Requirements v1 03/Oct/2021

All requirements marked on the MoSCoW scale (**M**ust have, **S**hould have, **C**ould have, **W**on't have)

Ariadne robot requirements

Be at least twice as quick (from the crew's point of view) than if crew had to carry out manually	M
Be able to automate seed sowing	M
Be able to pick up seeds	M
Be able to position seeds precisly	S
Be able to attach strings to seeds	M
Be easy to clean/sanitize	M
Be able to manipulate and load seeds autonomously	M
It must be possible to load seeds manually	M

Growpod requirements

Be easy to clean/sanitize	M
Be able to provide correct lighting conditions for growth	M
Ebb/flow fogger or water system to ensure that roots are not permantely wet	M
Leaves must stay relatively dry	M
System must keep track of planting, growth	S
Recommend when to harvest particular threads	S
Be able to autonomously devise and conduct planting experiments to maximise usage of the system	C
Respond to crew feedback	C
Be able to be programmed by ground control	M
Be space efficient when stowed	M
Be light	S
Be power efficient	M
Stay within plant heat parameters	M
Be able to grow microgreens	M
Be able to provide correct moisture levels to seeds	S
Be able to provide correct moisture levels to seedling/microgreen roots	M
Be able to provide correct nutrients to plants	M
Be able to grow microgreens for at least 3 weeks	M
Be able to collect data on plant growth including imaging	M
Seeds should be able to sprout from seed cubes	M

Software requirements

Be able to display internal state and plant state to crew and ground control	M
Be able to keep track of individual plants	S
Be able to devise and carry out planting experiments	S
Be able to gather data and transmit to ground station	S
Be able to interact with the crew via voice interface	C
Be able to instruct crew which particular threads are ready for harvest	C
Be able to predict when particular harvests will be ready	C