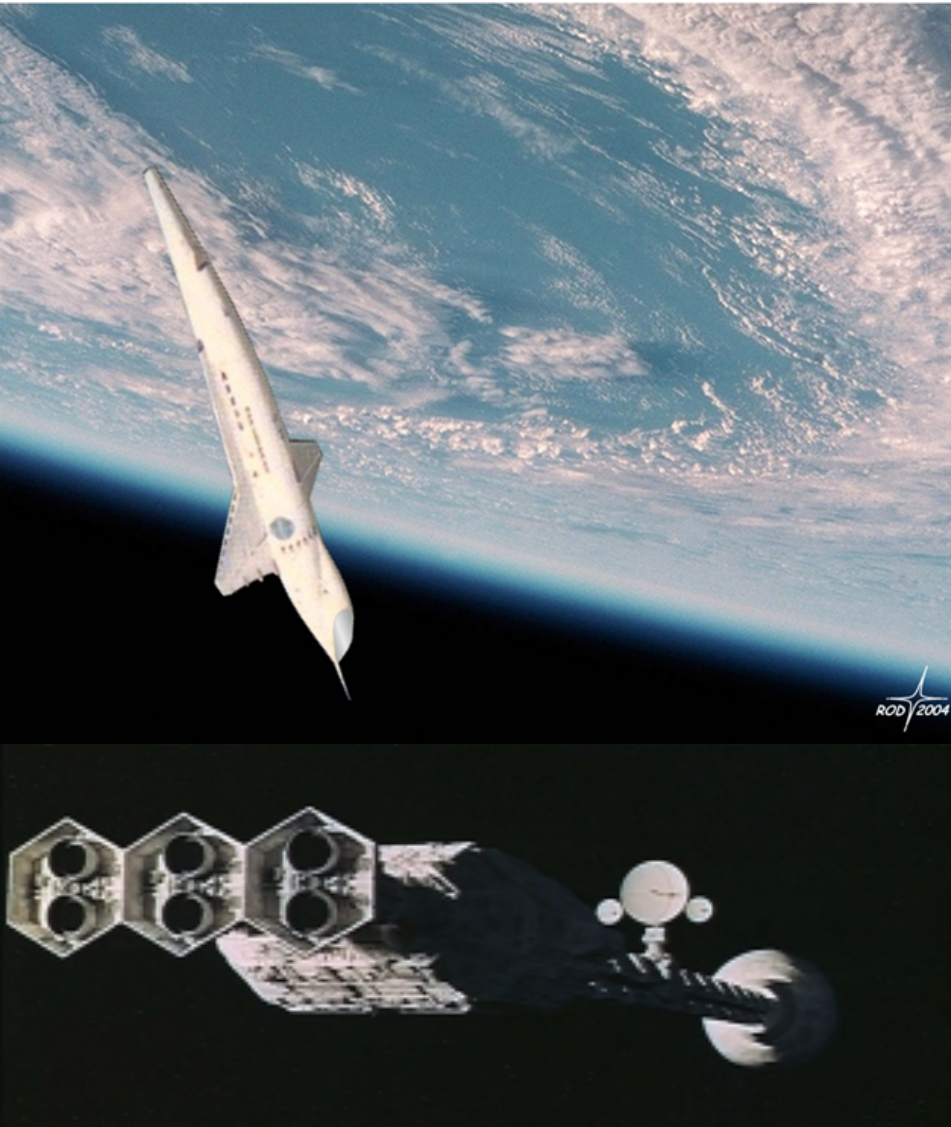


Lunar Shipyard Architecture

1



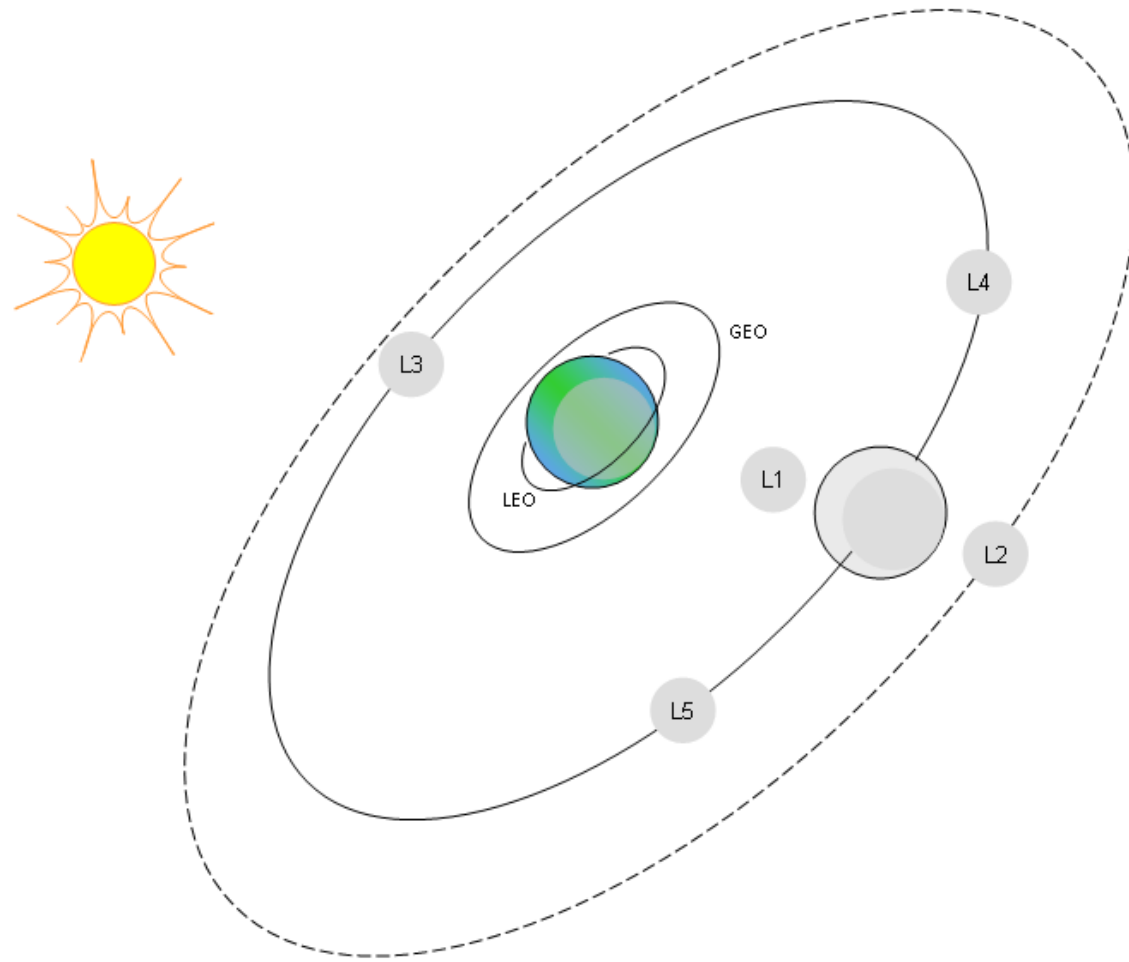
- ✧ LSA enables an aggressive exploration of the Solar System
- ✧ LSA creates a significant industrial infrastructure and commercial economy in CisLunar Space – above Earth's gravity well
- ✧ The infrastructure also has the effect of providing protection to Earth and assurance that Humans and co-dependent species have other zones of habitation

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CisLunar Economic Zone

2



✧ Our definition of CisLunar Space has been expanded to include the volume of space swept by a sphere whose radius is from Earth's core to LaGrangian Point Nr. 2, which is opposite the Earth, past the farside of the Moon.



LSA Begins as a Model

3

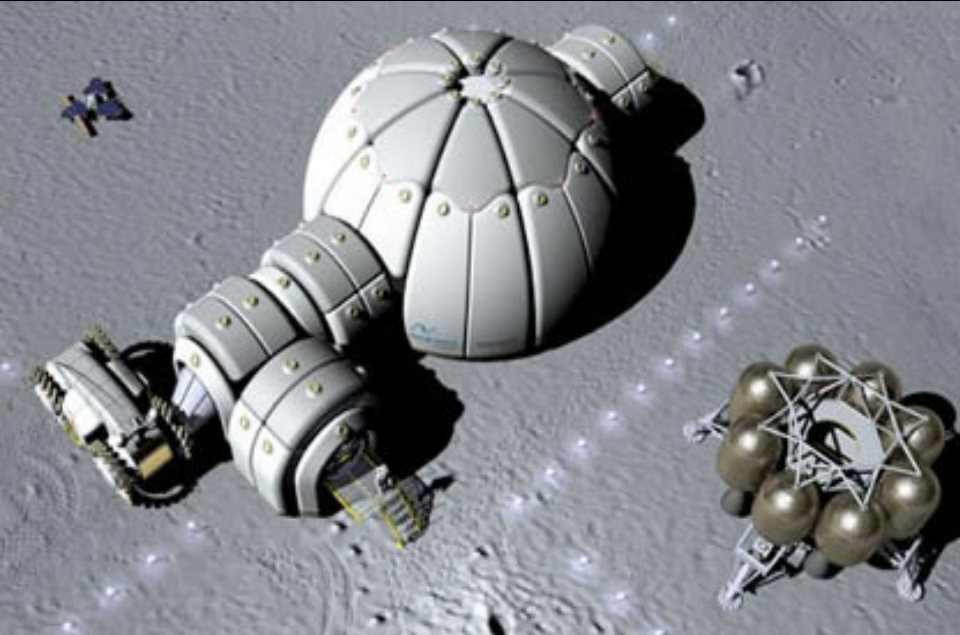


- ✧ The LSA is essentially a model that federates technologies
- ✧ Elements of the model are free to self-organize within enterprise sectors
- ✧ Elements may be resources that generate feedstocks,
- ✧ Elements may be feedstocks that connect to layer upon layer of manufacturing, storage and transport
- ✧ Numbers of the component processes, and clusters of processes will overlap one another



About the Model

4



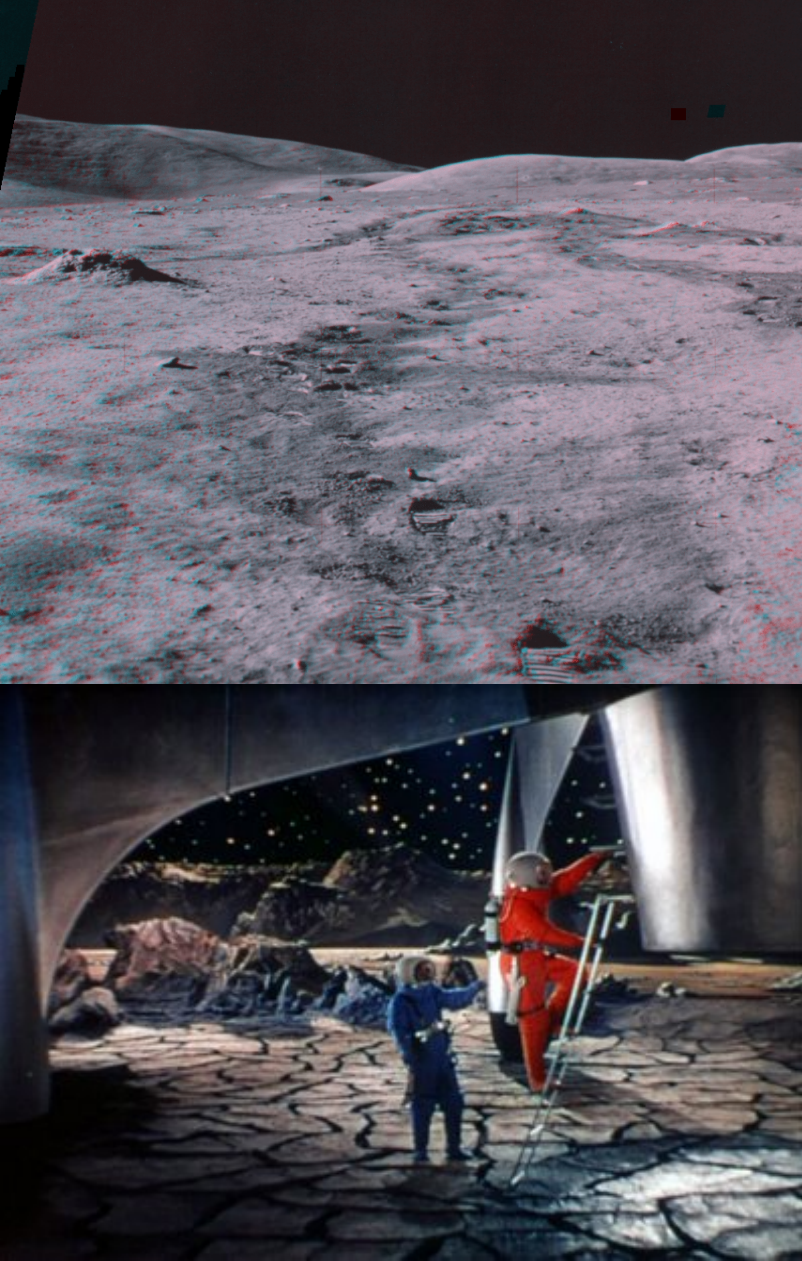
- ✧ The model simultaneously imitates an economy, where all elements are free to coexist, and
- ✧ as a technical infrastructure where feasibility is evaluated and compatibility of elements are aligned and integrated
- ✧ Each element is defined with standard parameters
- ✧ Elements are scored within the larger contexts of proposed applications

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About the Model

5



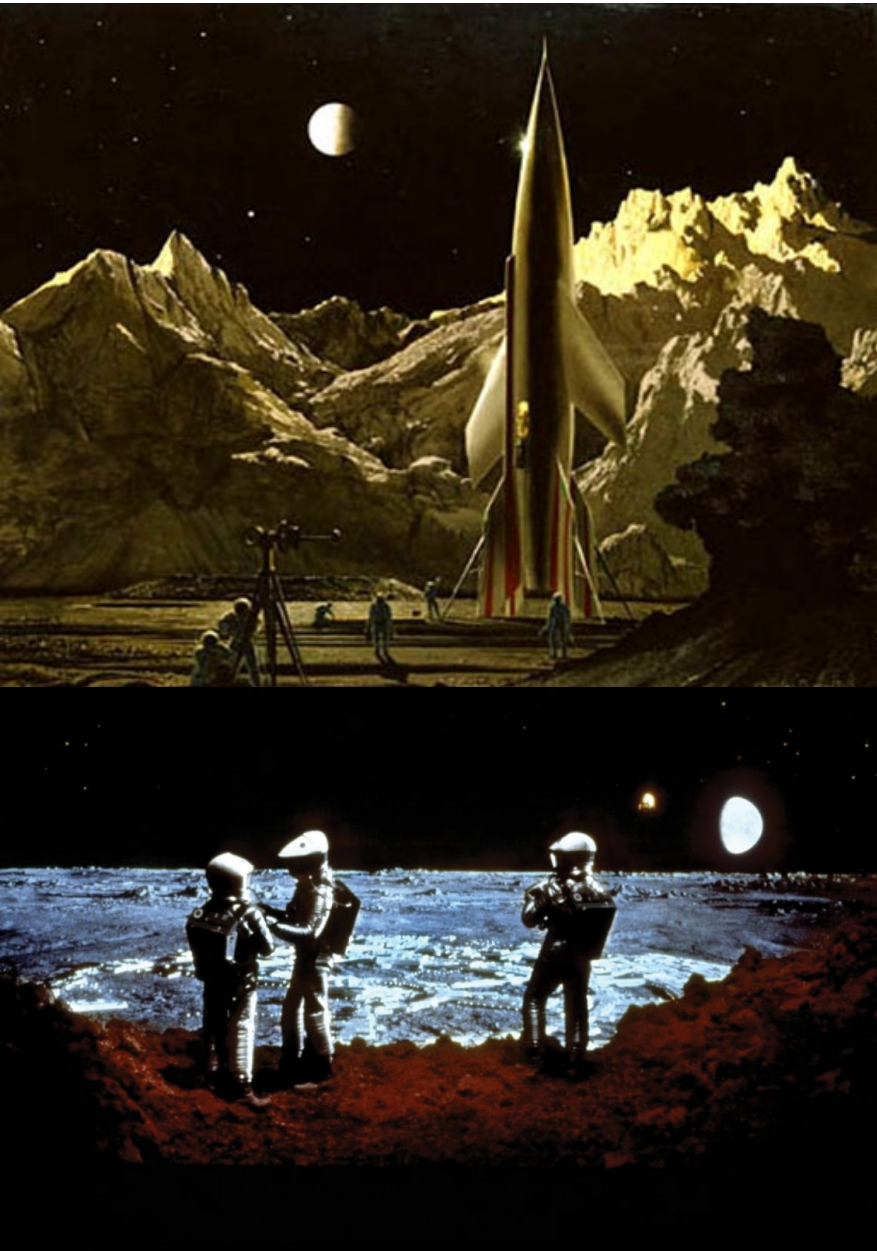
- ✧ Clusters of elements may share some elements in common during an Economic or Technical Test Case
- ✧ Economic test cases may be posed that employ a hypothetical basis for relative value, and market feasibility
- ✧ Technical test cases may be posited to assure end-to-end continuity of function and collateral interoperability
- ✧ Discrete paths, or sub-domains may be investigated, along with the integrated infrastructures

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About the Model

6

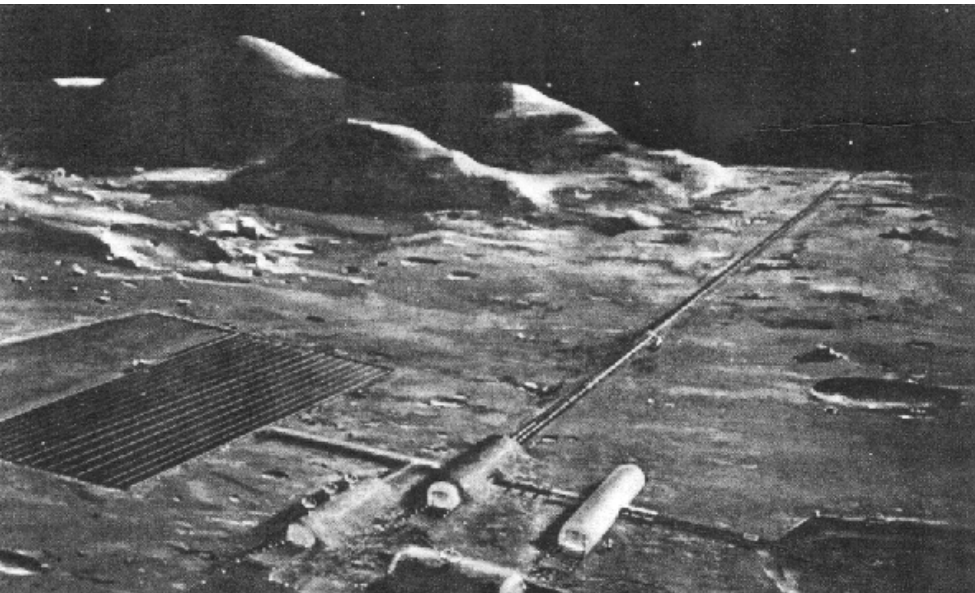


- ✧ The implementation vehicle is a UML/SysML software platform
- ✧ DoDAF provides a template that simultaneously supports logistics and missions, and is congruent with commercial space efforts
- ✧ The DoDAF template supports “views” specific to services, systems, and operations
- ✧ The views support enterprise, technical, logistics, planning, and implementation models



Heritage Architectures

7

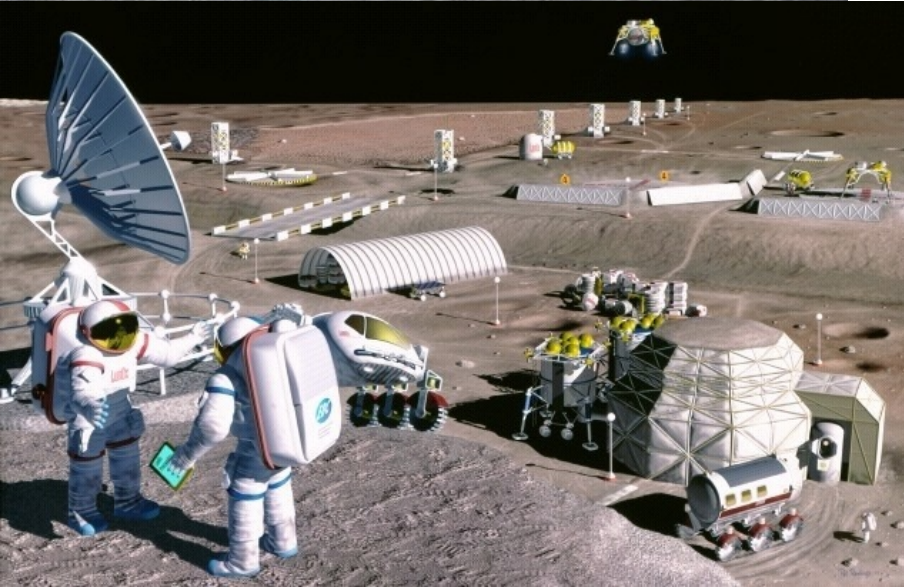


- ✧ LSA assumes that many seminal architectures contribute foundational components
- ✧ It follows that LSA assumes that there are underexploited features of prior art that may have value to contemporary models



Legacy Technology

8



- ✧ Many viable technologies have been lost over time
- ✧ Some of these are orphans without a champion
- ✧ While other technologies fell victim to inter-program competition
- ✧ LSA will allow for all of these technologies to compete in the multi-faceted domain of Commercial Space

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Frontiers Become Civilized

9



- ✧ The primary model depends upon SysML, and a backing repository
- ✧ User interfaces are facilitated through services, systems, and operations templates that are flexibly provided through Wikis, and other tools
- ✧ These tools include mind-mapping (collaborative, creative) software interfaces that can productively frame domains
- ✧ XML is expected to be the interchange glue that enables for the interoperation of other models, and modeling tools with the LSA.
- ✧ **Software-As-A-Service** will provide very low-cost access to users – encouraging participation by industry, individuals and institutions

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