

SMALL SATELLITES, EARTH OBSERVATION & NEW SPACE, A NEW CHAPTER IN SPACE HISTORY



EUROCONSULT FOR

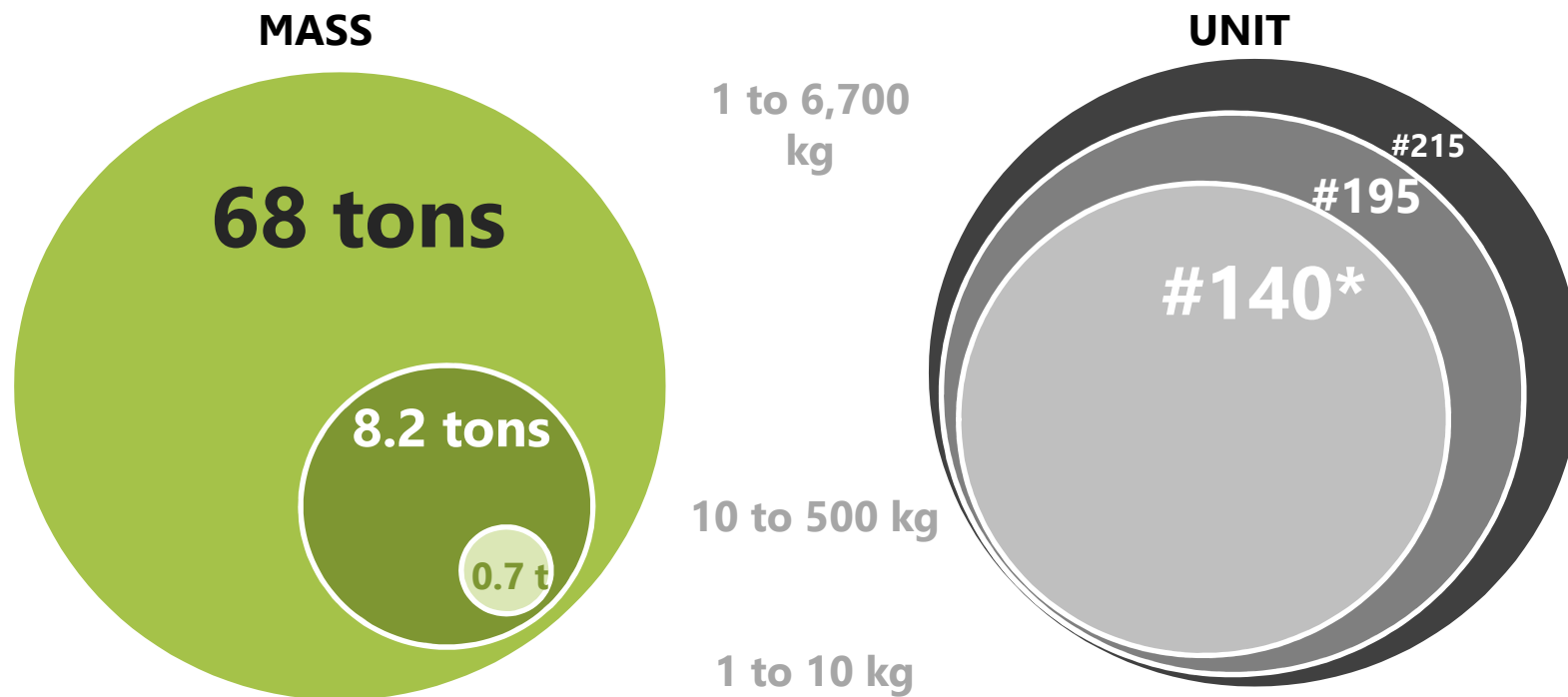
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2014: a unique year for the smallsat industry ?

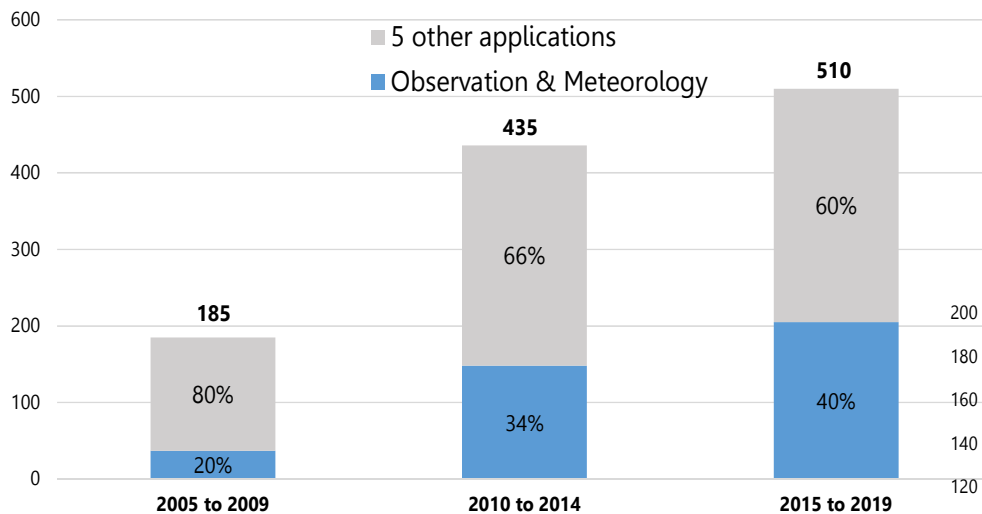
- A record of 195 smallsats launched in 2014 incl. about 100 cubesats for a EO constellation
- Smallsat market is dynamic outside the cubesats with 46 units (from 10 to 500 kg) on average/Y in 2013 & 2014 while the annual average was at 26 units over 2005-2012
- 3/4 of the 510 smallsats to be launched 2015-2019 will be for government civilian and defense agencies

Satellites launched into LEO in 2014



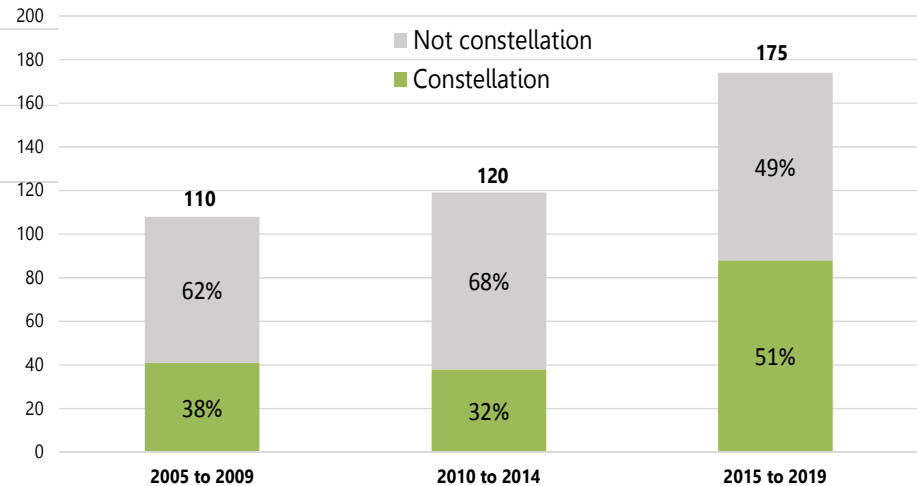
Earth observation now the largest smallsat application

- EO at 1/3 of the 435 smallsats launched in past 5 years: due to grow to 40% in next 5 years (incl. met data)
- Smallsats working together in constellations due to represent 50% of launches in next 5 years
- “New space” effect in commercial EO constellations: increase the imagery data flow with daily coverage of the planet



smallsats 1kg to 500 kg

smallsats for each time period



smallsats 50kg to 500 kg

Smallsats are rather minisats

Two adjacent mass categories concentrate almost 80% of the masses launched in past 10 years and TBL in next 5 years

Such mass concentration reflects two aspects of the smallsat industry:

- Mission complexity ultimately translates into Kg as the mass savings resulting from the introduction of new technologies (e.g. MEMS, ASICS) are used to increase payload performance
- Multiplication of constellations for telecom and EO using satellites of 100 to 200 kg

Distribution of smallsat launch masses into 5 mass categories and 3 time periods

