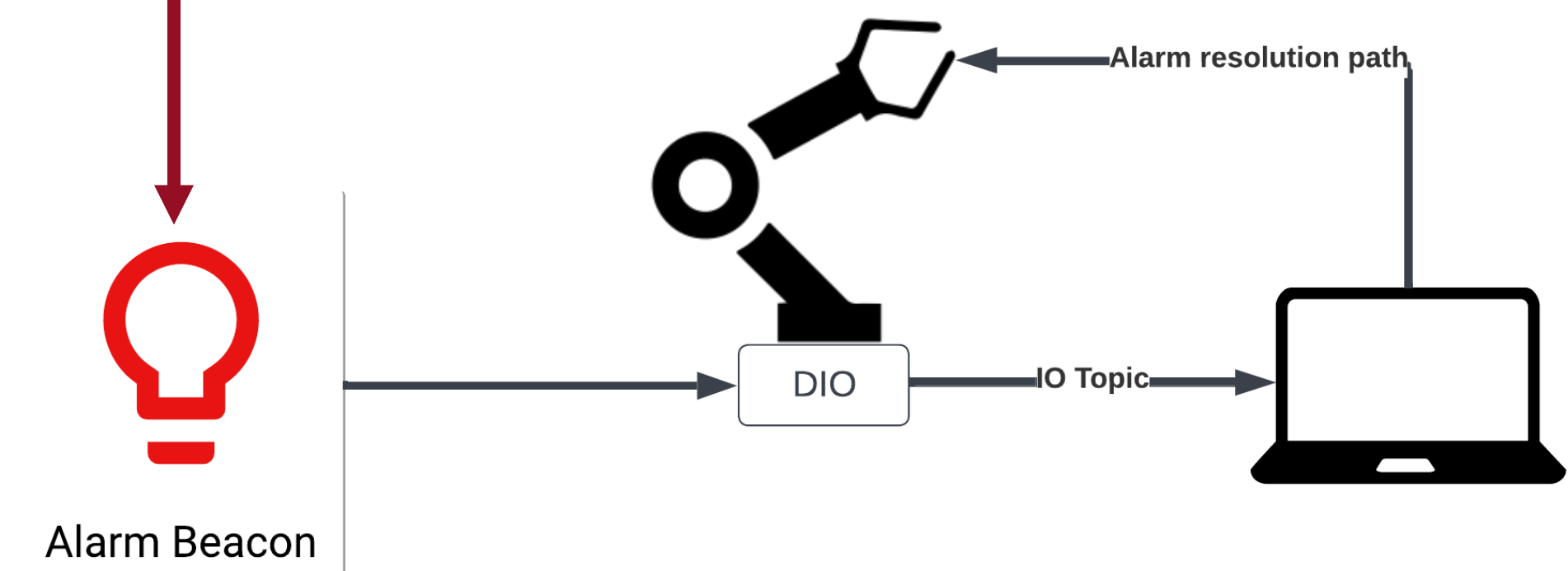
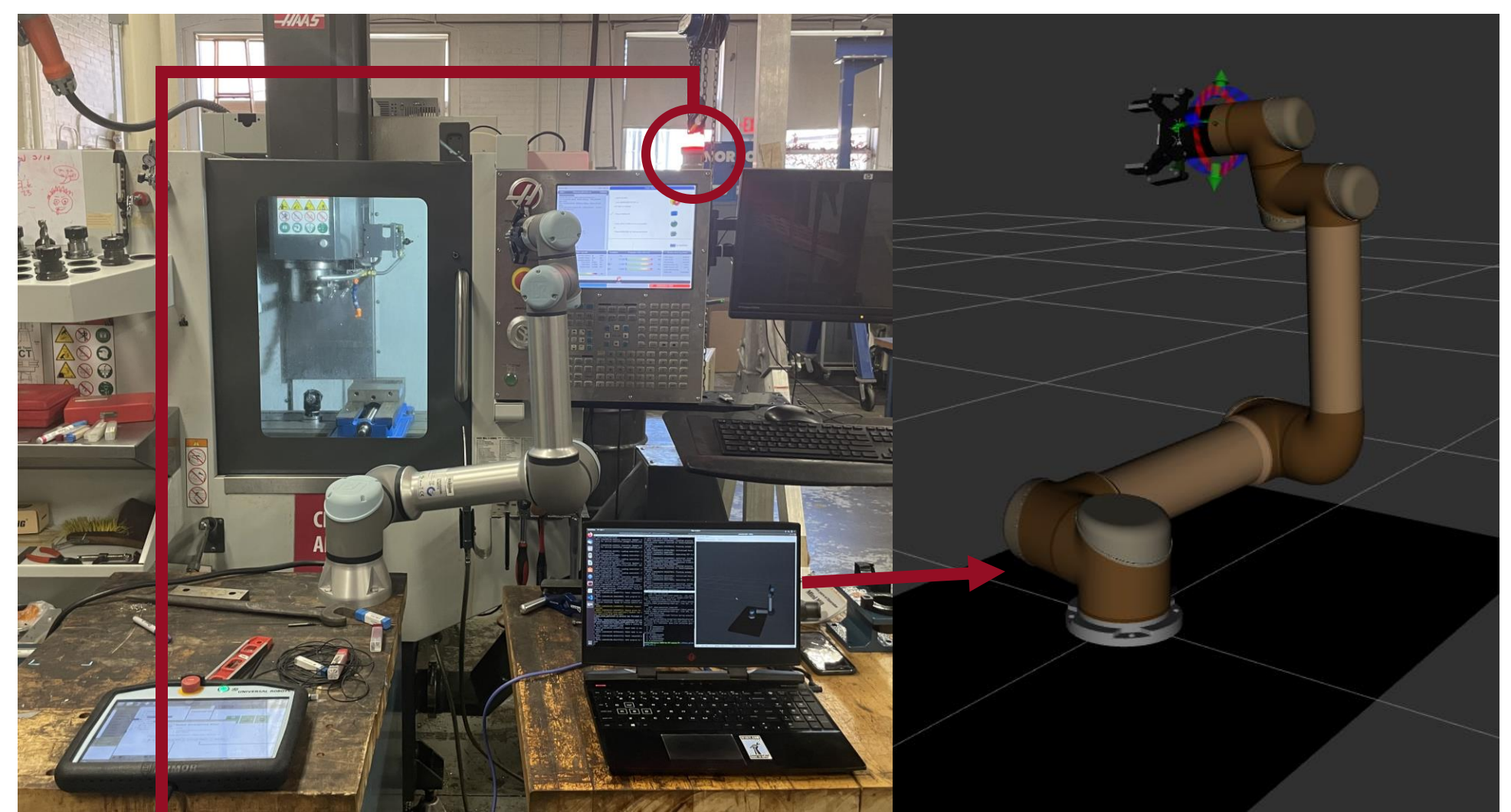
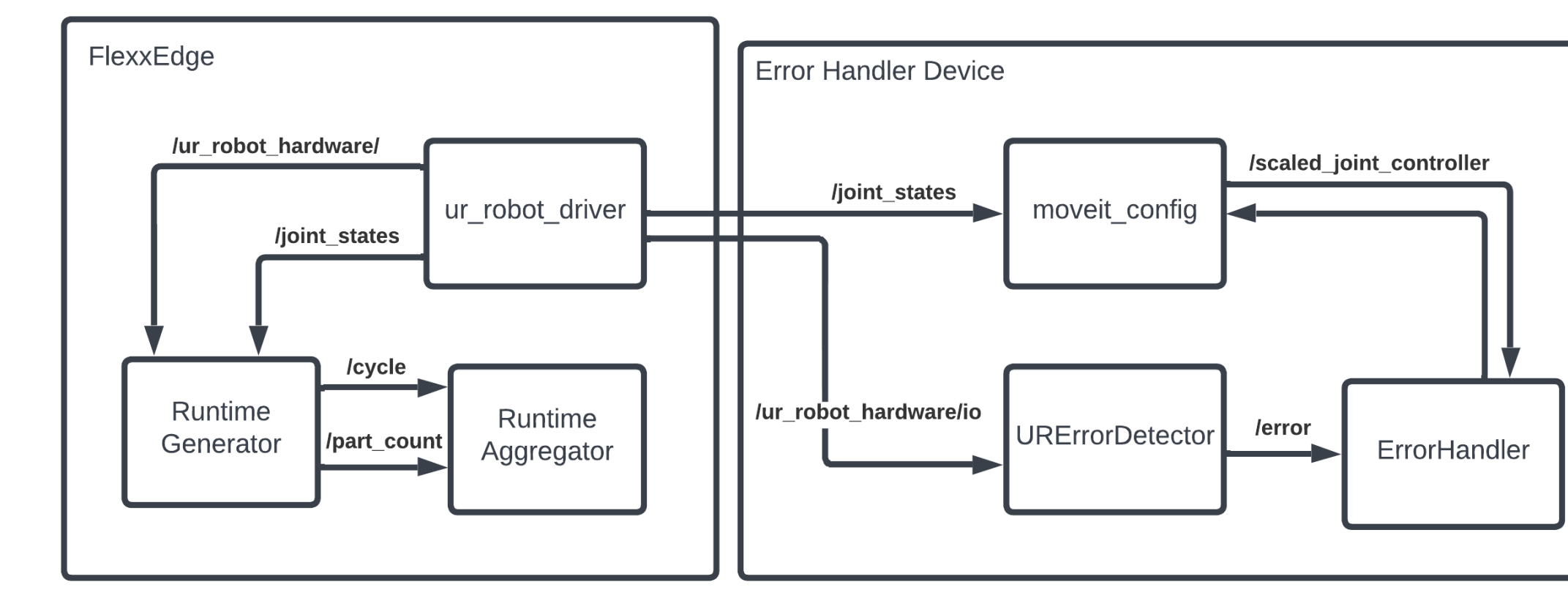
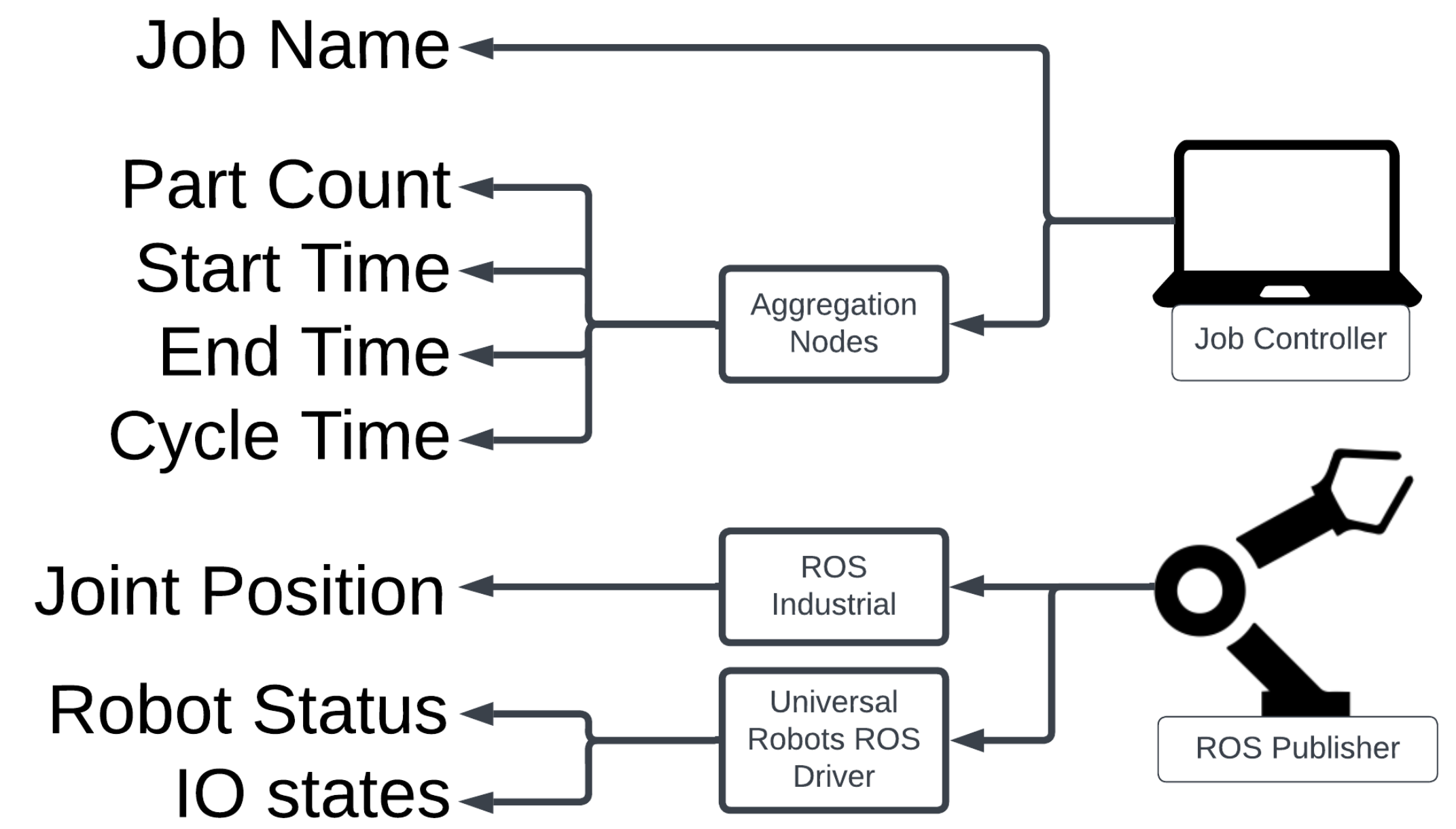
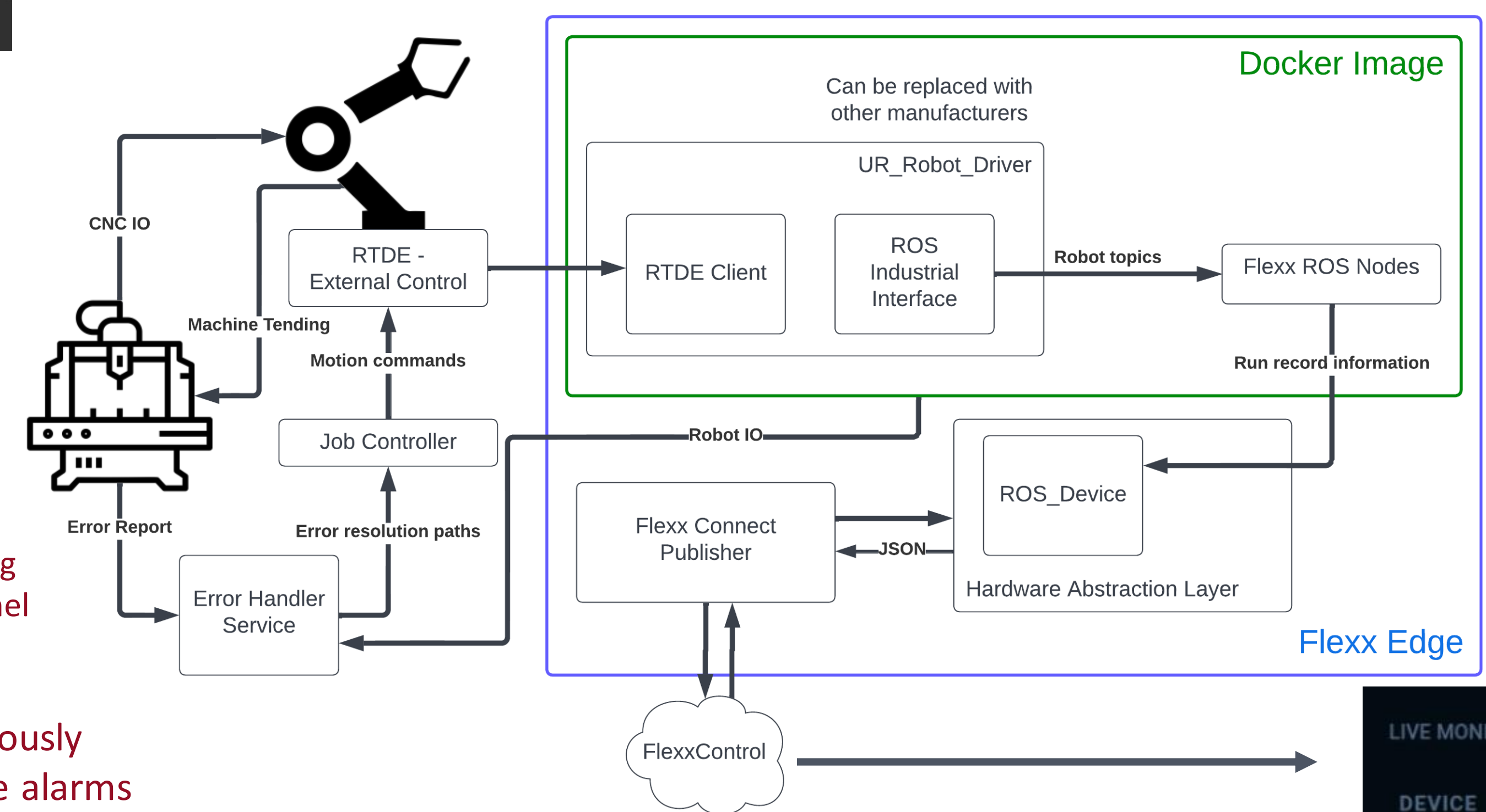


### Objectives:

- **Autonomously tend to CNC machine**
- **React to and resolve alarms in real time**
- **Monitor and report job metrics via ROS**



Robot interfacing with control panel  
 Autonomously resolvable alarms



LIVE MONITORING						
DEVICE	STATUS	PARTS	FAILURES	CYCLE START	CYCLE END	CYCLE TIME
ROSDevice	RUNNING	1	0	3/21/23 4:00:00 pm	3/21/23 4:00:07 pm	30

Reset Machine	Reset ATC	Change Tool	Reload Part	Reload Program	Close Door
102	694	256	808	961	268
103	695	984	810		
104	696	994			
105	697				
292	698				
343					
176					
177					
971					



Scan for a video demo →

**Summary:** The project addressed the need for an automated methodology to handle alarms in a Computer Numeric Control (CNC) system. We developed a set of Robot Operating System (ROS) nodes that autonomously manage a CNC with a robotic arm while reacting to alarms in real-time. Our approach also tracks performance metrics for later evaluation. The methodology is scalable and adaptable to a wide range of CNC systems, making it a valuable tool for improving efficiency and productivity.

