

## Stakeholder Needs

#	Name	Text
1	3 Failure detection	The robot SHALL detect and report failures.
2	4 Self-protection	The robot SHALL not perform operations that are harmful to itself, irrespective of user commands.
3	5 Shutdown	The robot SHALL shut down if commanded by the user.
4	7 Status information	The robot SHALL display status information to the user.
5	7.1 Ready status	The robot SHALL light a green LED to indicate its readiness for being used.
6	7.2 Power status	The robot SHALL light a red LED to indicate availability of power.
7	7.3 Failure information	The robot SHALL indicate failure information on the 2nd line of the status display.
8	7.4 Mode information	The robot SHALL indicate the current operation mode on the 1st line of the status display.
9	7.5 Status display	The robot SHALL indicate detailed information on a 2-line alphanumeric display.
10	8 Movement	The robot SHALL be able to move itself according to received commands.
11	8.1 Axes	The robot SHALL be able to move in 4 axes: (1) turn left / right, (2) move up / down, (3) move forward / back, (4) grab / release.
12	8.2 Safe movement	The robot SHALL respect movement borders such as zero position and maximum position.
13	8.3 Parallel operation of axes	The robot SHALL be able to move all axes in parallel.
14	SN1 Operation modes	The robot SHALL operate in 4 operation modes: Manual, Teach-in, Replay, and Hanoi
15	SN1.1 Manual mode	The robot SHALL move in all 4 axes according to the user commands.
16	SN1.2 Teach-in mode	The robot SHALL move in all 4 axes according to the user commands, and shall record its movements.
17	SN1.3 Replay mode	The robot SHALL replay recorded movements.
18	SN1.4 Hanoi mode	The robot SHALL play the "Towers of Hanoi" game, repositioning a stack of 3 discs from position A into position C via position B, making sure that always smaller disks lie on top of bigger disks.



