

TUB Small Satellite Database

Characteristics & Properties of Small Satellite Systems

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Starting in 2003, the number of small satellites launched into space has rapidly grown. A new class of satellites, often referred to as pico- and nanosatellites, has granted new entrants in the space sector an easy access to space. In particular the CubeSat standard became a heavily used platform for mainly educational and scientific small satellite developers. In the recent past, the market became likewise interesting for industrial stakeholders.

In order to analyze trends, technologies and usage of orbit and frequency resources, a comprehensive database is needed. Therefore, the authors present an online accessible platform that aims to include all known small satellites along with their properties. The maximum mass of included satellites is 20 kg and satellites that were launched earlier than 2003 are neglected. These limits are arbitrary. Future versions of this database will provide more details on attached sensors, attitude control systems and many other parameters. The database is updated on a regular basis and is mainly based on online sources.

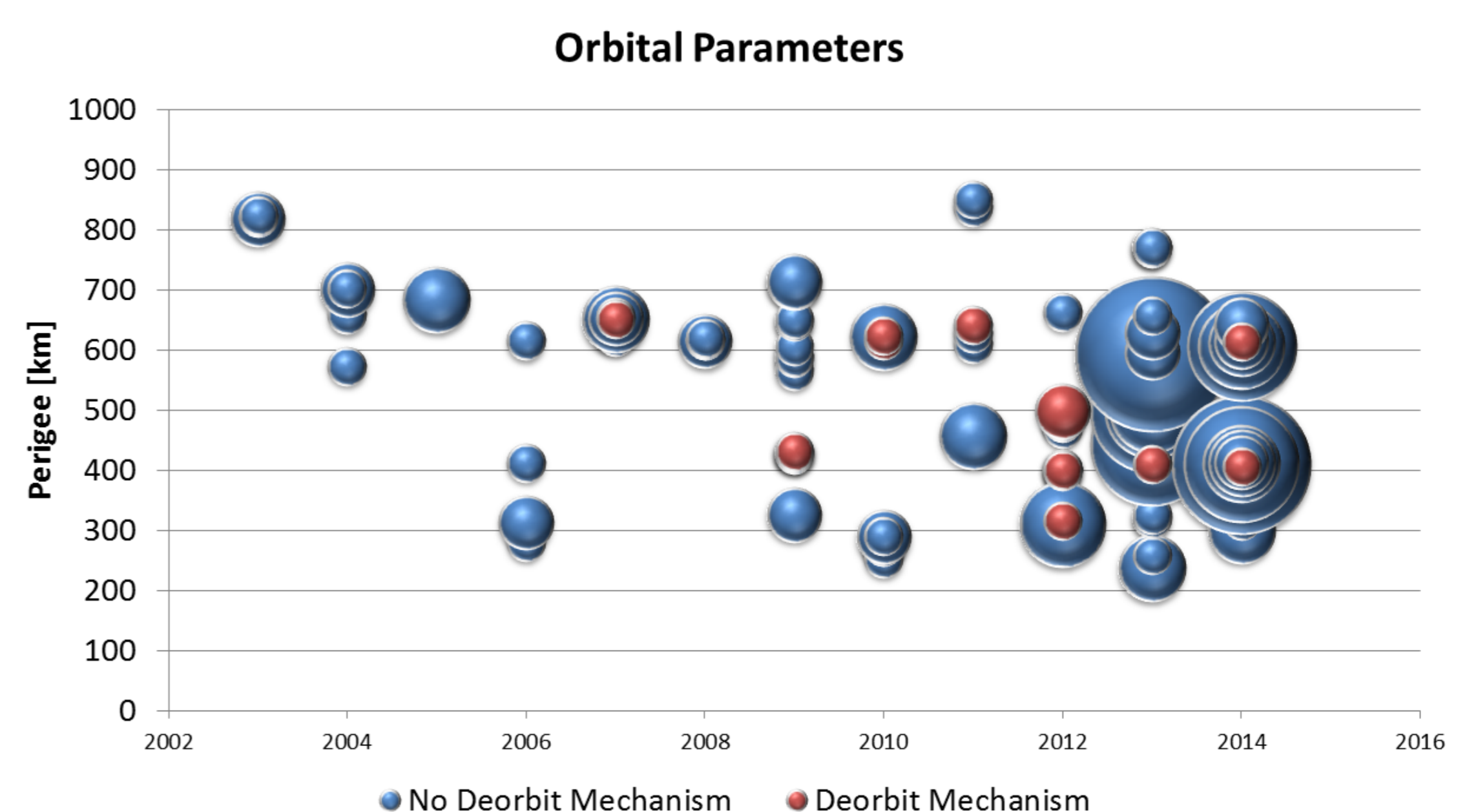
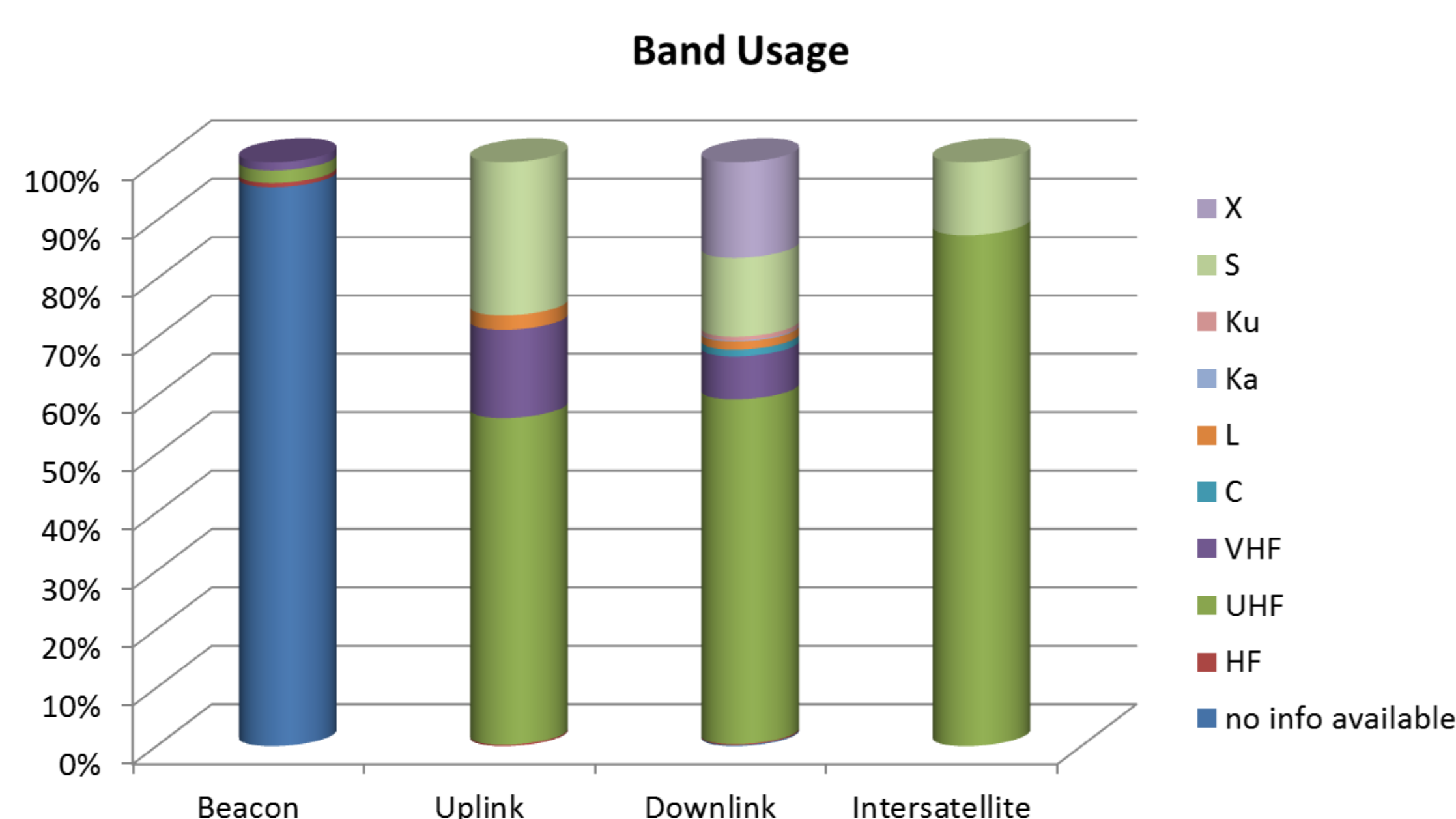
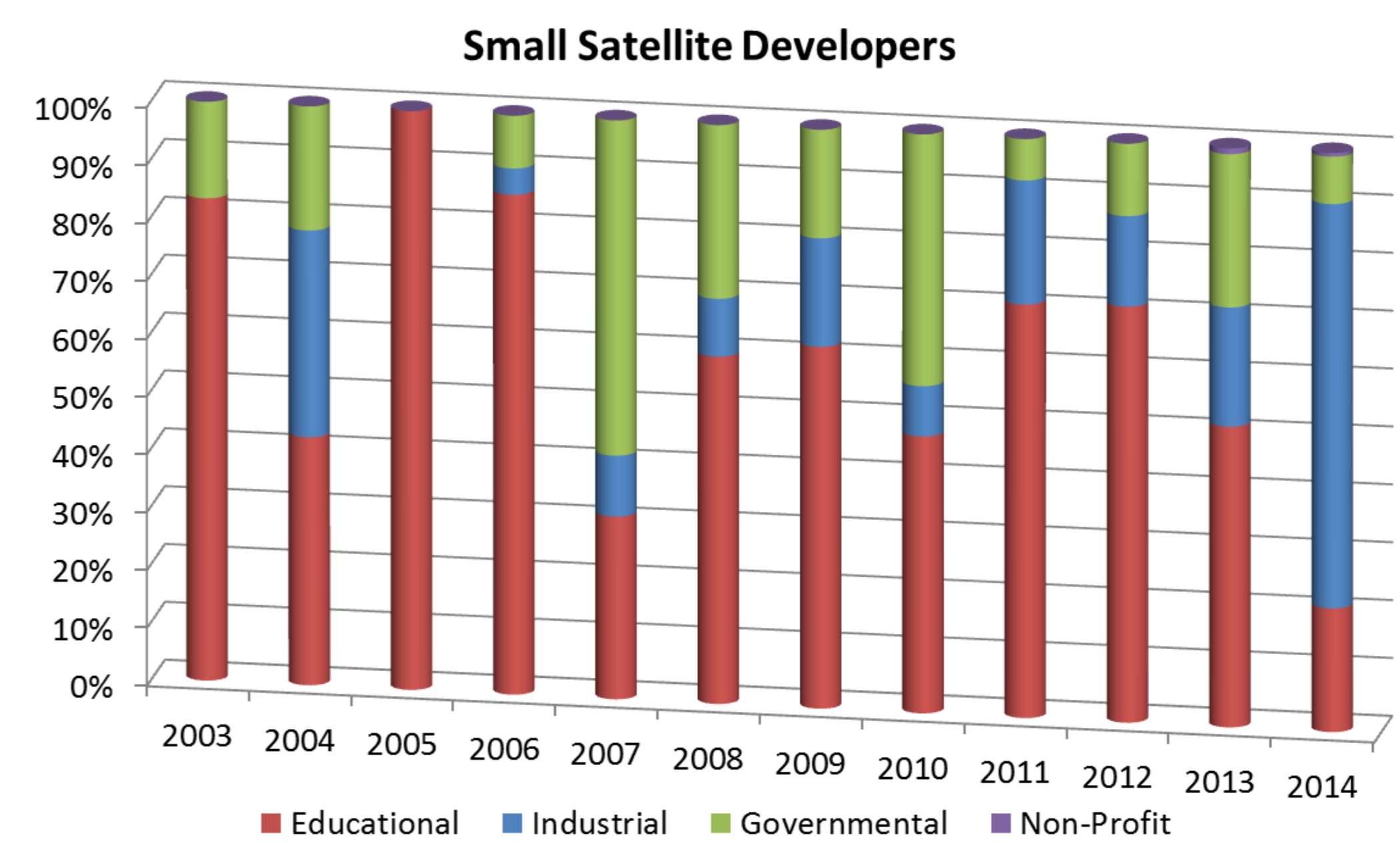
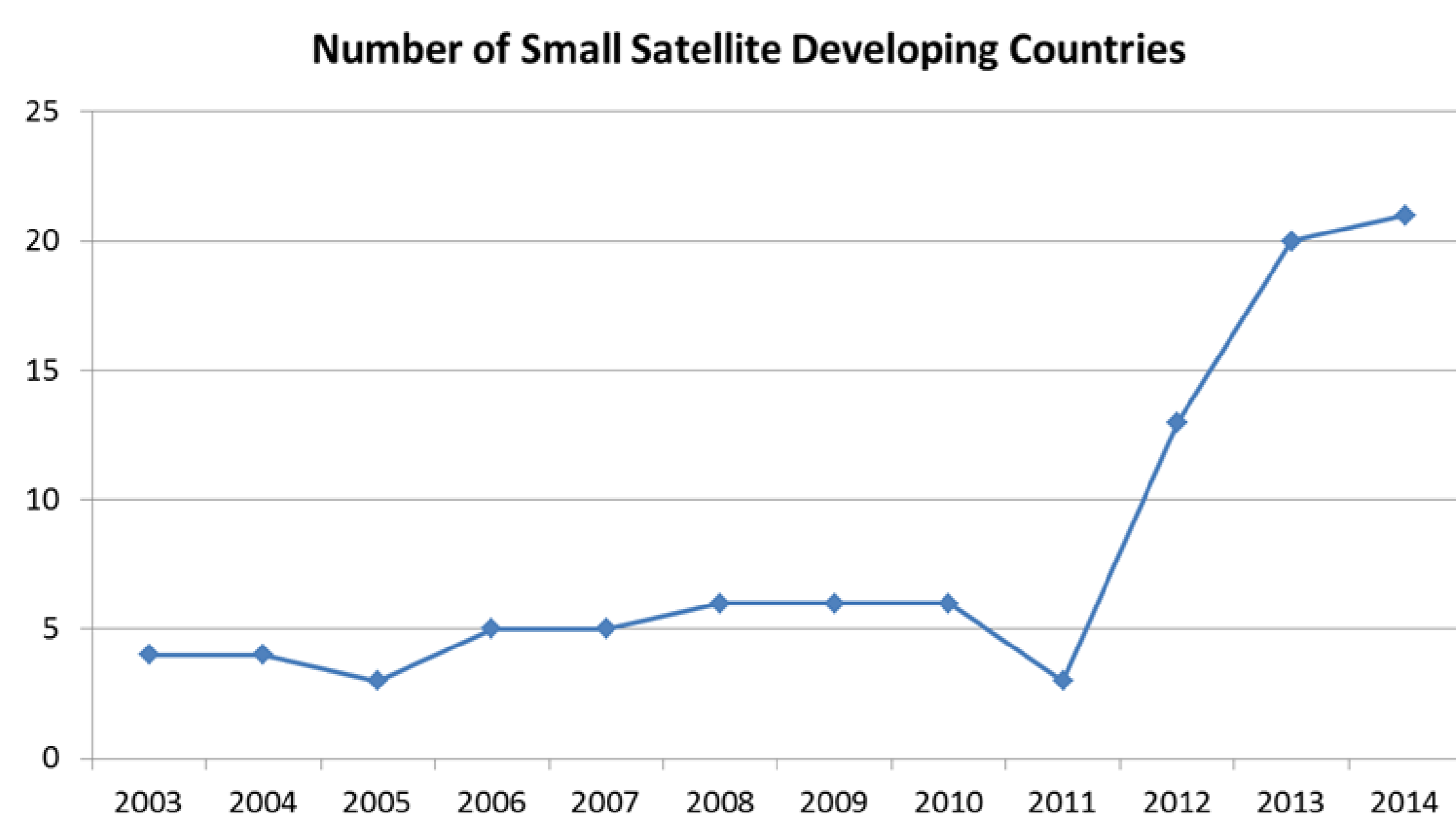
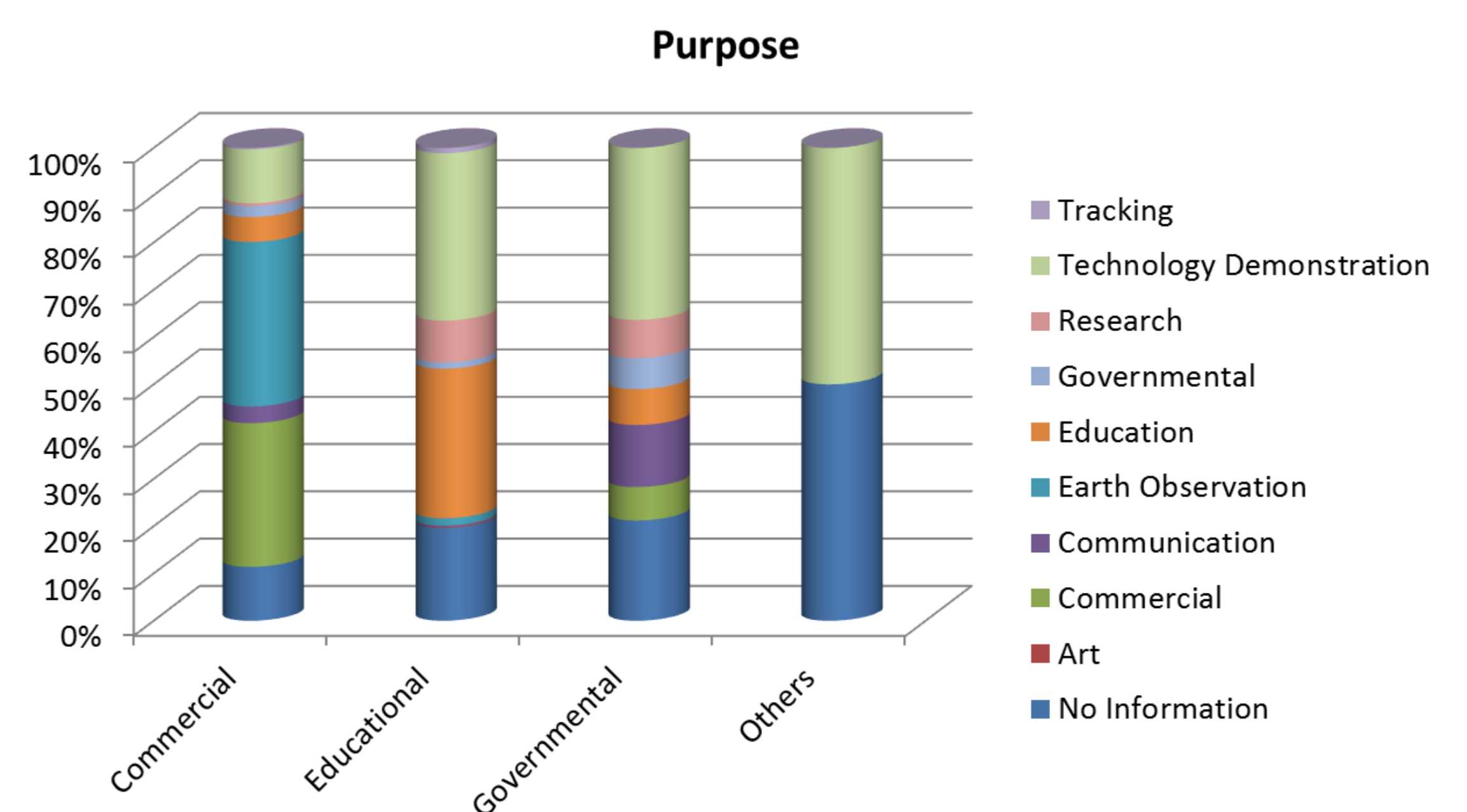
The authors want to emphasize that this database can only show data that is provided by external sources. Any modifications or additions by the developers/ operators of the included satellite systems are highly appreciated.

This poster provides some results of the database analysis. More results is or will be available in current and future publications by the authors.

Quick Facts

- Database includes 445 small satellites
- Each satellite system includes more than 100 parameters:
 - General Information (Name, Operator, ...)
 - Mission Status
 - Launch & Orbit Information
 - Subsystems (ACS, Payload, ...)
 - Communication System (Frequencies, Protocols, RF Power, ...)
- Continuously updated, extended & optimized
- An excerpt of the database is available online at <http://www.space.tu-berlin.de>

Number of small satellite launches per year												
Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Launches	6	8	3	22	14	9	16	20	14	26	91	150



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