

Considerations and Discussion Topics, Thought Dump

- Increased partnership with industry
 - Project scales are becoming NASA-like, consider tech partnerships/transfer opportunities to help motivate and fund
 - Dependent on the scale of both material needed and the quantity of material being produced by industry. Are we asking for a lot, or a drop in the bucket? (example, copper or titanium manufacture)
 - Other markets: Is there outside demand for the higher purity or of the by-products? (example, depleted isotope)
 - Other financial motivation? Opportunistic production (Xenon from Oxygen production facilities)
- Motivation for R&D
 - Material doesn't exist at desired purity, quantity, or at all
 - Cycle of development often exceeds the timeline for need. Longer term planning needed
 - Political factors between collaborating countries (are costs of materials inflated due to tensions/tariffs), new technology or capability to avoid or reduce costs (example, isotope enrichment)

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- Approach material build differently
 - May reduce infrastructure requirement (example, inside out electroforming)
 - Inflatable or extrudable build technologies (example, extrude polymer shields or electroform directly into drift spaces)
 - Configuration may be dictated more by physical limitation (drift size or geometry)
- Automation
 - May be required due to the sheer number of repetitive activities/assemblies. Reduce contamination probability.(examples SCDMS towers, LEGEND strings, CUPID towers)
 - How do you representatively sample larger quantities of materials? Increased numbers of assays, automate where possible (probably the routine). Needed to support throughput and keep costs under control)