

“Considering Future Airlift Capability Gaps – Heavy Lift

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The Way Leaders See It...

“Those that fail to learn from history, are doomed to repeat it.”

Winston S. Churchill



“Insanity: doing the same thing over and over again and expecting different results.”

Albert Einstein (attributed)



“There is nothing more difficult... than to take the lead in the introduction of a new order of things.”

Niccolo Machiavelli

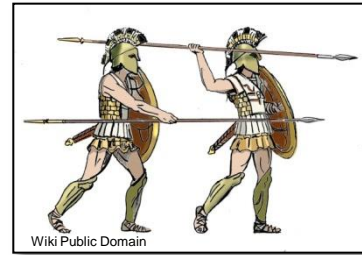


- **Seek the time for full due diligence – experience and know lessons learned**
- **The perspicacity – to recognize when technical “glass ceilings” have been reached and seek...**
- **New orders – these involve “change” and there is an existing institutionalized resistance to non-traditional and radical solutions**

Disruptive Military Advantage



- **Technical advantage in conflicts, usually beats all...**
- **Who innovates superior technology and fields first and in effective numbers, usually wins**
- **Applied S&T base is the engine of change – best when freely enabled via multiple solutions and then distilled to the disruptive* and those possessing decisive quality**



* Breaks through technical glass ceilings

Transportation – Reaching Limits



- **Future basing likely to be more CONUS centric, nevertheless...**
- **Services will strive for extreme maneuver, force projection and 24-7 sustainment:**
 - Constraints with: roads, rail and water
 - Air inter and intra-theater lift capability
 - Terrain, altitude and weather
 - Distribution/supply line threat
- **Logistics - to meet these demands, requires a range of new transportation solutions**



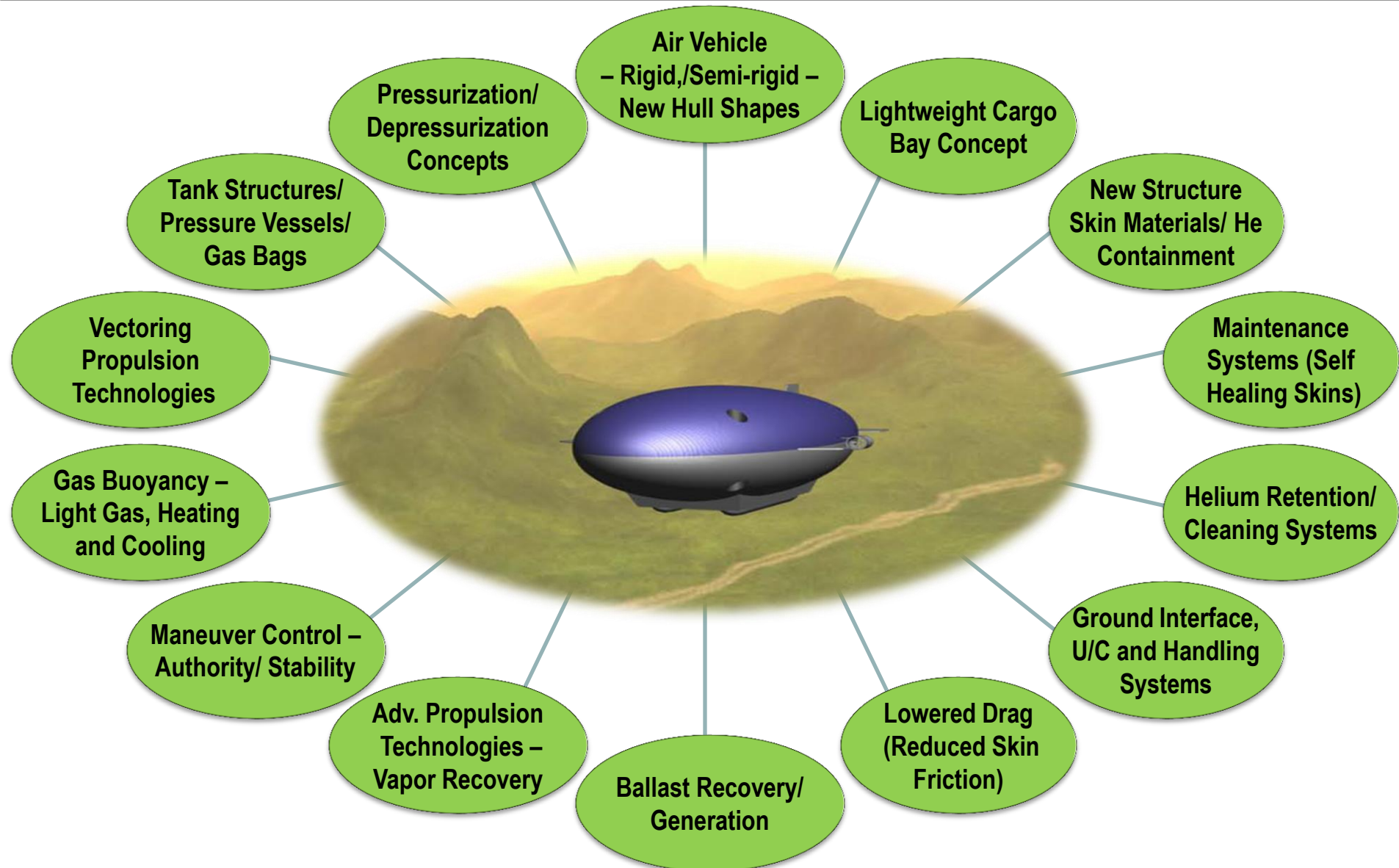
Transformational Logistics Support - Heavy Lift



- **Transportation air vehicle challenges:**
 - Payload limits – weight and outsize
 - Operating infrastructure – vehicle organic/non-organic
 - Full VTOL flight envelope
 - Inter-modal burden
 - Airlift efficiency (Speed x payload); range and cost per ton.nm
 - Survivability
- **Improvement requires a new technical solution:**
 - Addresses the limitations
 - Operational utility is on par with existing (e.g. as good as C-17)
- **Advanced Hybrid Airship – based on an integrated flight-lift technology suite – has the potential to change heavy/outsize airlift transportation**

***Vehicle Must Be Conceived To Meet Full Existing Aircraft
Operating Standards***

Ambitious Equals Transformational!



For Aircraft Operating Utility Standards: Multiple Technologies Required

Hybrid LTA Transportation

- COCOMs
 - USTRANSCOM
 - EUCOM
 - AFRICOM
- Air Mobility Command

Hybrid LTA Transportation

- ASD (R&E)
 - NASA

Hybrid LTA ISR

- SMDC

Hybrid LTA ISR

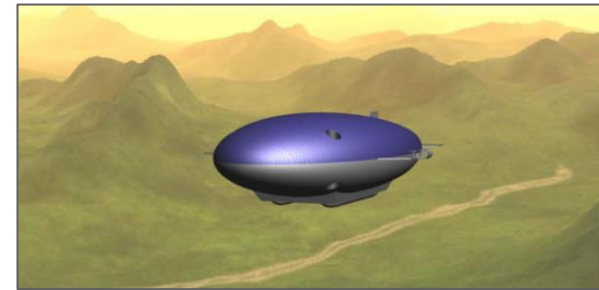
- SMDC

Summary

Getting Disruptive Stuff Going



- Challenging acquisition environment for any new airlift - \$-focus is more risk averse and less willing to initiate more radical technology paths
- However, the Advanced Heavy Lift Airship alone provides part of the USAF/ Army solution to transformational airlift
- There is an absolute need for a Military user to share the vision and to initiate a requirements process – it will not come from Commerce because this is a “higher risk, higher gain” to break through pursuit



Breakthrough In Transportation -
Advanced Hybrid Air Vehicle – A
New And Disruptive Approach
Enabling Vertical Take-off And
Landing And Hover At Max
Operating Weight And
Independence From Off-board
Ballast

Fueling Innovation?



“Ideas are more powerful than guns. We would not let our enemies have guns, why should we let them have ideas?”

Joseph Stalin



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Questions?