

## TestLAB eXtending WiSHFUL with the LOG-A-TEC 3.0 testBed Jožef Stefan Institute

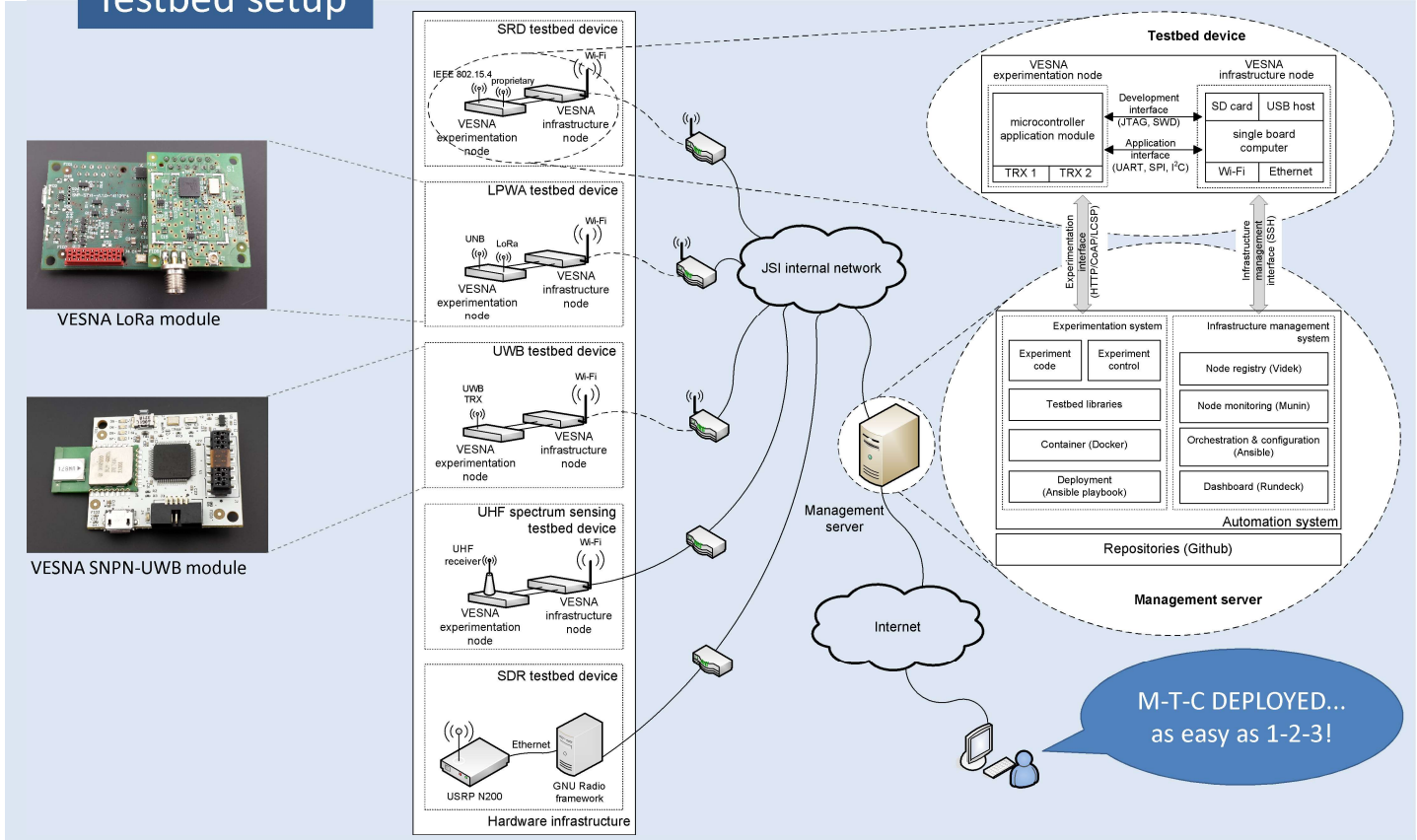
### Goals

- ❖ The TestLAB project extended the WiSHFUL offer with machine type communication (MTC) technologies in a mixed indoor and outdoor deployment providing future experimenters:
- ❖ WPAN, LPWAN and clean slate experimentation functionality.
- ❖ New software modules for localization, controlled noise generation, advanced spectrum sensing and advanced link quality estimation.
- ❖ Uniform control of advanced experiments.

### Objectives achieved

- ❖ Adopting the WiSHFUL UPIs in the LOG-a-TEC testbed.
- ❖ Exposing a set of new wireless technologies: UWB and LoRa.
- ❖ Exposing a set of advanced software modules for
  - ❖ generating controllable sources of noise and interference.
  - ❖ advanced spectrum sensing.
  - ❖ advanced link quality estimation, prediction & classification.
- ❖ Extended WiSHFUL UPIs with functionality for setting up remote experiments based on container technology.
- ❖ Abstract the underlying testbed complexity.

### Testbed setup



### Testbed Operation

- ❖ LOG-a-TEC 3.0 testbed defines a completely new experiment delivery system based on Ansible,
- ❖ experiment build system based on Docker containers,
- ❖ and distributed experiment execution system design following the micro-services approach and REST APIs.
- ❖ New wireless technologies and software modules are exposed to the experimenter through a set of WiSHFUL UPIs.

### Impact

- ❖ Perform experiments with heterogeneous MTC wireless technologies.
- ❖ Use advanced software components and modules in FIRE testbeds.
- ❖ Experiment with more accurate spectrum sensing information.
- ❖ Generate controlled interference.
- ❖ Develop new or customized MAC protocols.