WORKSHOP ON EMBEDDED SYSTEMS

Sartura's OpenWrt workshop at this year's *Workshop on embedded systems* will be held through 10 days (2 weeks). The workshop will be divided into two parts: relevant theory for OpenWrt and containerization technology will be covered through the first week, whereas the second week is where students will be able to utilize, demonstrate and present the acquired knowledge on Raspberry Pi boards.

WORKSHOP – WEEK 1

The Table 1 shows a high-level overview of the theoretical part of the workshop.

TABLE 1 Workshop - week 1

Day	Topics
Day 1	Introduction to Sartura Overview of Sartura's participation in OpenWrt and Open Source projects General introduction to OpenWrt, its background, history and relevance
Day 2	Explaining and demonstrating OpenWrt build process Familiarizing students with Raspberry Pi boards Demonstrating the OpenWrt ecosystem in practice Explaining and demonstrating the basic OpenWrt configuration
Day 3	Demonstrating the basic structure of OpenWrt packages Explaining Makefile structures as well as commands and tools for handling OpenWrt packages
Day 4	Explaining basic containerization concepts Introduction into LXC
Day 5	Live demonstrations of creating LXC containers Demonstration of running containers in OpenWrt

WORKSHOP – WEEK 2

The Table 2 shows a high-level overview of the practical part of the workshop.

TABLE 2 Workshop - week 2

Day	Topics
Day 1	Hands-on experience with the OpenWrt Build System Connecting to the Raspberry Pi device and flashing generated OpenWrt images
Day 2	Various basic and advanced configuration tasks
Day 3	Creating and configuring LXC containers Running LXC containers on the Raspberry Pi device
Day 4	Creating a simple OpenWrt package Running the package on the Raspberry Pi device
Day 5	Group student presentations of results Demonstration of running containers in OpenWrt