



Worldskills Singapore 2023

R SANJEEV

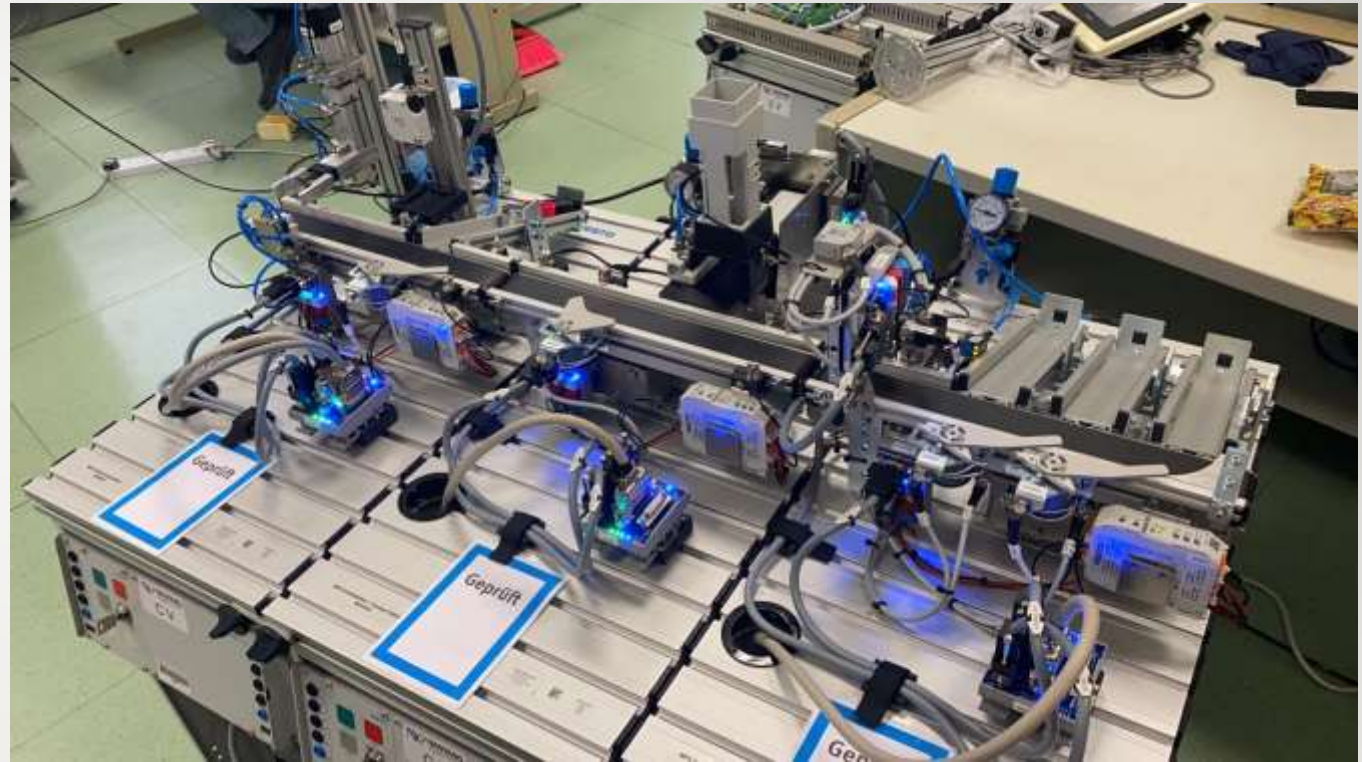
221325C

DIPLOMA IN ELECTRONIC & COMPUTER ENGINEERING

SUPERVISOR: MR LEE KIM CHENG

Objective

- To assemble and commission Modular Production system (MPS) in the shortest amount of time and meet all of the requirements



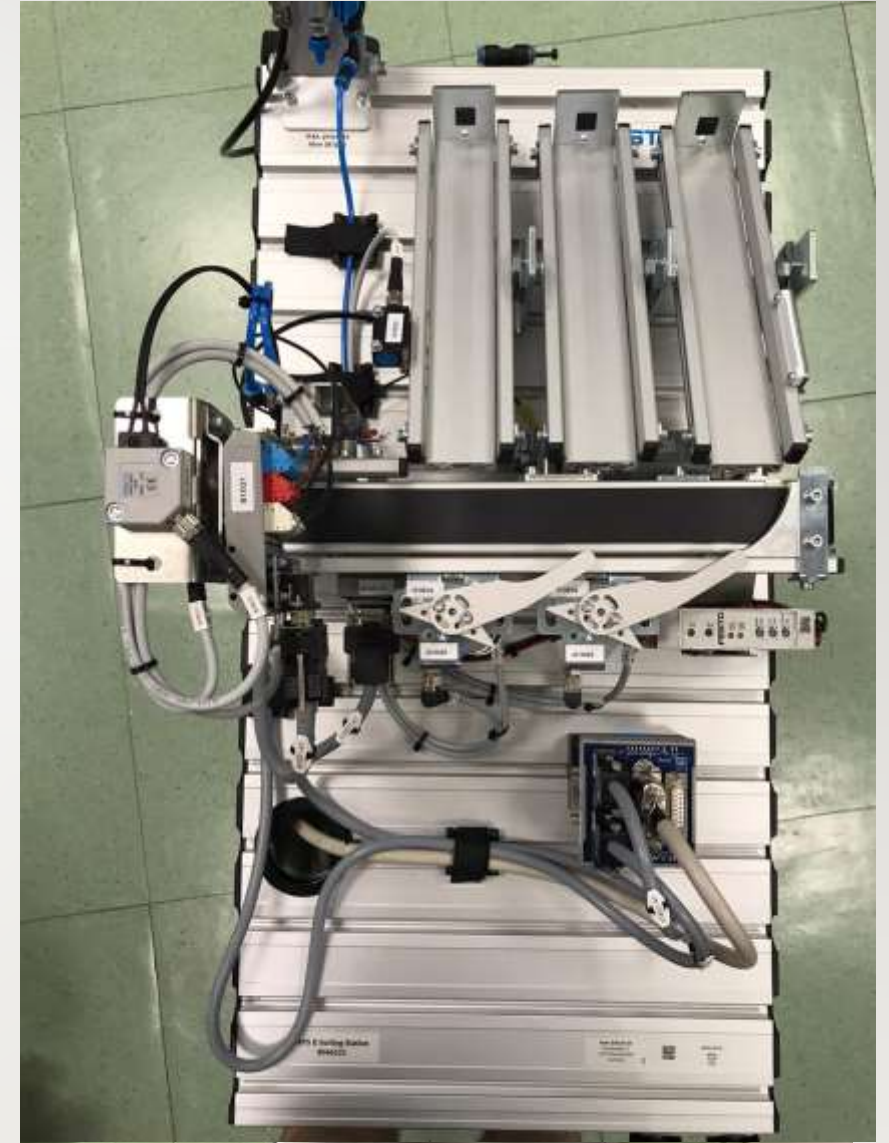
Worldskills Mechatronics Competition

- Day 0 – Familiarization day
- Day 1 – Project 1 and 2
- Day 2 – Project 3 and 4
- Day 3 – Project 5
- Modular Production system (7MPS per team)
- 8 teams 4 institution (ITE, NP, TP, NYP- 2 each)
- Final competition @NP from 7-9 October

7 MPS

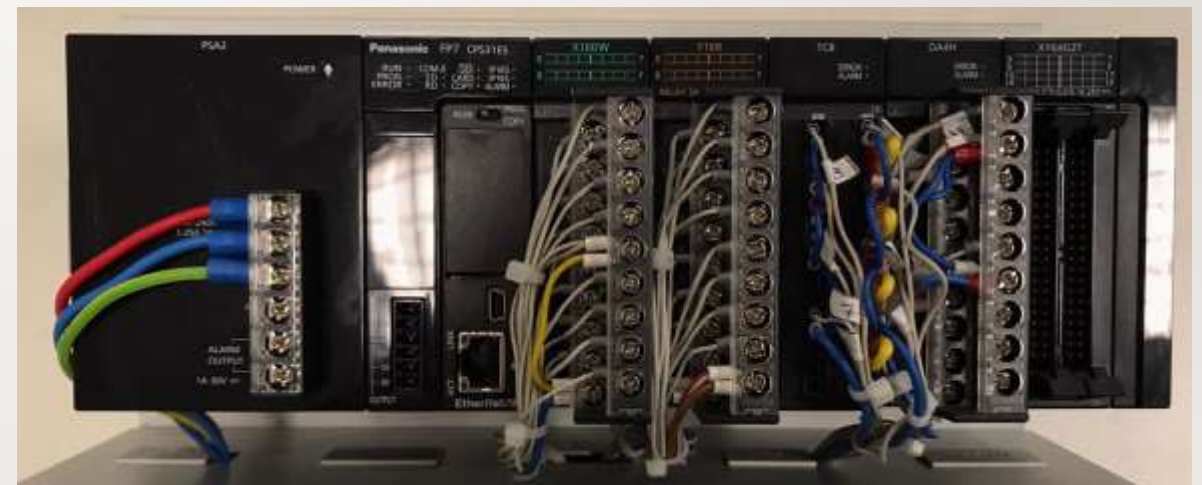
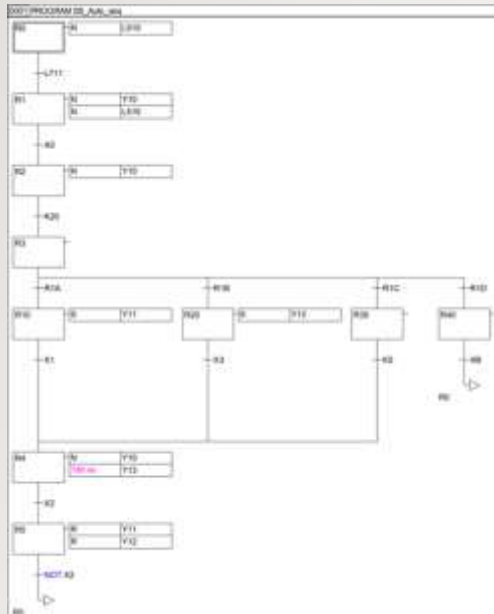


- Distribution station
- Measuring station
- Process station
- Handing station
- Pick and place station
- Fluid muscle station
- Sorting station



100%

- Panasonic FP7 PLC
- Ladder diagram



How to connect to MPS



PC



Ethernet hub



PLC



PLC



HMI

DAY 0

- Set up our competition arena close to our training setup
- Unpacking of MPS station and testing
- Setting up of computer
- Make sure we are comfortable and assimilated with the arena



Day 1

TASK 1 (3 HOURS)

- Assembly and commissioning

TASK 2 (3 HOURS)

- Re-Programming



Day 2

TASK 3 (3 HOURS)

- Assembly and commissioning of unknown station/ components

TASK 4 (3 HOURS)

- Reprogramming of unknown



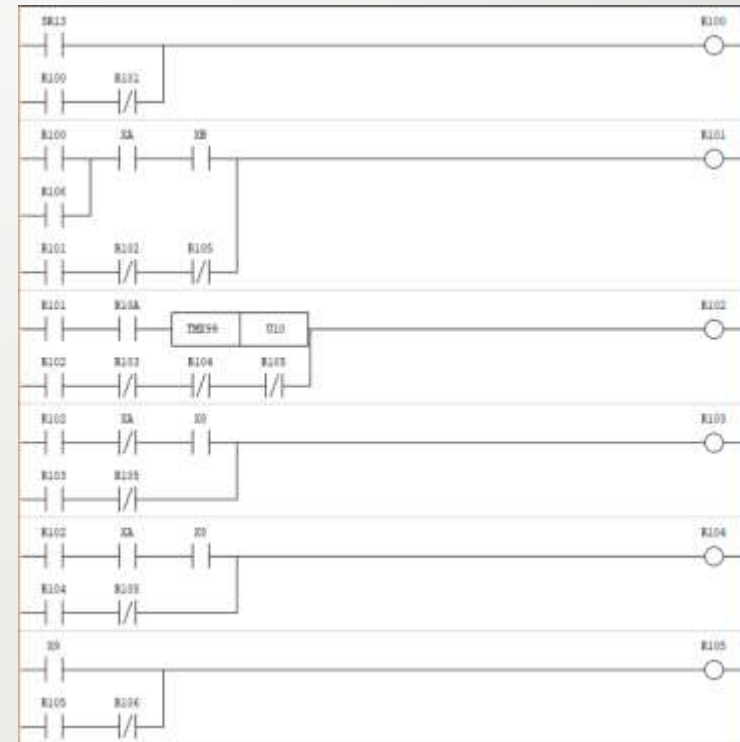
Day 3

TASK 5 (3 HOURS)

- Revert of MPS and commissioning

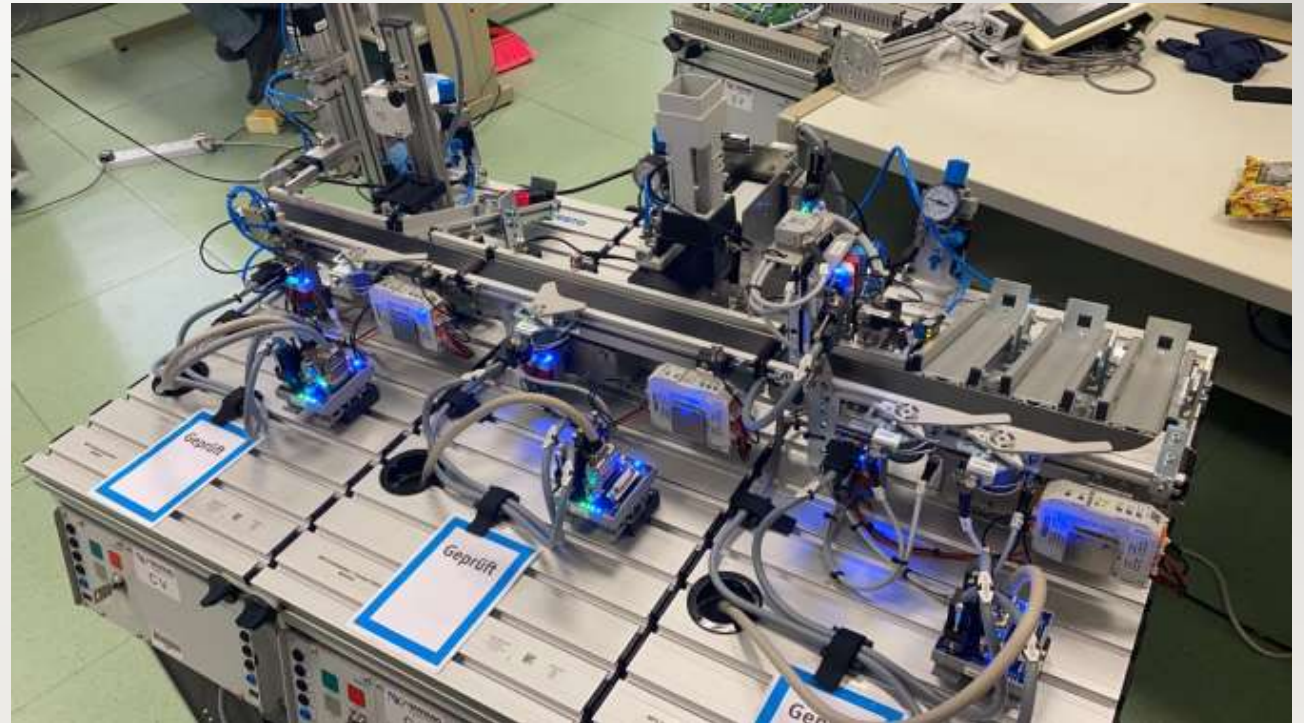


- Pre-programming (graph set)

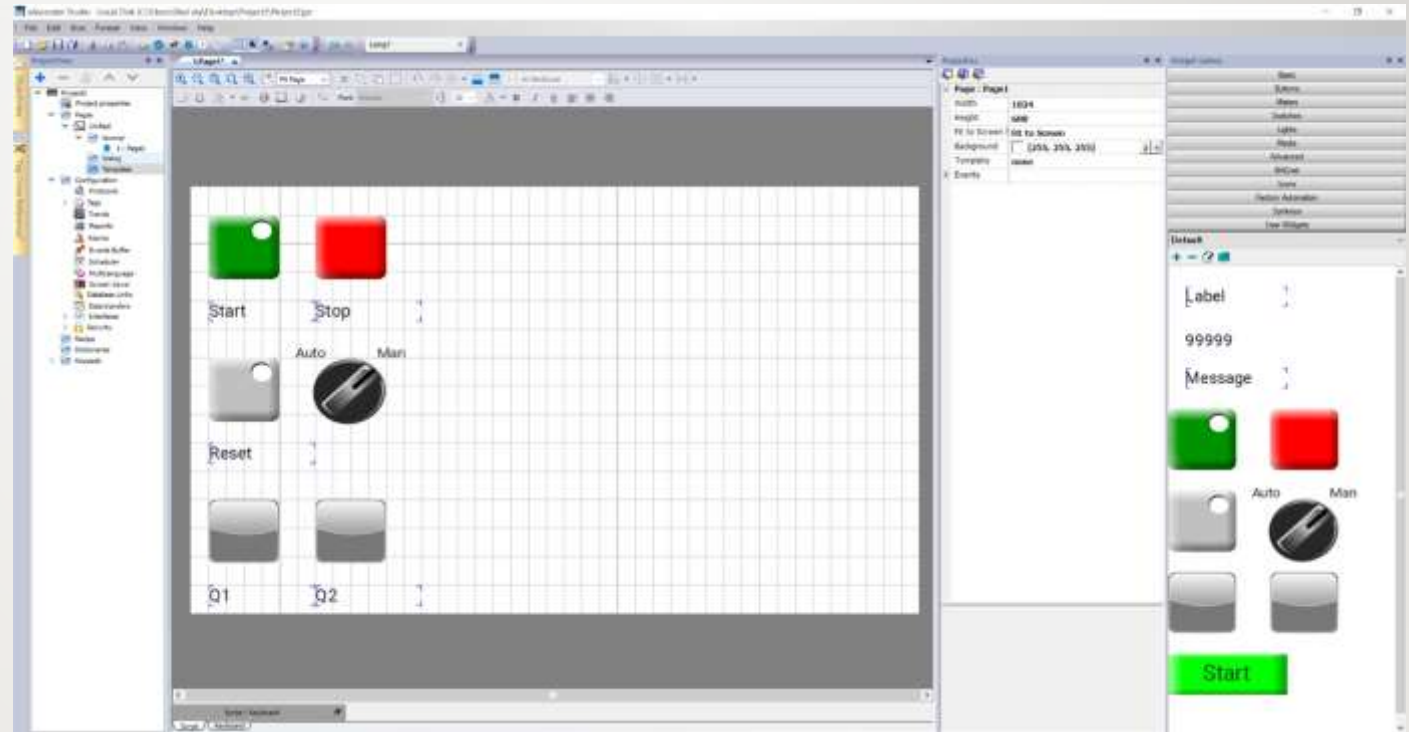


My part in the competition

- Human machine interface(HMI)
- Integrating machine and testing



HMI





My team strategy

- Strategy 1 : We will each do our part before combining our resources
- Strategy 2: I will help my partner with building before doing my programming

How to get aim gold

- Train hard
- Familiarise with the station
- Good teamwork

Description	Evaluation	Max. eval.
Time Evaluation		
Time points are only possible when all points for function and minimum 7 points for Assembly Section are achieved.		
Act. Time	_____ min.	Max time: 180 min.
Points for time = (Max. time – Act.time) x Max.points / (Max.time – Min.time) = (180.0 - t _{act.....}) x 10 points / (180.0 - t _{sch})	_____ points	Max 10 points

Total evaluation:

Description	Evaluation	Max. eval.
Points for Assembly		10
Points for Commissioning program (for Sorting Station)		15
Points for Function to check with PLC Program		25
Points for Time Evaluation		10
Total points		60

Problem faced

- Unable to remember I/O ports
- Unfamiliar with unknown product
- Under stress unable to remember program
- Keep practicing
- Ask coaches to give more unknown product
- Draw graph set and transfer to computer



Acknowledgement

- Nanyang Polytechnic
- Expert
- Coaches



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Talent wins games, but
teamwork and intelligence
win championships.

MICHAEL JORDAN

GRACIOUSQUOTES.COM

Thank You





Q&A