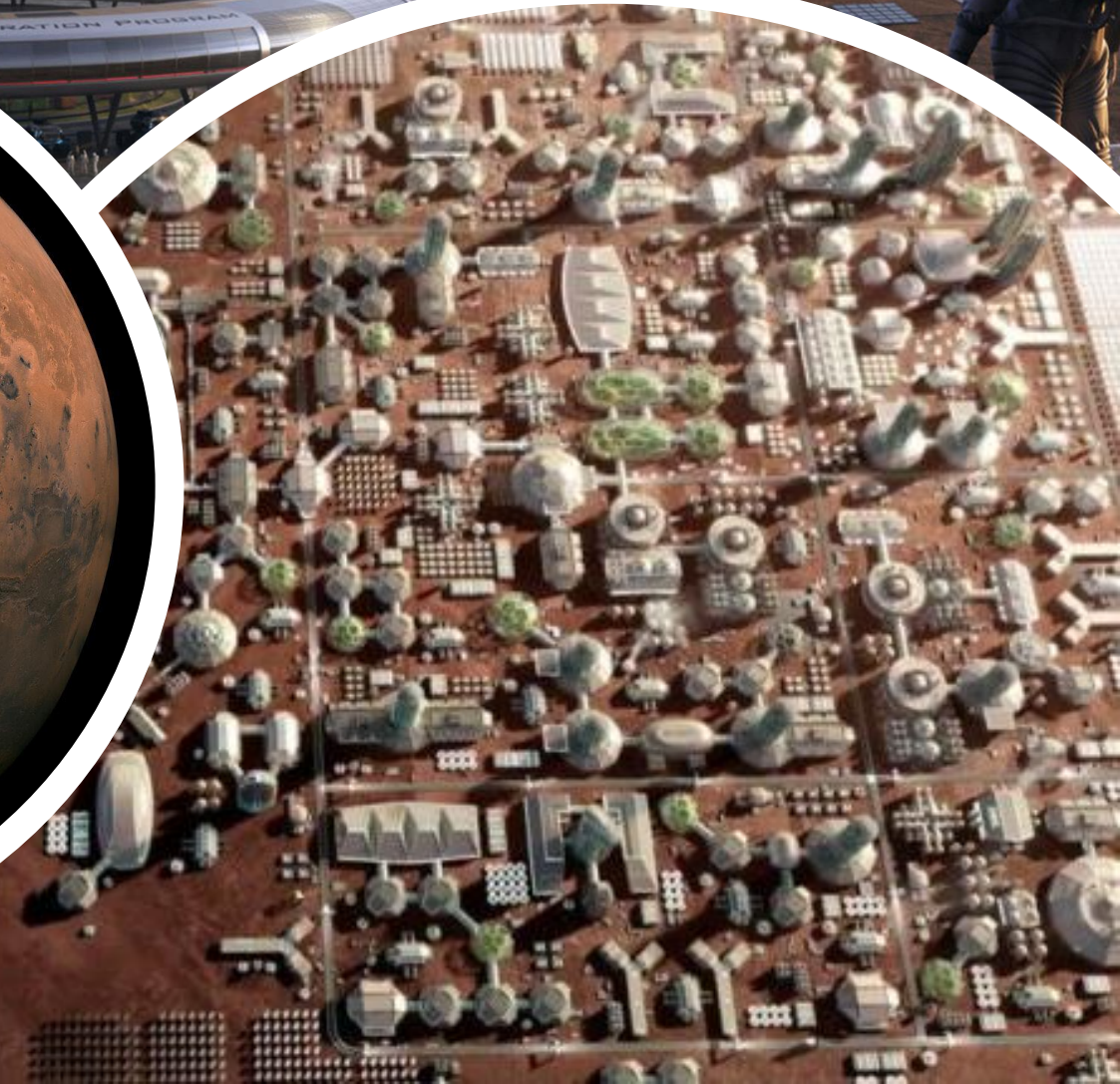
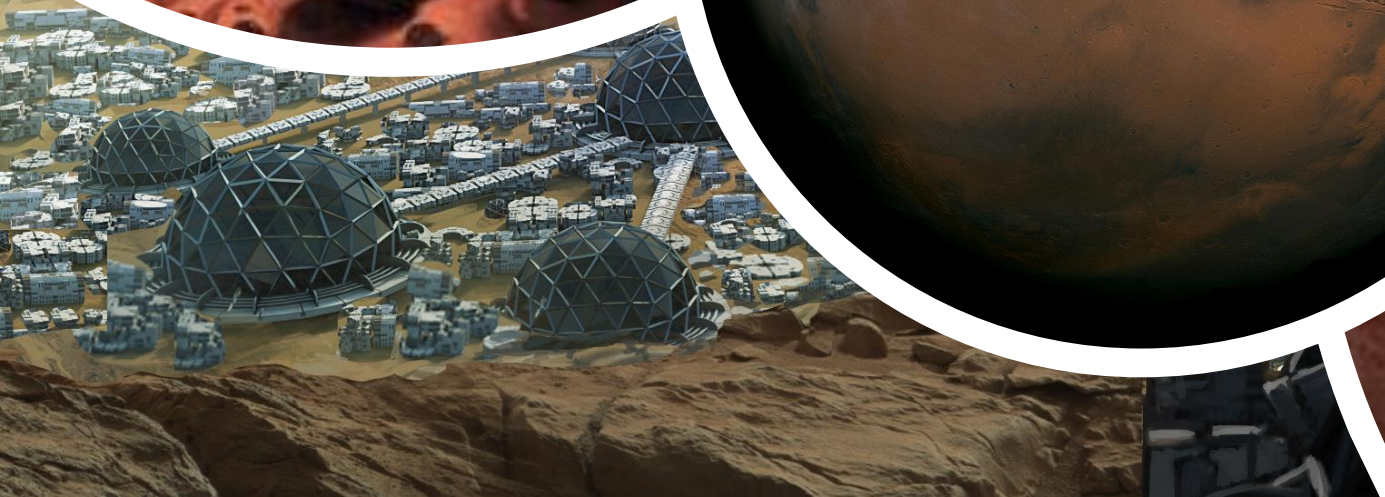
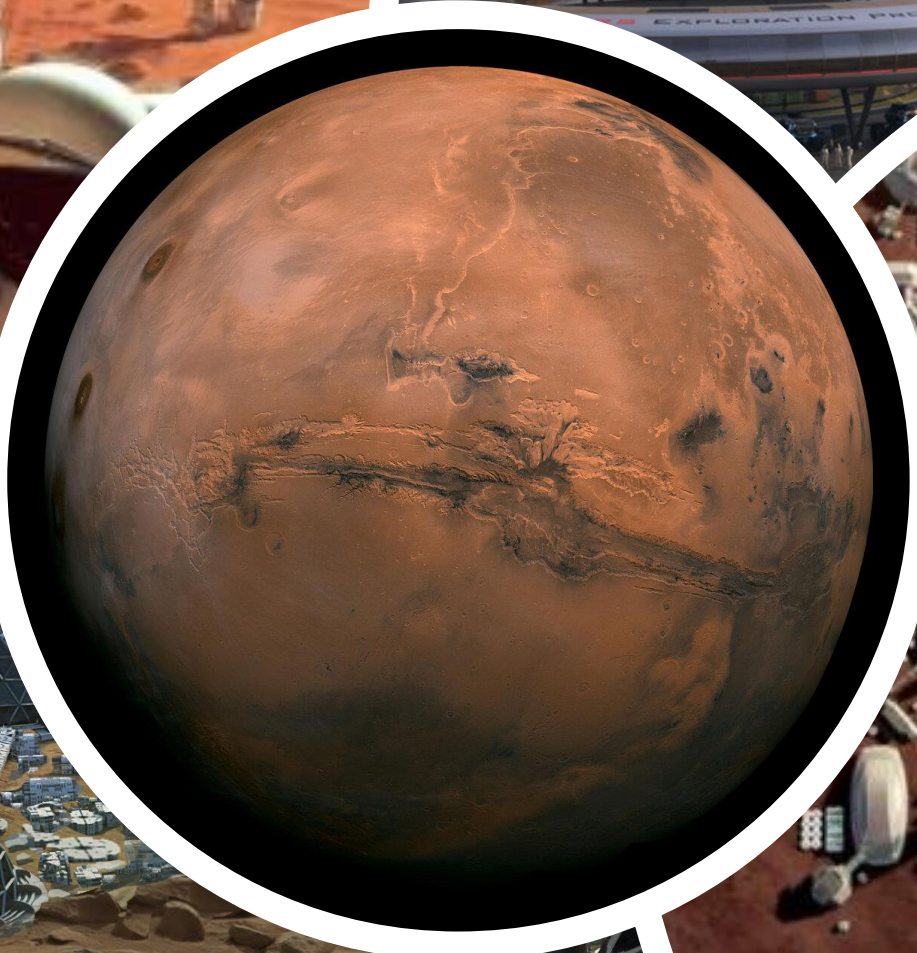
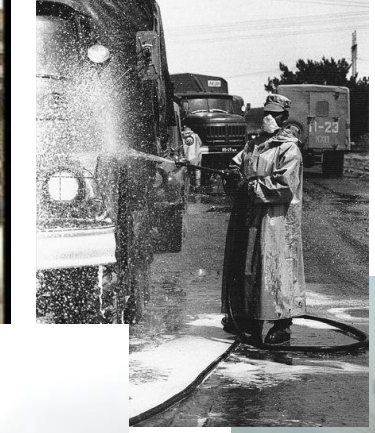
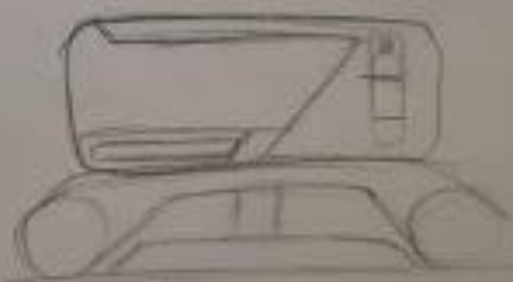
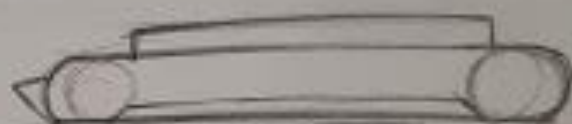
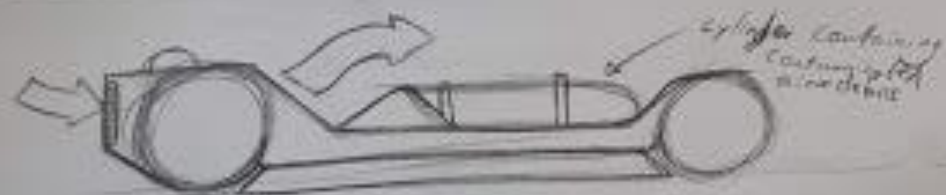
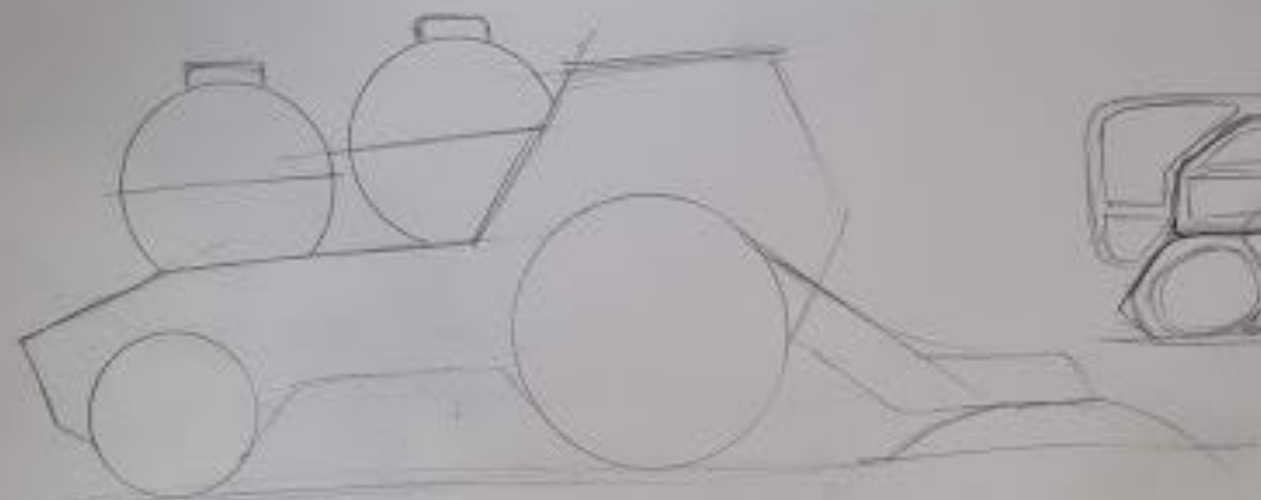
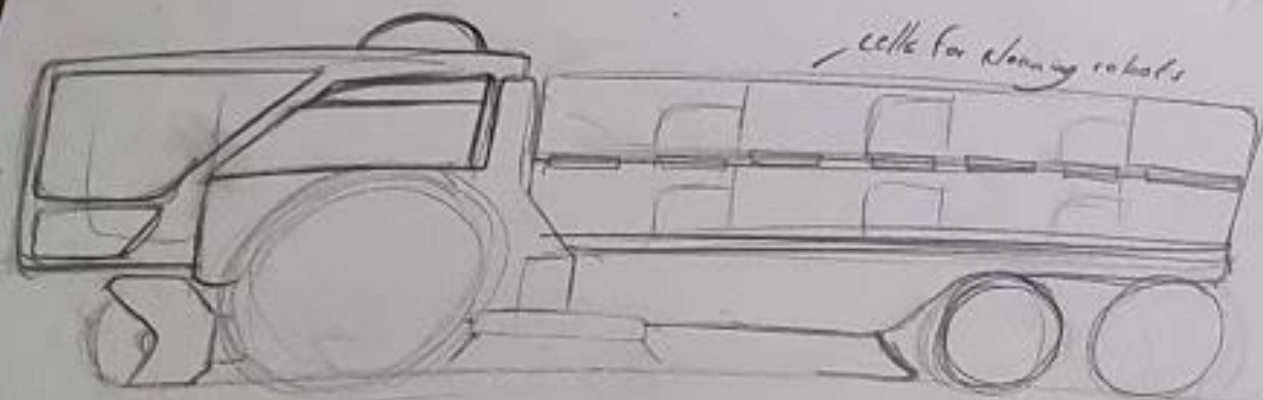




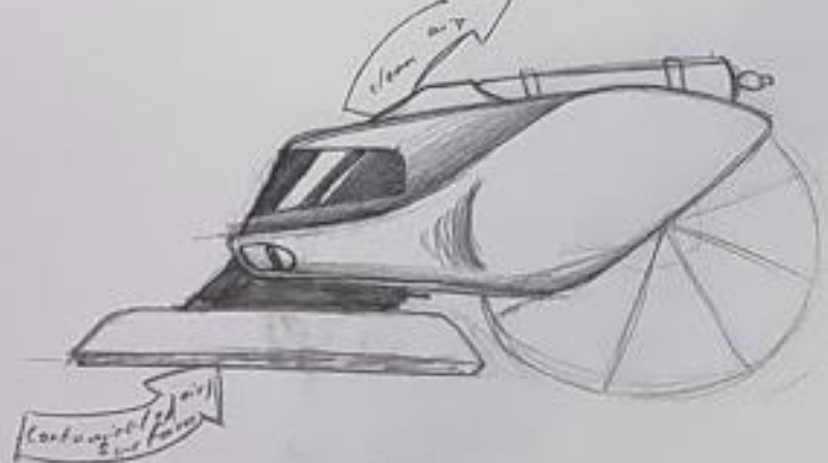


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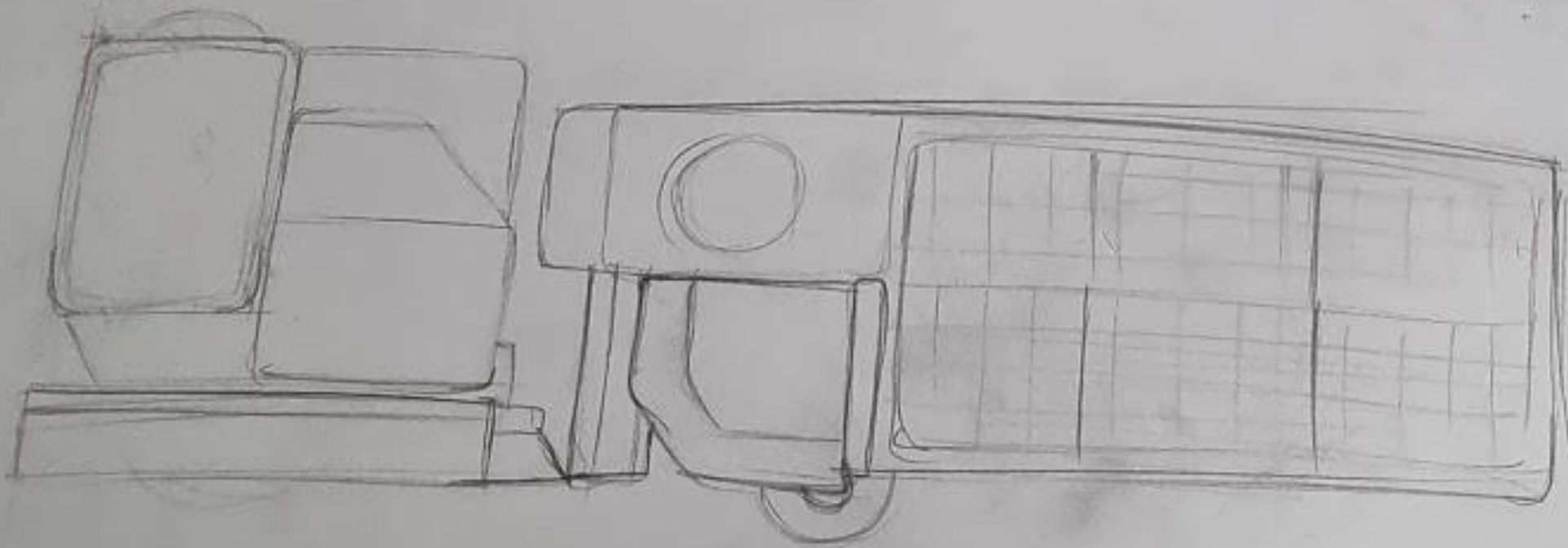


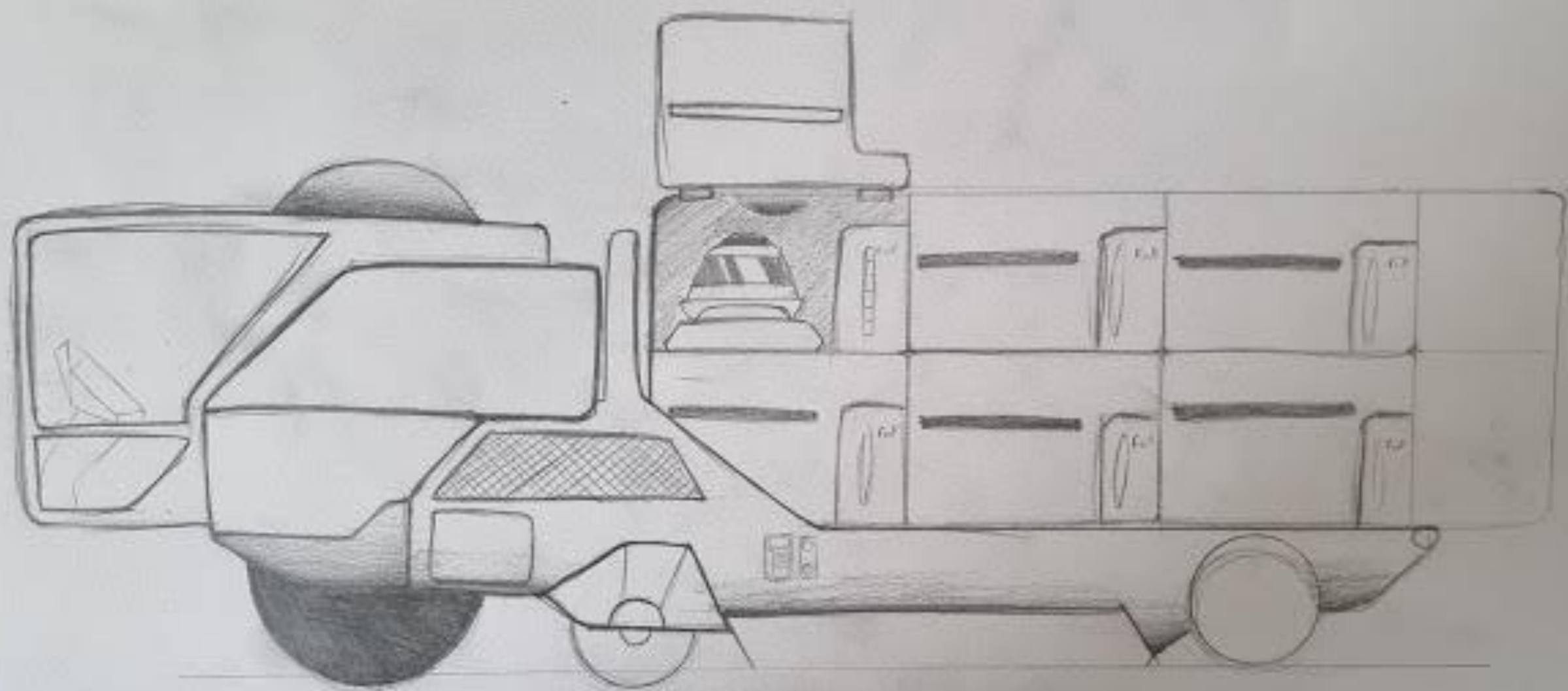


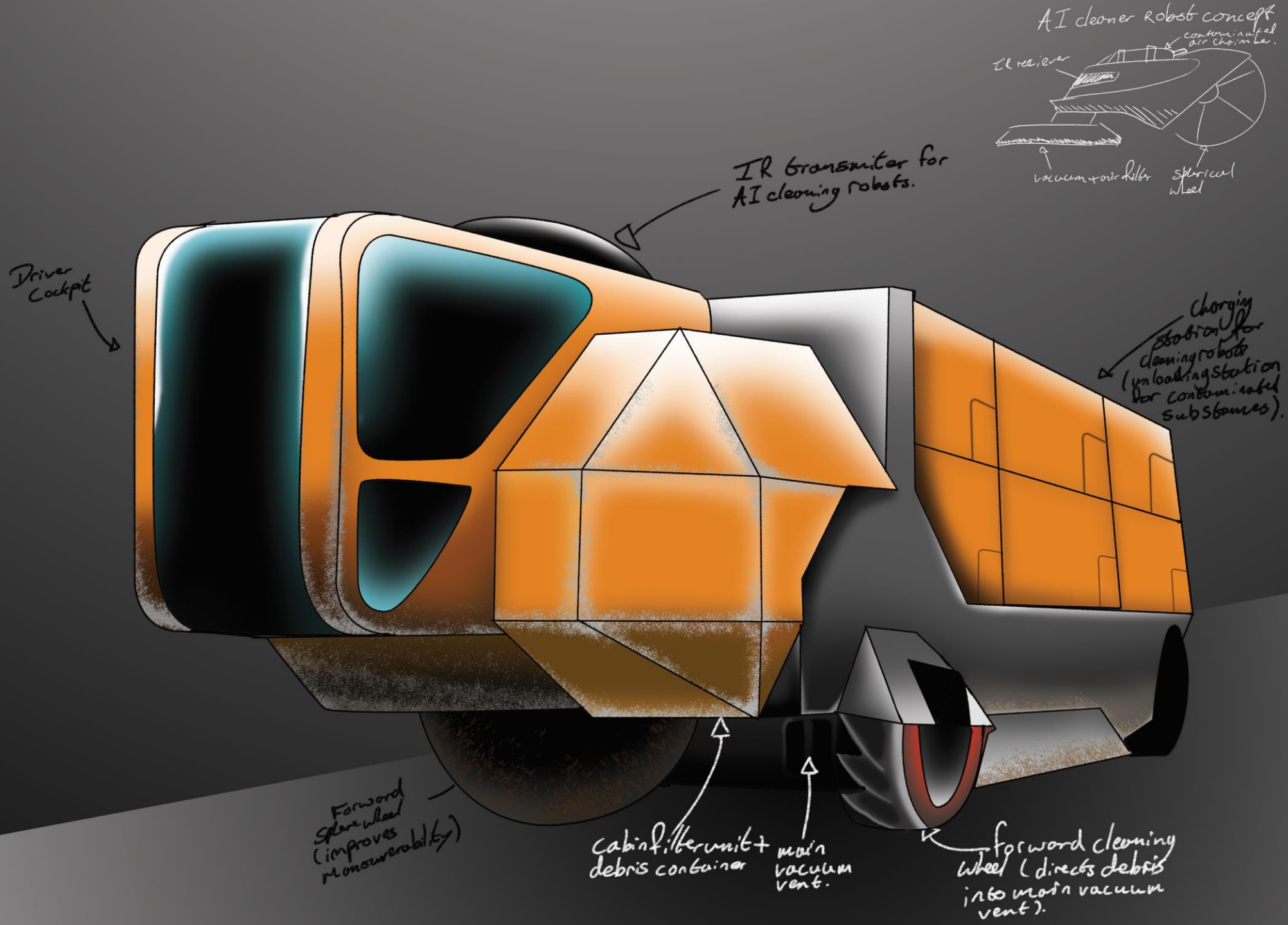
cells for cleaning robots

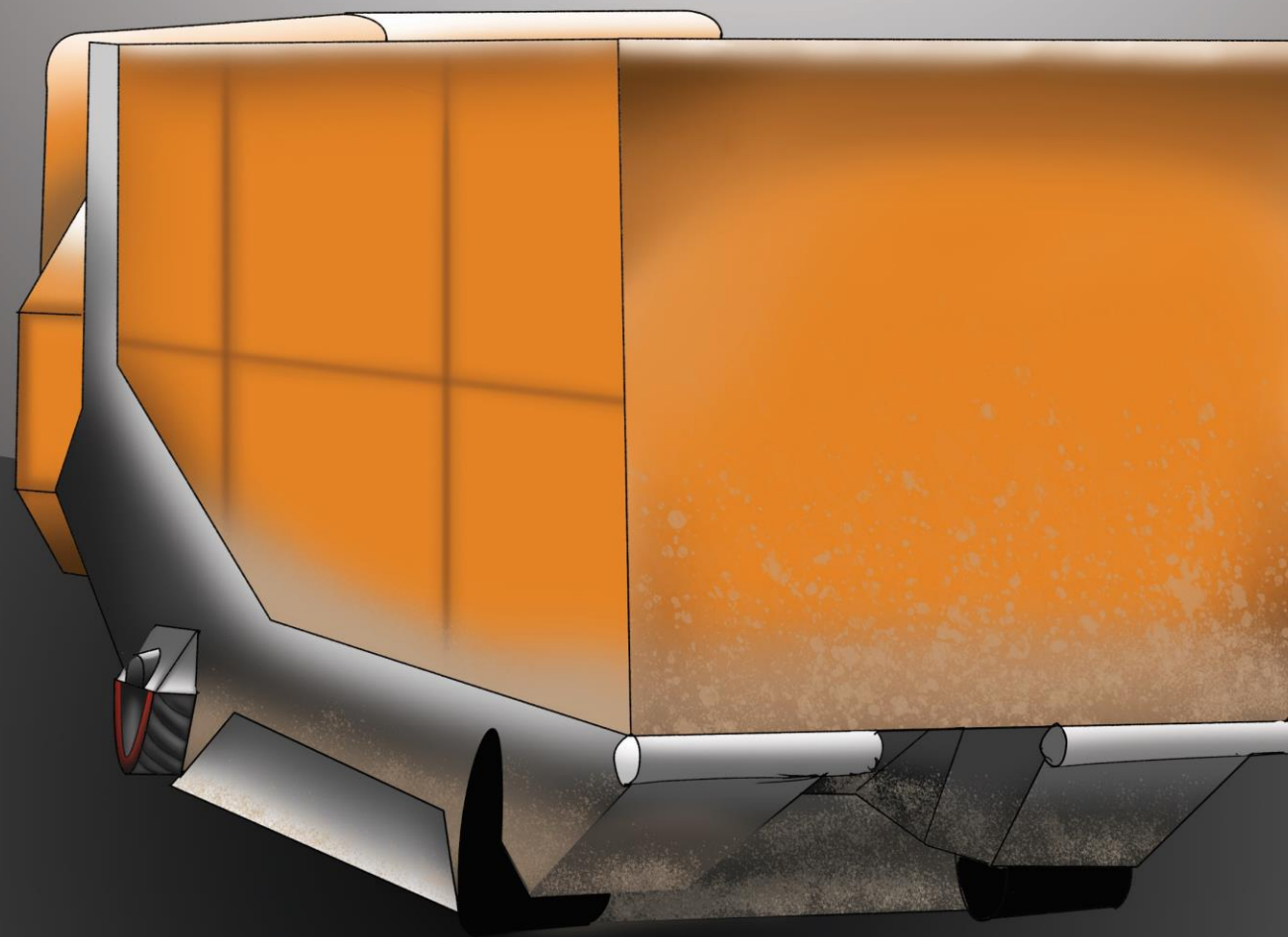


contaminated air
out from

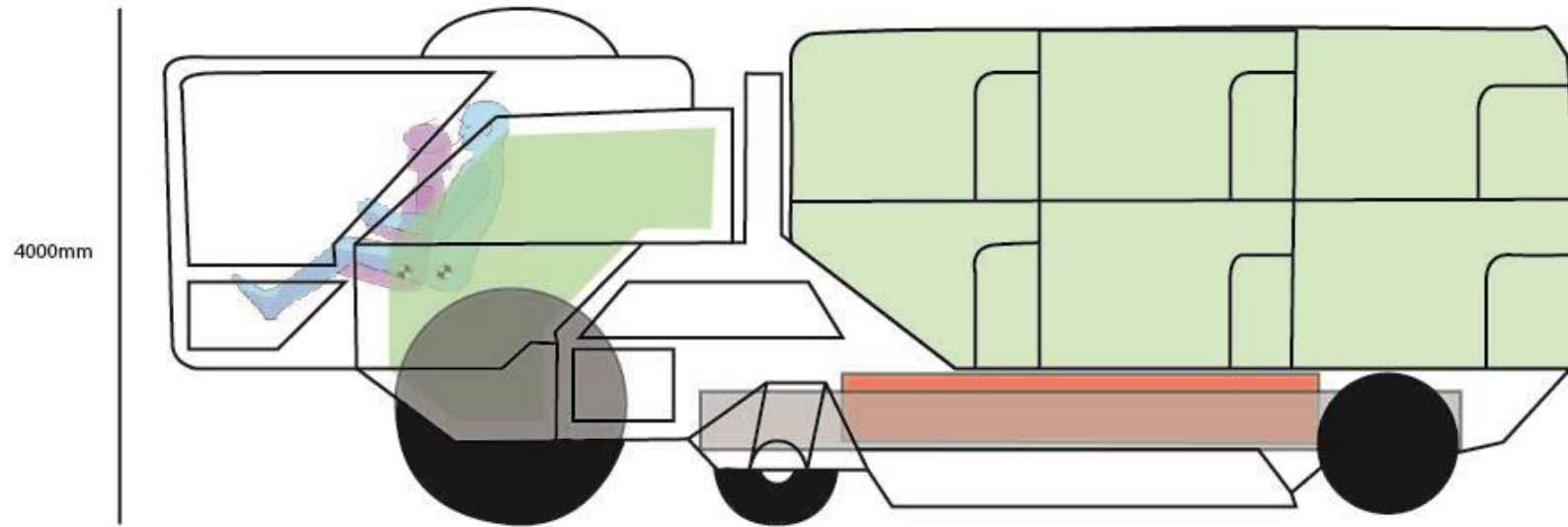
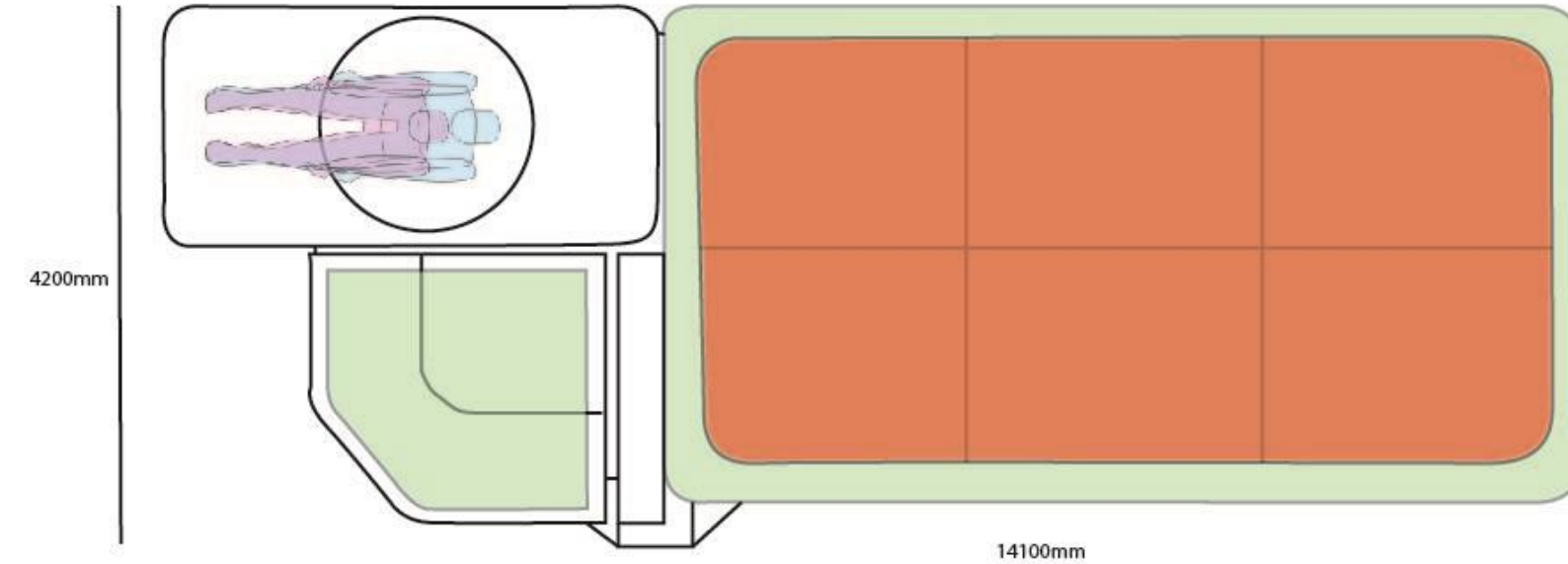








Mars Pandemic Sterilising truck



Colour code for package drawing

Male Ergo	Male Ergo
Female Ergo	Female Ergo
Chassis & Suspension	Chassis & Suspension
Drive Train	Drive Train
Electric Motors	Electric Motors
Liquid Fuels	Liquid Fuels
Gas Fuels	Gas Fuels
Batteries	Batteries
Luggage	Luggage
Tyres	Tyres

PandaModium

Whilst today Mars seems like a barren wasteland void of life, evidence has shown that water once flowed over the planet creating the vast canyons and rocky outcrops we see today. With this in mind, it is highly likely that microbial life once existed on the red planet.

Humans are currently planning multiple trips to the Martian surface in order to create a colony on Mars so that life can prevail beyond planet Earth. Whilst we can perform extremely thorough checks on the people who set foot there and the equipment they take with them, there is always a chance a rogue virus or bacteria will be transported with them. On top of this we do not know if any ancient microbial life still exists within the polar ice caps on Mars as well as any frozen water deposits beneath the surface. These ancient life forms may be capable of creating a devastating virus and/or disease. Whilst we are a custom to a pandemic here on Earth, now more than ever, we cannot predict what would be in store for us on the red planet.

During this COVID-19 pandemic many sectors have been hit hard, but the transportation sector is one of the most effected with movement across the globe heavily restricted to contain the virus. However what if the transport sector could aid in fighting the virus. In 100 years Mars colonies would be contained in huge habitats where things like airflow can be heavily observed and monitored. If such a virus broke out in one of these colonies it would be an easy task to seal it off from others which would massively help contain the spread. However there would still be the issue of sterilising the habitat so that people can move freely between colonies once the virus has been eliminated. This task would be too large for personnel to cover when taking into account the vast size of the habitats. Thus a new solution would be needed.

For this project I have designed such a solution. I have designed a truck which can carry up to 6 artificially intelligent robots to aid in the clean-up. These robots would be stored in a large unit which can be unloaded and loaded onto trucks and deployed to habitats across the planet. The truck would then deposit the container and help to control the robots in their task. The containment unit for the robots would be a hub for recharging and depositing any contaminated air and particles found whilst performing their tasks. Once full the unit would be picked up and transported to treatment stations and labs for cleansing and research. The unit would be powered by large solar panels located on the roof. These would ensure a quick re-charge for the robots as well as ultimate portability. These robots will not be limited to the ground. They will be able to climb the glass structure containing the habitat to ensure all traces of the virus have been eradicated.

Whilst the robots will be doing the majority of the work the transporter will also aid in the clean-up operation. It will also be equipped with air filters and vacuums to pickup contaminated air and debris. It would also have a large tank to contain the infected substances to transport to treatment plants and labs. The cabin would be fitted with extremely high-quality air filters to ensure the air the pilot breathes does not impact the spread of the virus. If the situation is highly volatile within the habitat the airflow will switch to an oxygen tank containing clean air whilst the cabin will be sealed. Manoeuvrability would likely be an issue for such a large transport, however due to the spherical wheel at the front of the truck it is able to move freely without causing much hassle in tight areas such as alleyways whilst still being able to function normally on public roads. It will be powered through electricity and will have separate charging stations positioned outside the habitats as well as being able to charge from any excess power produced by the robots' containment unit. The transporter can either be controlled manually from within the cabin, or semi autonomously. An operator would be able to set a specific route they want the vehicle to follow whilst waiting to pick up their designated unit.

To conclude I believe that in 100 years we will have more than enough technological capabilities to create such a machine. This new design would likely provide a huge advantage in eradicating any pre-existing harmful microbe as well as any virus or bacterium that are brought over from Earth.

Bibliography

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