Living and Working Environments of Commercial Space Systems

Presented by
Dr. Michael Baine
Chief Engineer, Axiom Space
Closing the Loop

Annual Crew Resupply Mass [kg]

- 1460 CM-Days
- 2920 CM-Days
- 365 CM-Days

Annual Cargo Resupply Cost [$] assuming $40k/kg

- $1000m
- $800m
- $600m
- $400m
- $200m

- 1 Person Year or 6 Persons for 60 days
- 4 Person Year
- 8 Person Year

Closed Loop: 95% Condensate
Open Loop: 100% water recovery

Food
Clothing
Hygiene
ECLSS Maintenance
Housekeeping
Crew Preference

ECLSS Improvement: + 85% UPA
Sabatier: + 43% Sabatier
Sabatier + PPA: + 75% Sabatier + PPA