

## **Software - LM Deployment Checklist**

### **Networking HW**

External Internet Connection / Static IP

Port Forwarding (list of ports - SSH, Team Viewer, VNC, 80/8000/8100, 8900-8999, ONVIF Ports)

Check Internet Connectivity (bitbucket, google, ...)

### **WiFi Router**

SSID Name / Security ("LM-WiFi")

USR, MiniPC MAC Address to IP Mapping

Static IP Address / DNS / GW

Port Forwarding

Testing

### **Ethernet Switch**

Connect WiFi Router

Connect MiniPC

### **USR RS485 WiFi Devices**

Connect to LM-WiFi

### **ONVIF Cameras**

Tapo App

API Access

### **Energy Meter**

SELEC EM2M-1P-C-100A

### **Nanowarehouse HW**

Insert Two Test Trays - 0 kg, 15 kg

### **MiniPC**

Connect Keyboard, Mouse, Display, Display Mount

Connect PLC Programming Cable to USB

Connect to Ethernet Switch

### **OS Setup**

Dual Boot OS Setup: Windows & Ubuntu

Disable auto patches for Ubuntu and Windows)

Partitions (256GB each)

System Name

Security / Networking - IP Address/MAC

Setup Remote Access (VNC, AnyDesk - in both windows and linux)

## SW Install

PLC SW Install

PY Test Scripts

## Basic Testing

Connectivity to USRs, MiniPC, Cloud

Modbus tests: modbus\_scan, modbus\_poll

Run PLC modbus echo script

Test Motors: horizontal, vertical, push/pull, swivel

## Calibration

1) Run Auto Calibration Script: Calibration/Reclaibration script to build/update model

2) Run Calibration Validation & Adjustment Script: Test Script to check calibration across all slots using PLC slot test command

## Robot Manager

Install Supervisor SW

Install Robot Manager API

- Add/Remove Trays into system

- Submit Tray Retrieve Request

- Submit Tray Release Request

- Cancel Tray Retrieve Request

- Get Tray Status

## Admin App

Login

Status / Info Robot

Add/remove tray

Retrieve / Release / Cancel Tray Request

Scan Slot to see Tray info

Scan Tray to see Slot info

List of Pending Requests

List of Completed Requests

## DevOps

Setup System Backup Script

### **Hardware - LM Deployment Checklist**

Need to check loctite is applied or not for the required screws

Have to check the vertical system level

Have to check the push-pull level

Need to check that the lubrication is done in the required places