidered position onto the board;
2. Step 2: Screw all the parts in their desidered position onto the board;
3. Step 3: Construction of dosing tank;
4. Step 4: Connect the parts 1,2 and 3 following the Fig.2;
5. Step 5: Connect parts 6 and 10 as figure 3;
6. Step 6: Connect parts 4 and 10 to the components of figure 2 as in figure 4.
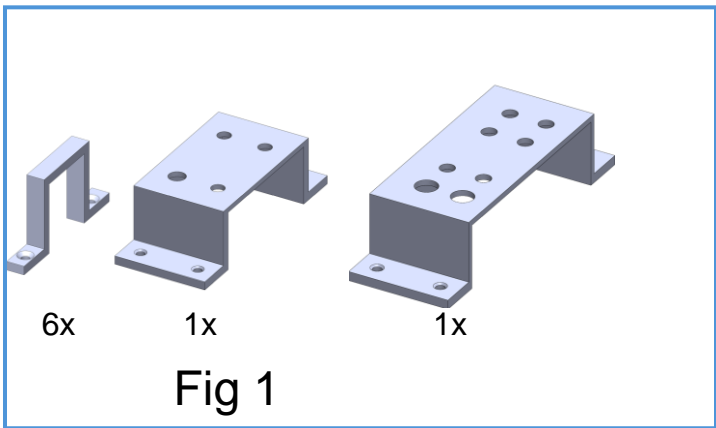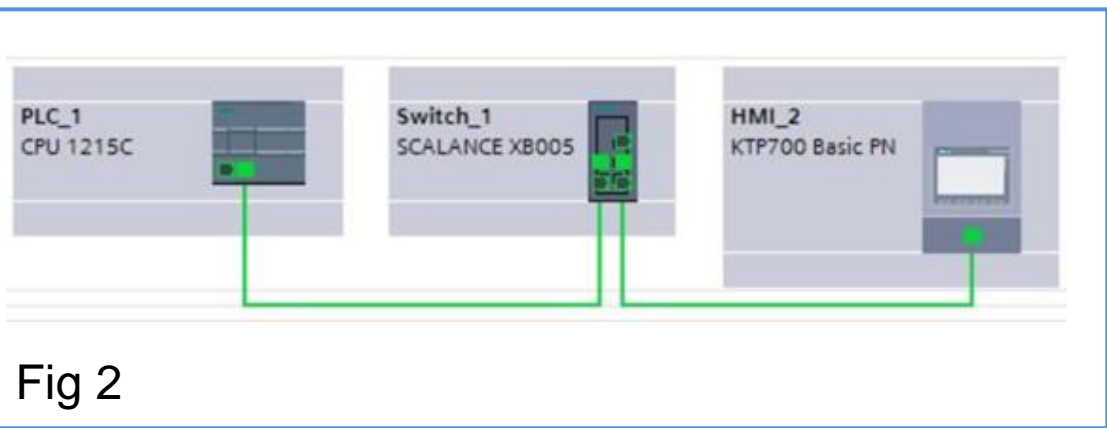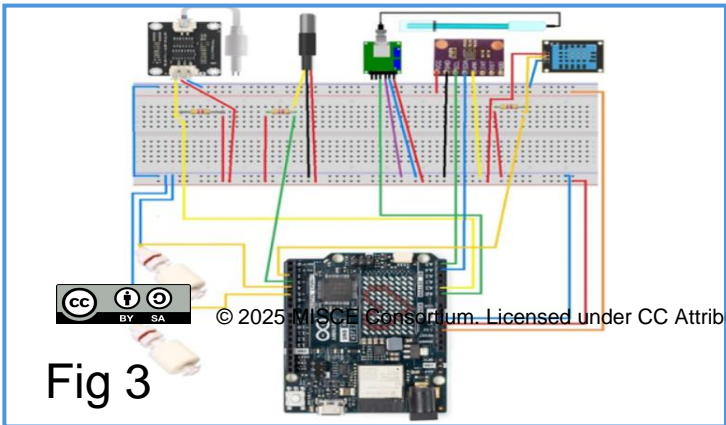
6x   1x   1x

Fig 1

Fig 2

Fig 3

Fig 4