From Waste to Asset

RadWaste Summit

6/11/2025

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Zeno Power Systems

Demand for Isotopes

Surviving and Operating Through the Lunar Night is a Priority for NASA and Industry

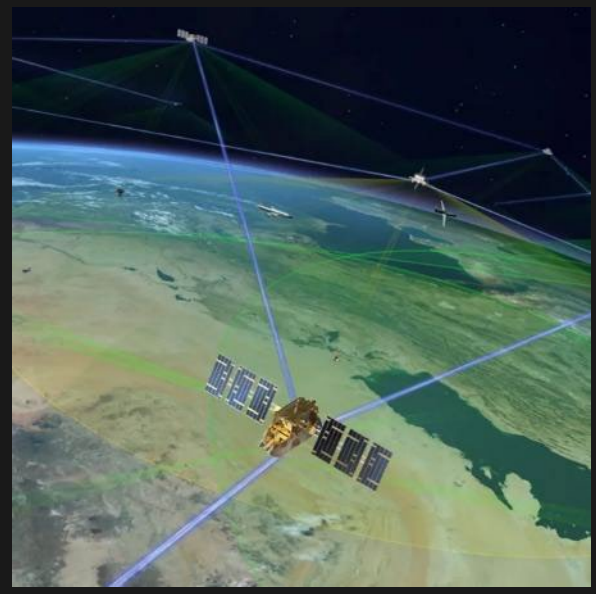
Integrated Rank	Average Integrated Score	Shortfall ID
1	8.1035	1618: Survive and operate through the lunar night
2	7.6118	1596: High Power Energy Generation on Moon and Mars Surfaces
3	7.4345	1554: High Performance Onboard Computing to Enable Increasingly Complex Operations
4	7.3831	1557: Position, Navigation, and Timing (PNT) for In-Orbit and Surface Applications
5	7.2473	1545: Robotic Actuation, Subsystem Components, and System Architectures for Long-Duration and Extreme Environment Operation
6	7.2076	1552: Extreme Environment Avionics
7	7.1961	1519: Environmental Monitoring for Habitation
8	7.1679	709: Nuclear Electric Propulsion for Human Exploration
9	7.1145	1304: Robust, High-Progress-Rate, and Long-Distan Autonomous Surface Mobility

FROM THE SEABED TO THE CISLUNAR SPACE

The renewed great power competition is driving demand for access and power constrained domains – where current operations are limited to days because of current power sources

- “DIU awards Anduril contract to innovate new capabilities for undersea warfare.”

ANDURIL



The U.S. Space Force is shifting towards a future dominated by small satellites for increased agility, resilience, and cost-effectiveness, focusing on capabilities like missile tracking, resilient communications, and space domain awareness

EO: Reinvigorating the Nuclear Industrial Base

Section 3

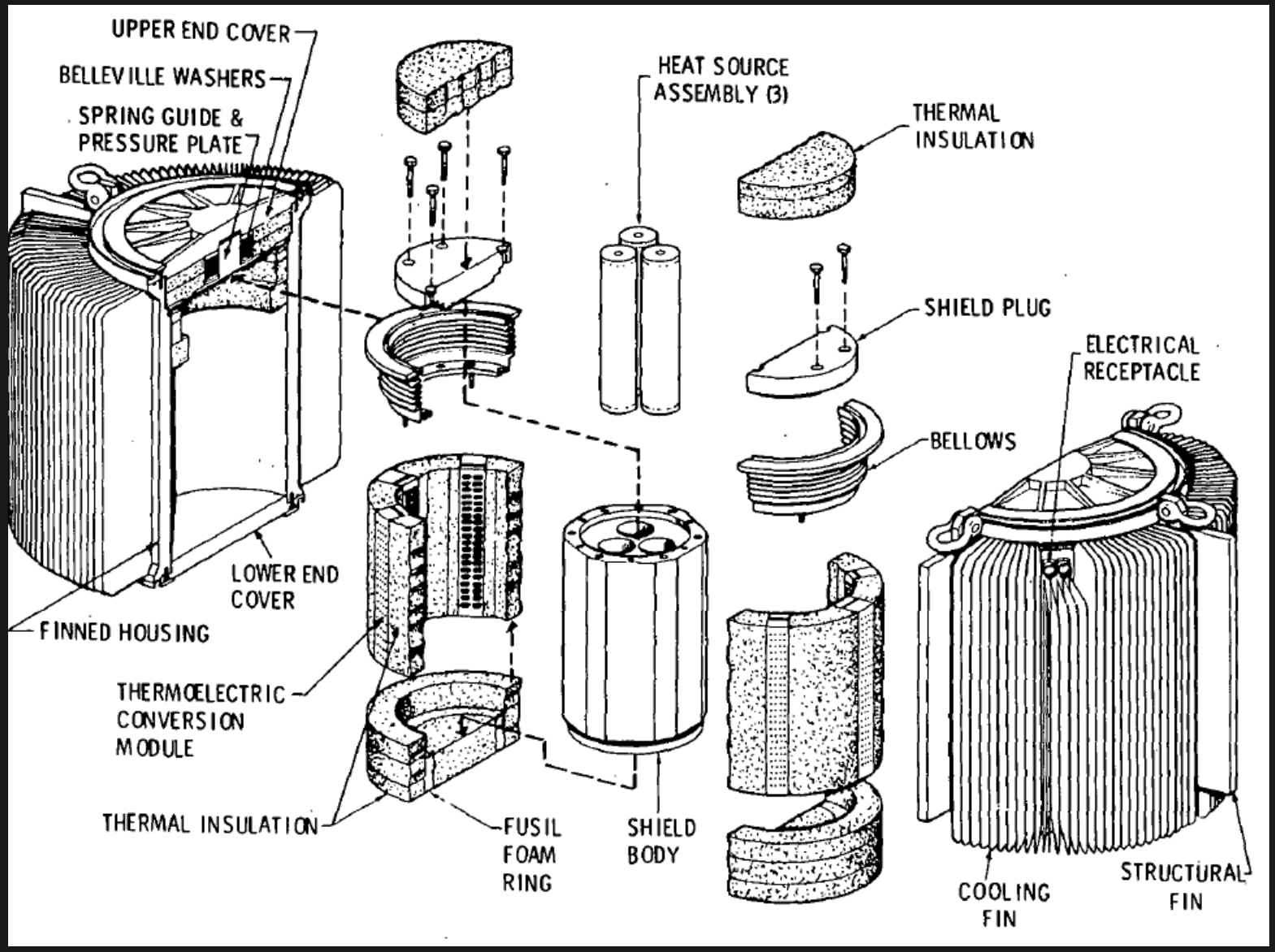
(vi) recommendations for the efficient disposal of the wastes generated by recycling or reprocessing through a permanent disposal pathway;

(vii) a recommended process for evaluating, prior to disposal, nuclear waste materials for isotopes of value to national security, or medical, industrial, and scientific sectors;

(viii) a reevaluation of historic and current nuclear reprocessing, separation, and storage facilities slated for decommissioning and that are identified as having valuable materials, isotopes, equipment, licenses, operations, or experienced workers, and that may have potential fuel cycle or national security benefits if operations are continued or increased; and

Recent Success of Beneficial Reuse

Legacy Sr-90 RTG



Public-Private Partnership

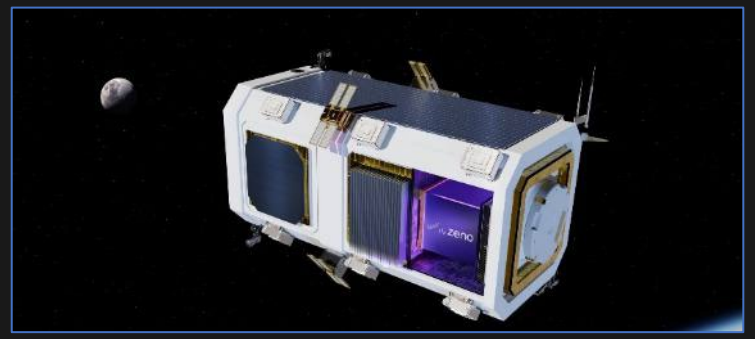
INITIAL NUCLEAR FUEL SUPPLY AND FACILITIES

- Fuel
  - Zeno has acquired a legacy source of Sr-90 from the Department of Energy – providing fuel for 10+ RPSs
- Facilities
  - Zeno is under contract with Westinghouse to utilize their radiological facility to build and assemble the initial RPSs

Contracts for Space and Maritime RPS Deployments

“DISTRIBUTED ENERGY PROVIDED THROUGHOUT THE SEAS” (DEPTHS)

Deliverable: Seabed RPS with energy distribution
Intended Customer: US Navy



“LOW-PROFILE ELECTRIC PROPULSION NUCLEAR SATELLITE” (LENS)

Deliverable: Small satellite with RPS and electric propulsion
Intended Customer: US Space Force

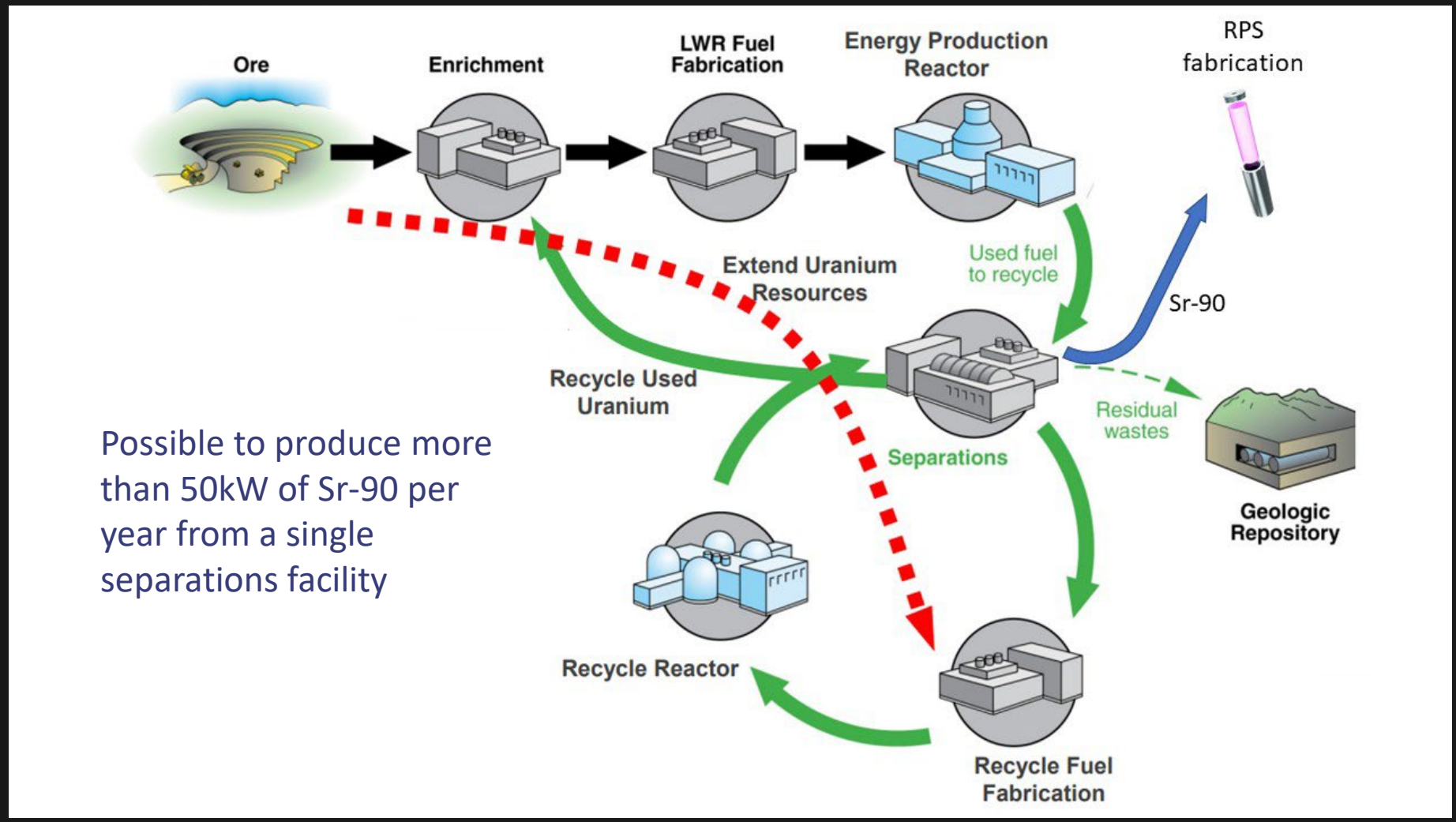
PROJECT HARMONIA

Deliverable: RPS for landers and rovers on the lunar surface

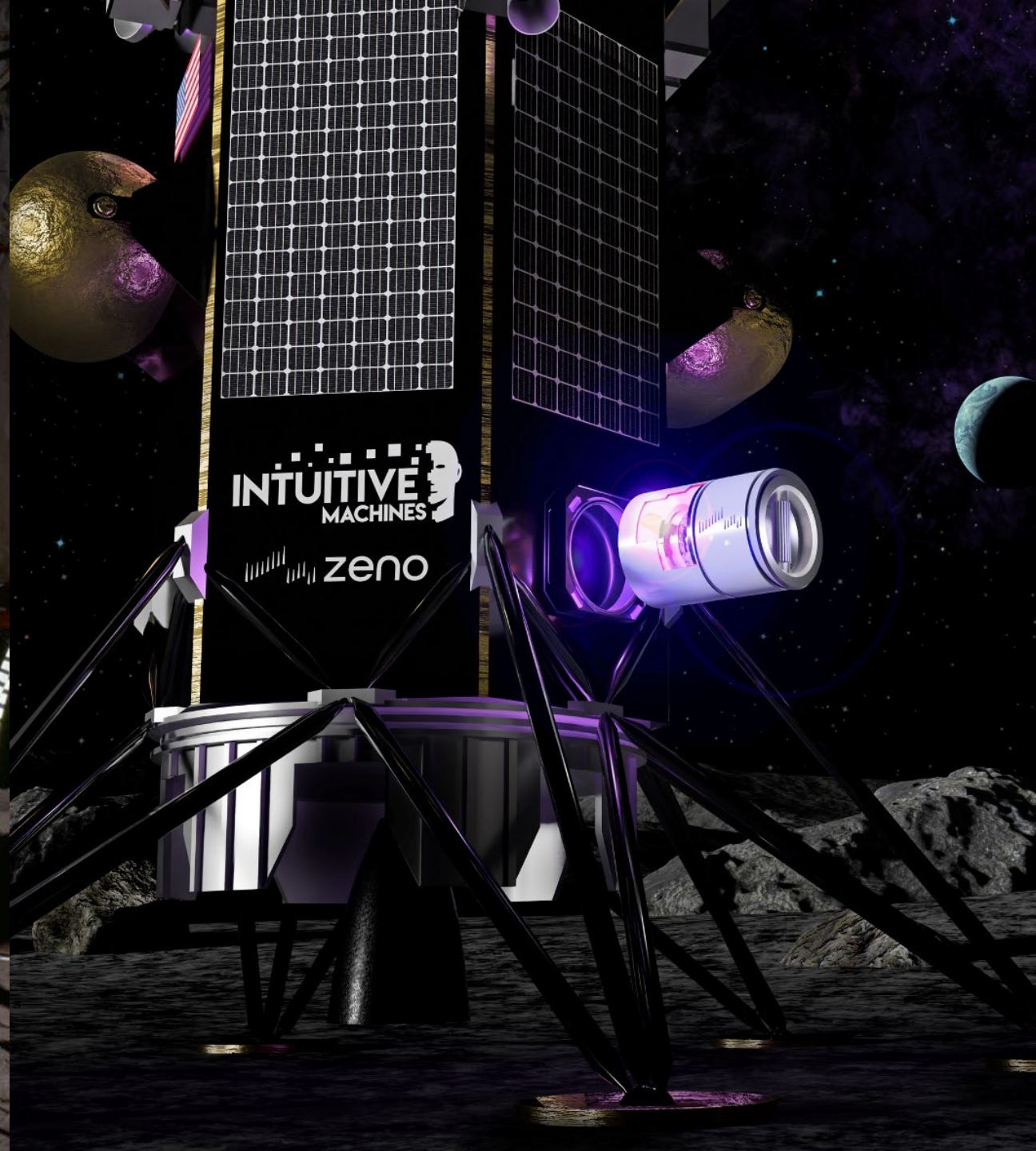
Intended Customer: NASA

Future Opportunities

Potential Future Recycling Pathway



Possible to produce more than 50kW of Sr-90 per year from a single separations facility


INTUITIVE
MACHINES
zeno

Questions?