Air Purification: Photocatalytic Oxidation
- TiO₂ can be used to clean air and surfaces when exposed to light.
- Removes VOCs, bacteria, and some viruses
- Currently used by NASA

Energy: Molten Salt Reactors
- Nuclear energy that does not require cooling water source
- First established in 1950s but abandoned
- Can conceptually be scaled down for use in spacecraft
- Fuel and coolant can be same liquid – loss of coolant means loss of fuel

Waste Management: Solid Waste → Cement
- Utilizes ash, reclaimed CO₂, and heat from waste incineration to make cement
- Cementing material can be made of >85% waste ash
- Can be mixed with current soil on foreign planets
- Reduces need for material launch from Earth