

Figure 1. Components of TeleRob4Mfg Platform along with activities to be carried out in various work packages.

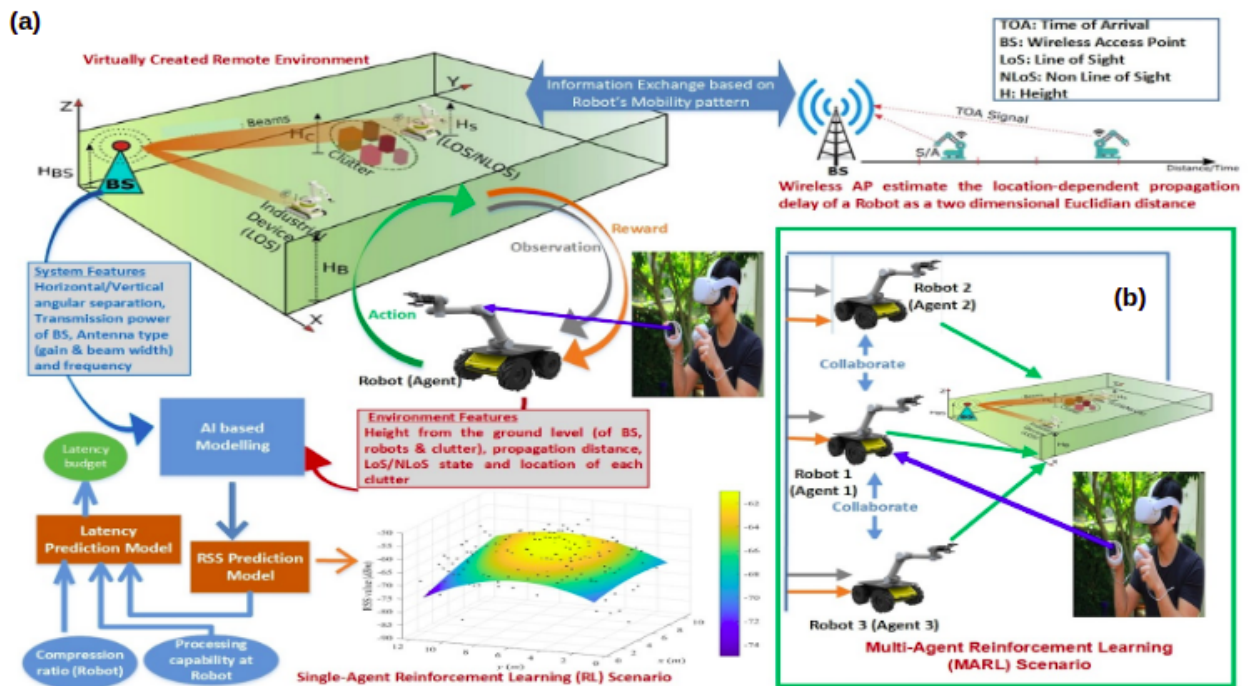
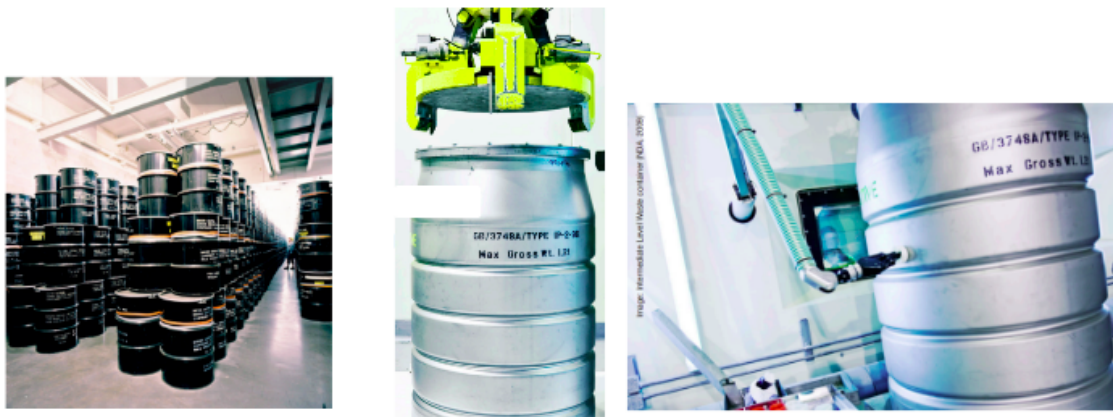


Figure 2: Communication architectures with single and multi-agent RL planning framework to deal with uncertainties during teleoperation.



(a) scanning of containers in the storage yard.

(b) scanning of isolated containers

Figure 3: Remote Inspection of Waste Containers to be carried out at NNL/SFL in WP4

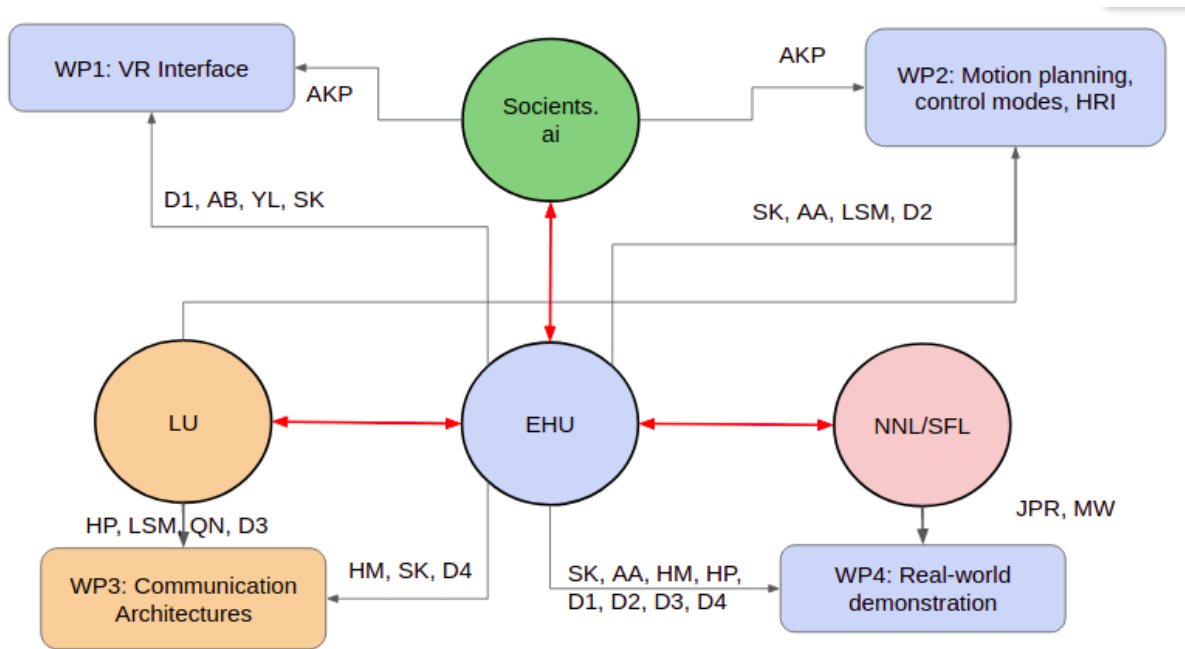


Figure 4: Collaboration and Coordination of effort among partners for different work packages. D1-4 are the postdoctoral researchers to be hired.

Gantt Chart

S.N	Activities	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
1	PDRA engagement	D1,4				D2,3							
3	WP1: VR interface, digital twin, data processing					M1			M2			M3	
4	WP2: Manipulation, grasping and robot control							M4			M5		
5	WP3: Solving communication challenges, multi-agent system architectures									M6			
6	WP4: Real-world demonstrations												M7
7	Paper Publications (C: Conf, J: Journals)												
8	Workshops							W1				W2	

Milestones: M1: demonstration of VR interface, M2: demonstration of digital twin, M3: demonstration of generating contextual information for a given task M4: demonstration of control architectures M5: demonstration of manipulation & grasping algorithms M6: demonstration of teleoperation over long distance using new communication architectures M7: Real-world demonstrations at NNL

Figure 5: Timelines & Milestones. Q1-Q12 represents quarters of 3 months duration.