

Maslow's hierarchy of needs

Agent Needs Hierarchy

Innate-Values Driven RL Modeling Single-Agent Systems

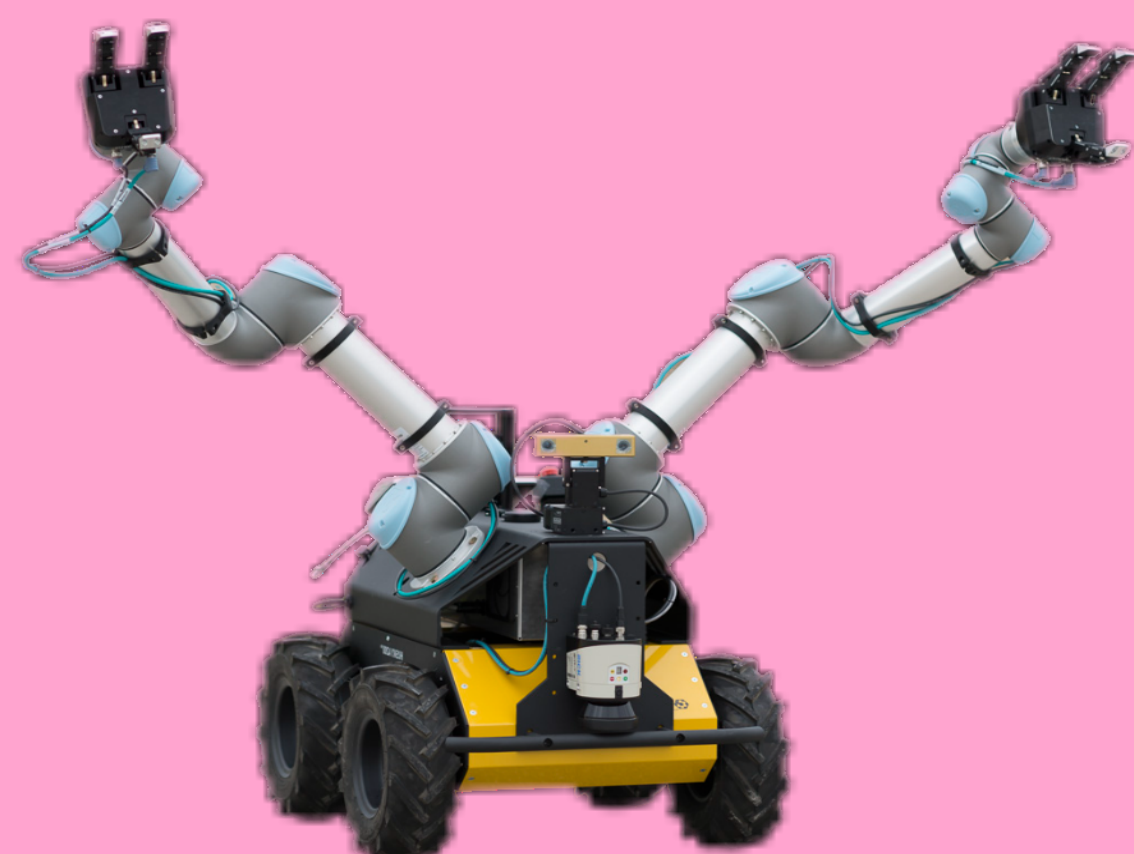
Multi-Agent Systems (MAS)

Group Utility: individual capabilities; winning rate; execution time; cost; trust; etc.

Individual Utility:

collision detection;
battery level;
data communication;
sensor range;
etc.

Executor



**Satisfy
group
utilities**



**Adapt tasks
& environments**

Note:

Trust among agents



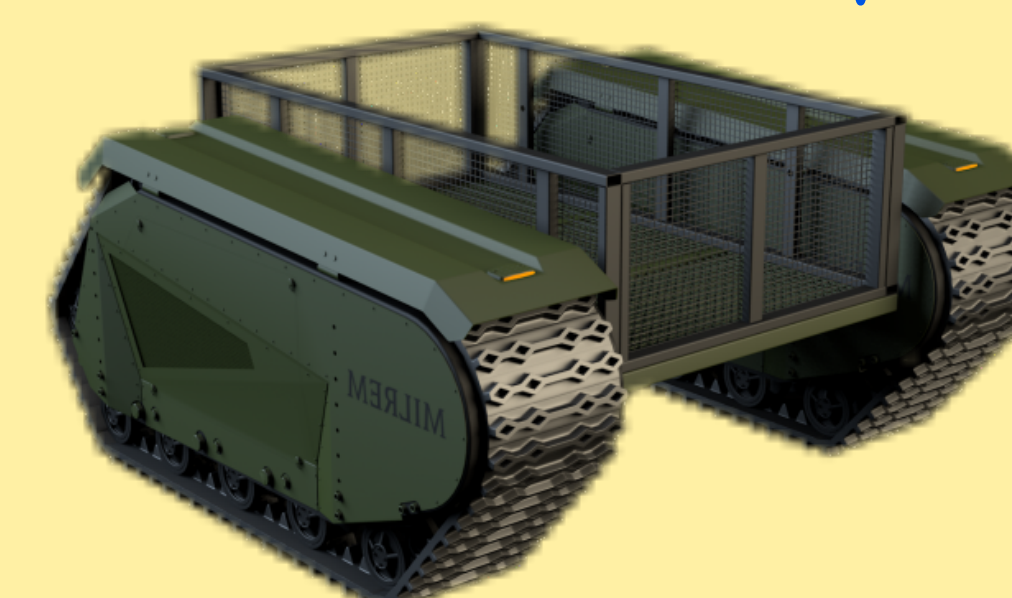
Supplier



Observer



Carrier



Executor

