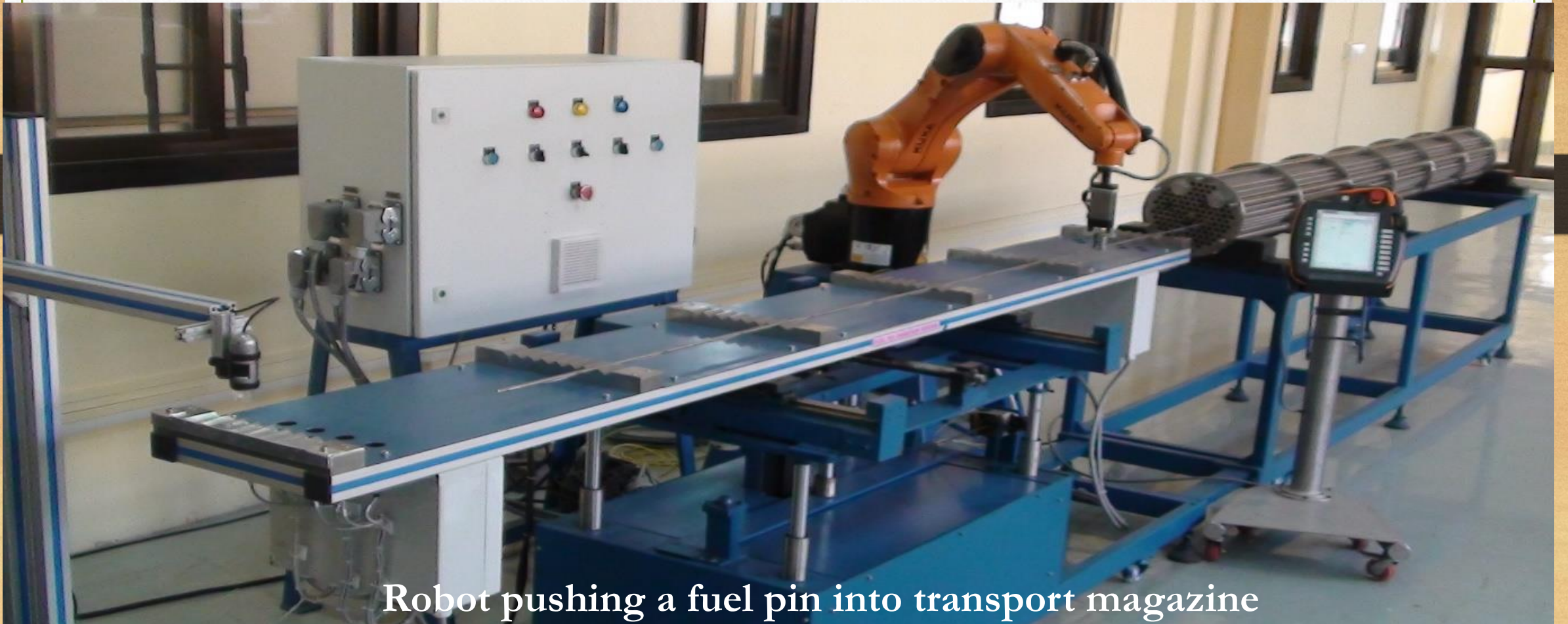


Robotic Loading of PFBR Pins into Transport Magazine



Robot pushing a fuel pin into transport magazine

Automatic Pin Insertion System (DRHR - BARC)

File Calibration

New Load Data Calibration Load Pins Pause Loading Stop Loading Emergency Stop Exclusion List

Current Positions
 X= 1000
 Z= 10002

Current Status
Calibration Done
Auto Mode
 Location Selected = 0
 Pin Selected = 0

Legends (Location)
 - Blocked
 - Filled (E1)
 - Filled (E2)
 - Under Progress
 - Duplicate Pin

Pin Tags

- Pin-1
- Pin-2
- Pin-3
- Pin-4
- Pin-5
- Pin-6
- Pin-7
- Pin-8

Select Camera

Transaction State

Database View

S No	Location No	EZone	Pin Tag
1	105	E1	\$EA2P2
2	106	E1	\$EA22K
3	107	E1	\$EA225
4	108	E1	\$EA240
5	109	E1	\$EA251
6	111	E1	\$EA2P3

Export to Excel

Loading position reached; Please load the pins
 Please proceed with calibration or load the previous setting
 Please enable AUTO Mode
 Welcome to Automated Pin Insertion System !!!

Load Pins on the XZ Table

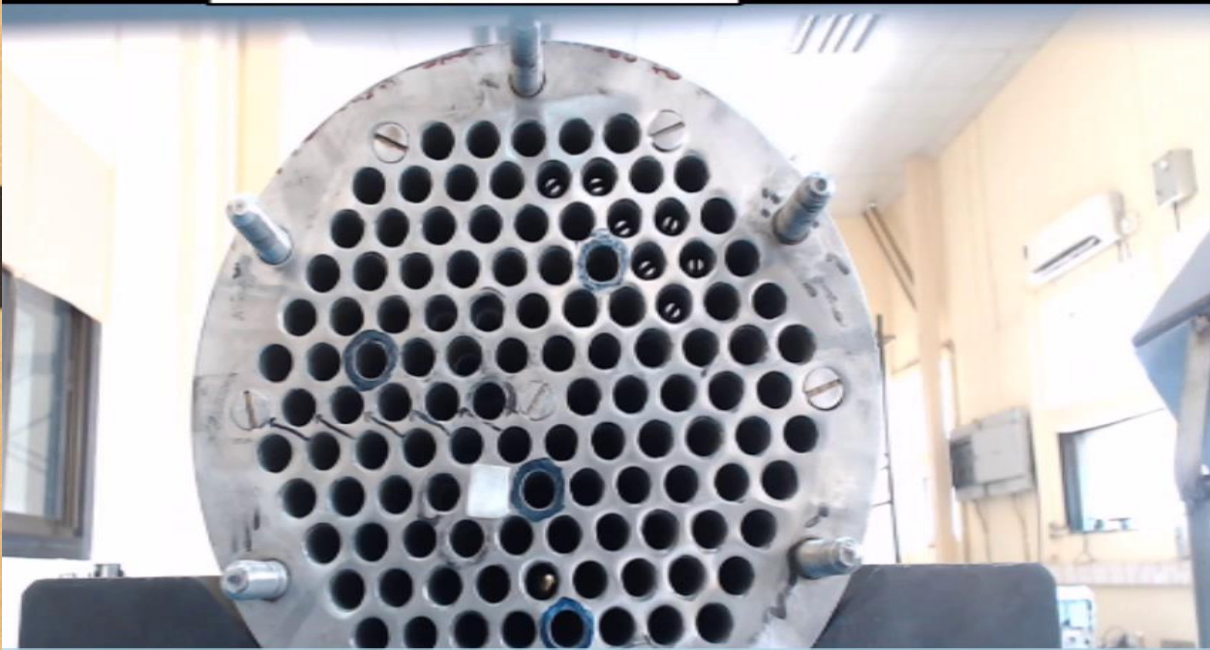
Acknowledge

XZTableConnection RobotConnection

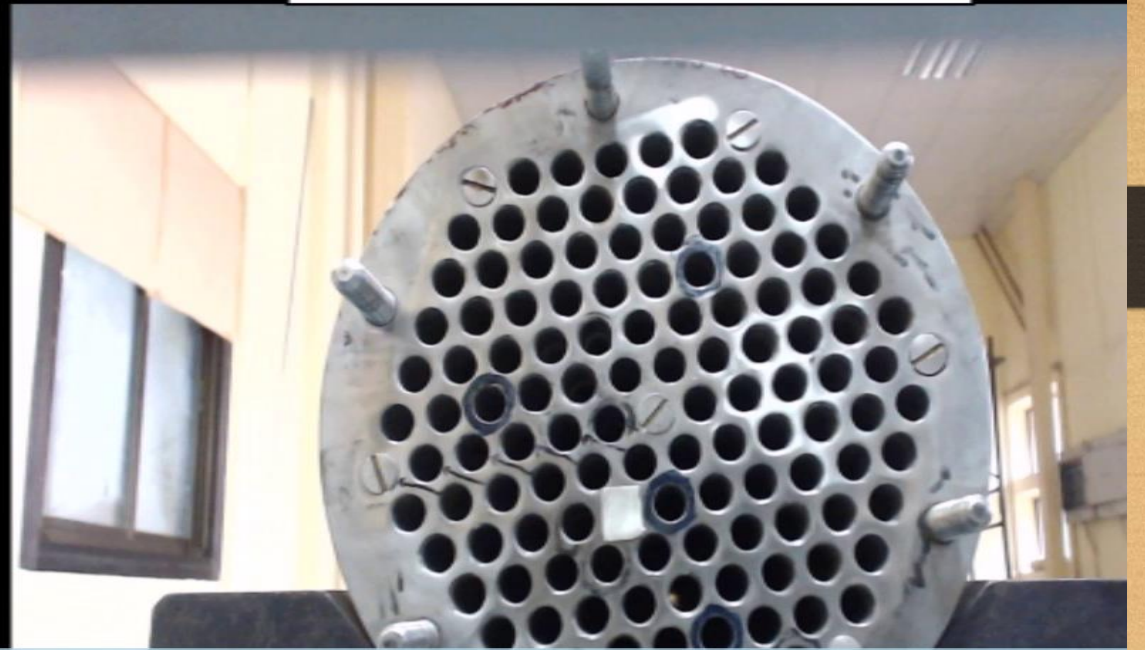
Computerised interface for fuel pin storage information

Vision based Computation of Orientation

Base Image (0°)



Current Image (7.1°)



Magazine orientation is computed by calculating orientation of Current Image w.r.t. Base Image