Synthetic Biologic Membrane

Using the lessons learned from operation of the International Space Station to direct research and technology development

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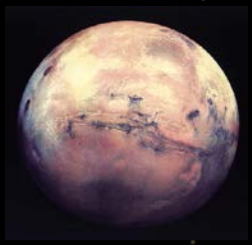


Advanced Life Support

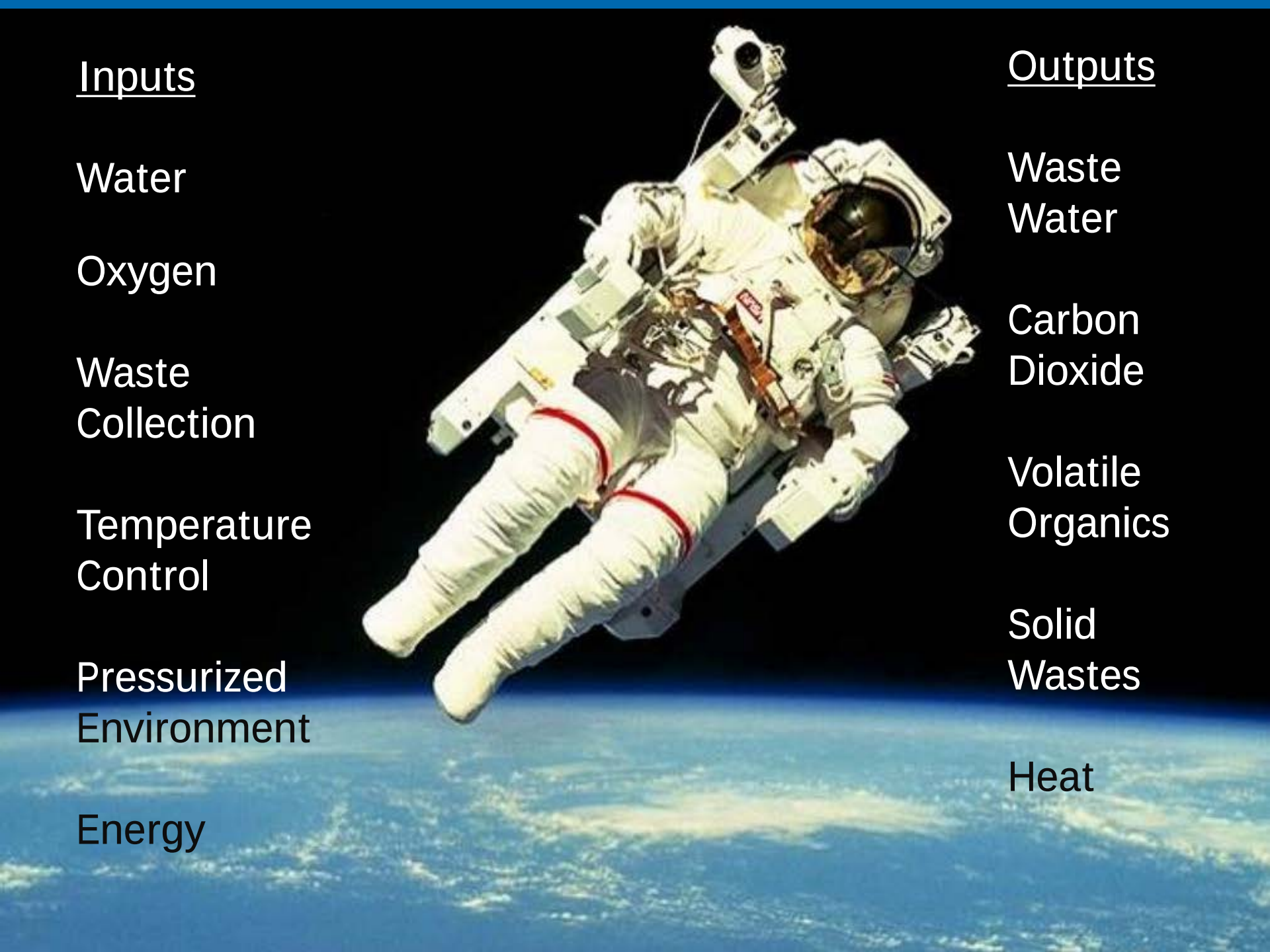
Objective:

Keep Astronaut alive

Provide habitable environment

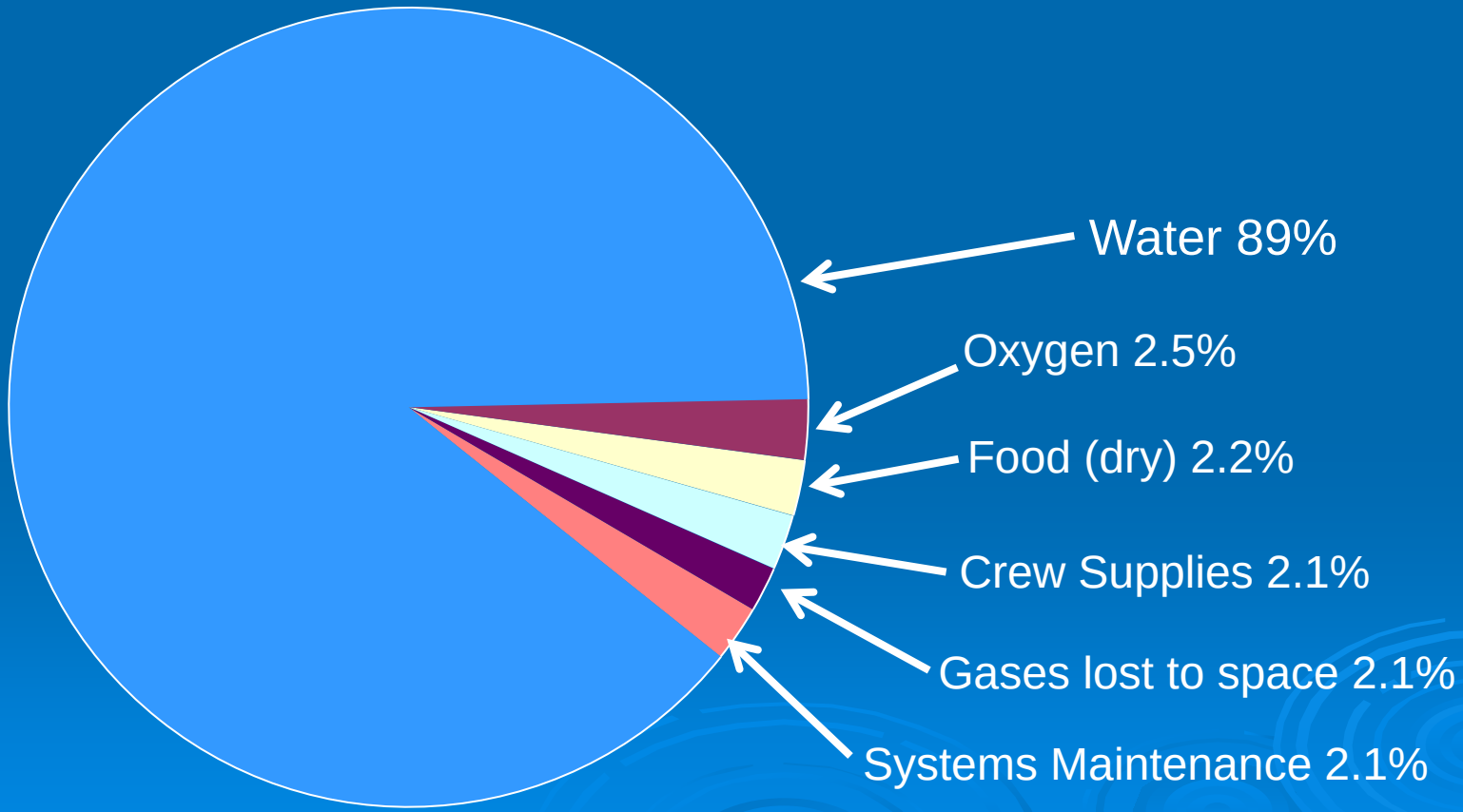
Reduce Cost

International Space Station

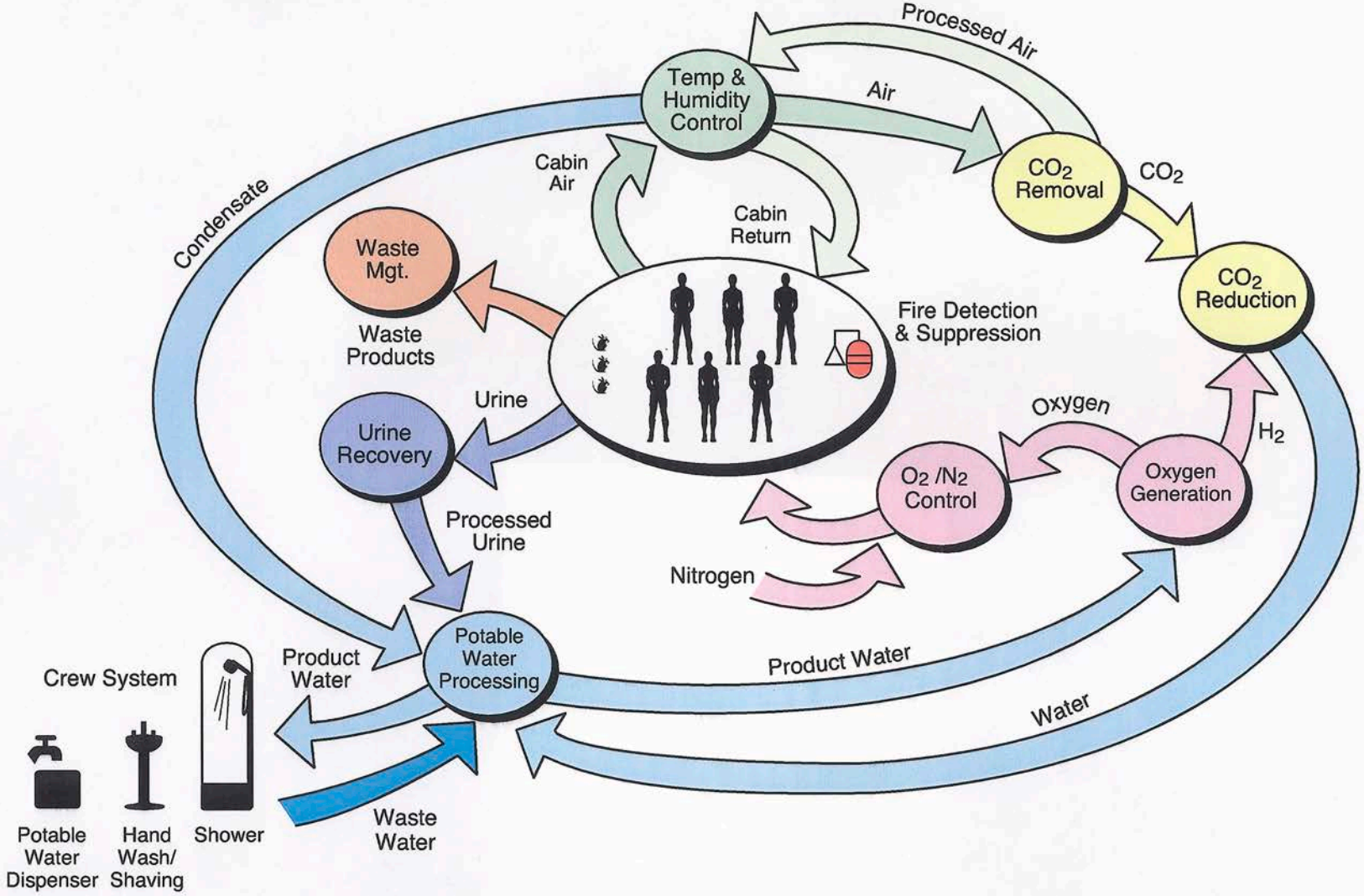

Inputs
Water
Oxygen
Waste Collection
Temperature Control
Pressurized Environment
Energy
Outputs
Waste Water
Carbon Dioxide
Volatile Organics
Solid Wastes
Heat

Life Support Requirements

Open-loop life support system re-supply mass



Space Station Regenerative ECLSS Flow Diagram (Baseline and Scarring)



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ISS US Water Processing Assembly

- Urine and condensate are recycled to drinking water.
- Wastewater is recycled using distillation, adsorption, and oxidation.