



# NASA Intentions for the commercial development of LEO

*"Buona notte" Kelly at 180 days onboard the ISS*

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## Commercial – Definition (Google)

*adjective*

**1. concerned with or engaged in commerce.** "a commercial agreement"

synonyms: trade, trading, business, private enterprise, mercantile, merchant, sales, merchandising  
"the vessels were originally built for commercial purposes"

**2. making or intended to make a profit.** "commercial products"

synonyms: profit-oriented, money-oriented, commercialized, materialistic, mercenary  
"public opinion was inward-looking and brashly commercial"

*noun*

**1. a television or radio advertisement.** "*they looked like a family from a breakfast cereal commercial*"

Synonyms: advertisement, promotion, display

**2. a travelling sales representative.** *British*



## NASA Vision for LEO

Sustained economic activity in LEO

enabled by human spaceflight,

driven by private and public investments

creating value and benefitting Earth

through private industry supply

and private and public demand



## In other words...

With the concept of LEO being an economic development zone...

From a NASA or government perspective, the government would purchase services or capabilities to meet its demand for research or other human space flight objectives.

It is expected that the majority of demand will be private sector driven within a policy and regulatory framework that enables this development.

It is NASA's intention that the majority of our focus will be beyond low Earth orbit, even for research.



## Goals and Near Term Activities

**Vision:** Sustained economic activity in LEO enabled by human spaceflight, driven by private and public investments creating value and benefitting Earth through commercial supply and public and private demand

### Goals

**LEO commercialization enabled by leveraging ISS**  
**SUPPLY/DEMAND**

User-friendly ISS process improvements, responsive to private sector needs

Demonstrate & communicate value of utilizing LEO for research

Utilize more commercial acquisition strategies

**The policy and regulatory environment promotes commercialization of LEO**  
**POLICY/REGULATORY**

Establish interagency working group to address policy and regulatory issues

Address barriers such as IP retention, liability, regulatory environment

**A robust, self-sustaining commercial supply meeting private and public demands**  
**SUPPLY**

Utilize NextSTEPS BAA activities for long duration Deep Space Habitation capabilities and follow-on to enable commercial LEO activities

Transition from NASA-driven to private-driven services and capabilities once available

**Broad sectors of the economy using LEO for commercial purposes**  
**DEMAND**

Work with CASIS and OGA's to expand and sustain the demand for LEO research



## Post-ISS Models – ends of the spectrum



### Government LEO Platform

#### **Government driven capabilities and services**

Risk is carried solely by the government

Ability to leverage non-government demand limited to policy

Partnership relationships based on no-exchange of funds governed by policy

Sustainability risk relatively low given government investment and demand



### Private LEO Platform

#### **Market driven capabilities and services**

Risk is spread across customer demand (government and private) and private supply

Ability to leverage government and private investment, and demand market

Contractual relationships based on negotiated arraignment for exchange of funds or services

Sustainability risk is high without government support



## It's not just about the hardware

- **Transition from a government driven enterprise to a private driven enterprise is more than about flight hardware**
- **The entire industry that supports the development, testing and operations also needs to be transitioned from government to private industry**
  - Operations
  - Planning
  - Training
  - Communications
  - Test and operations facilities
  - Etc...

