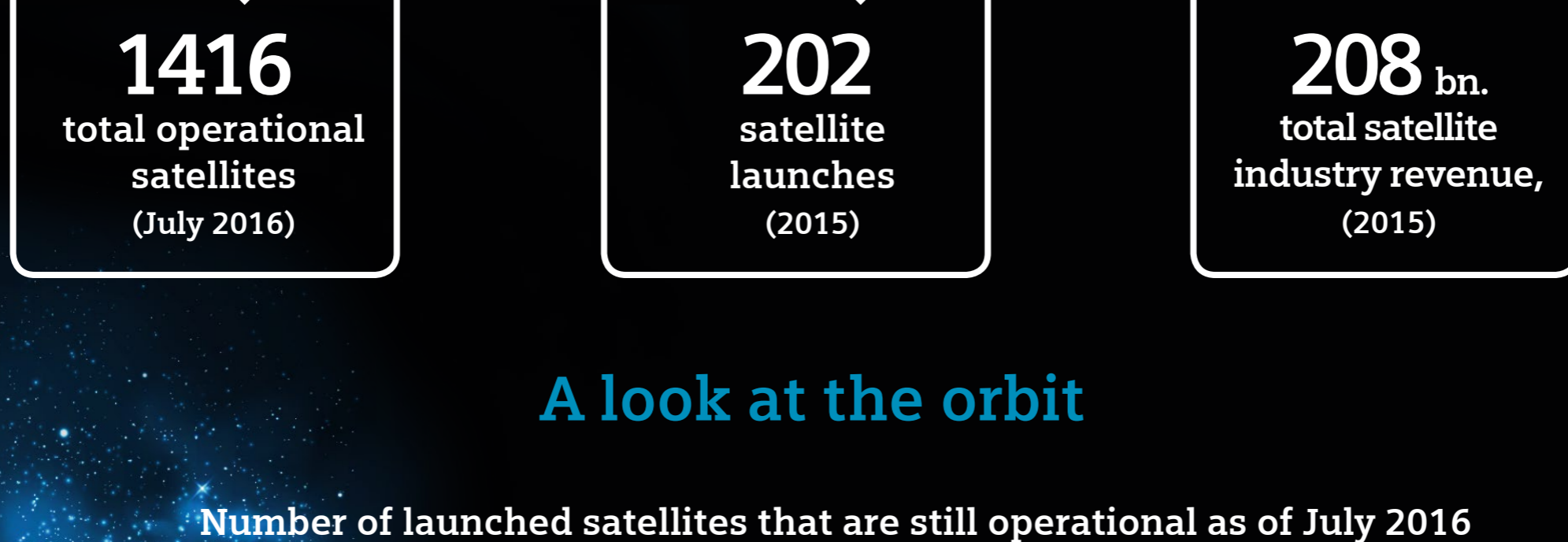


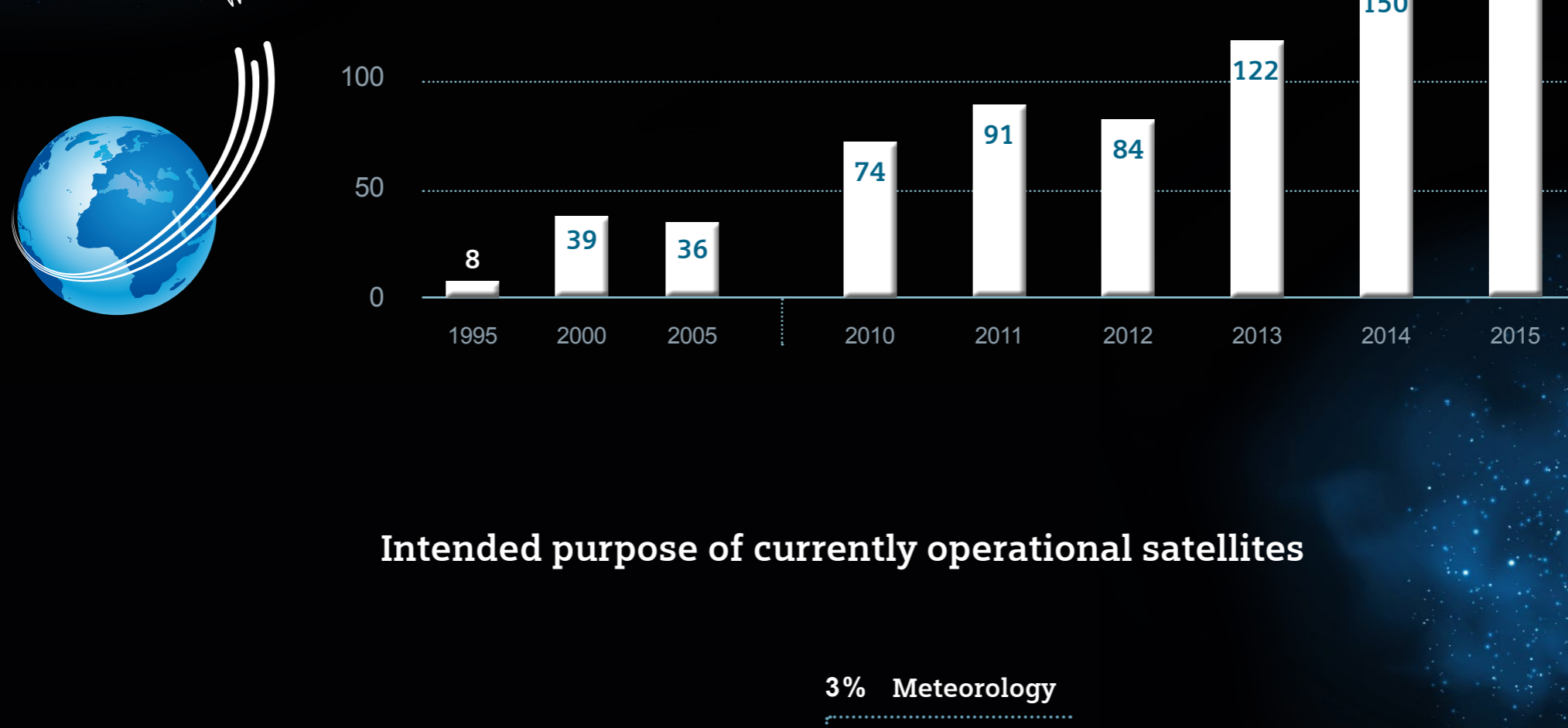
# Space - a data highway in progress

## Satellite communication - developments, impact, challenges

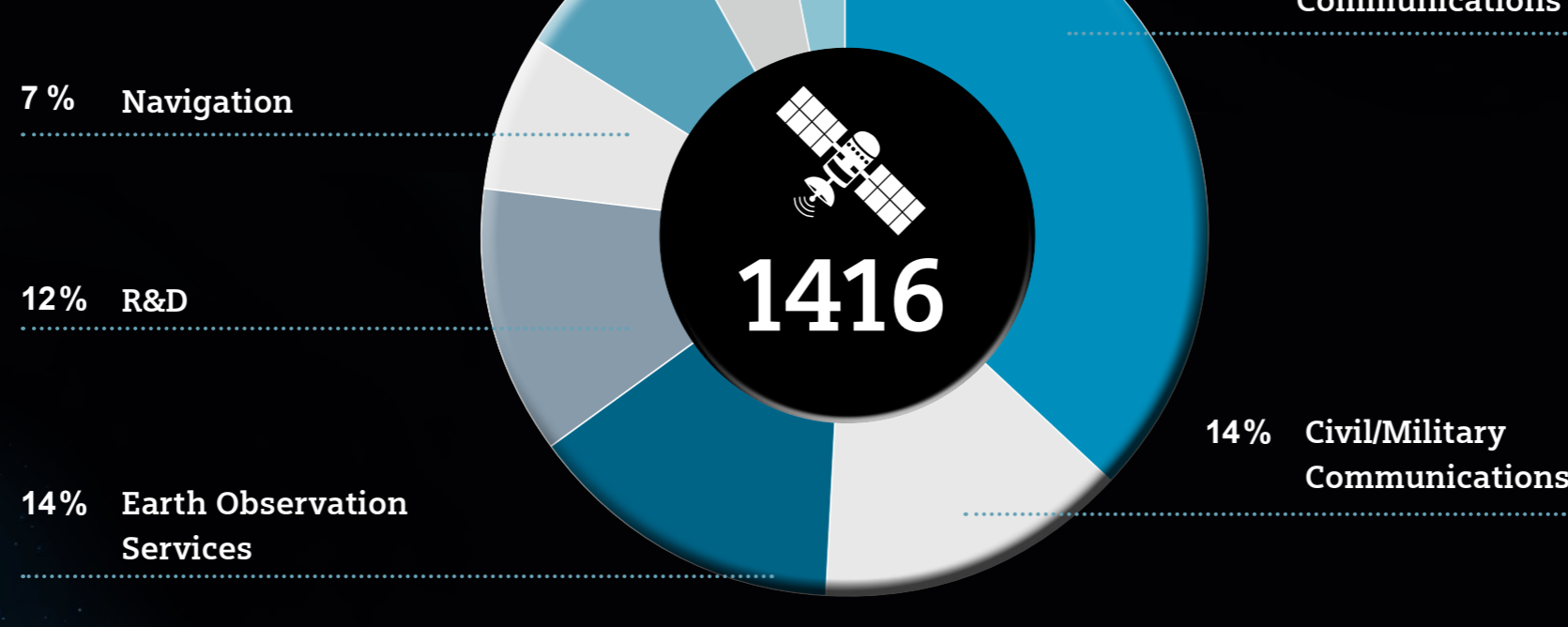


### A look at the orbit

Number of launched satellites that are still operational as of July 2016



Intended purpose of currently operational satellites



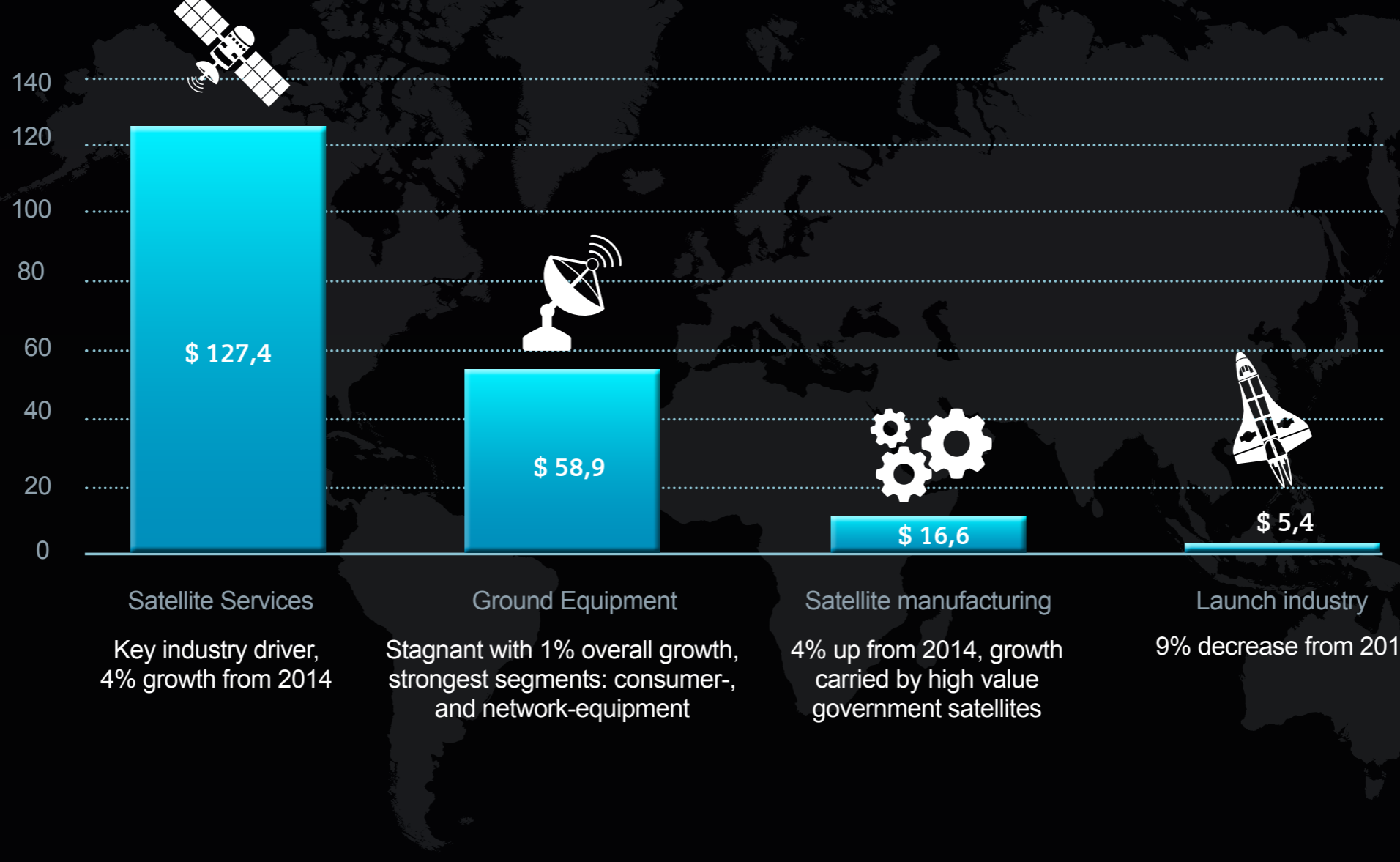
### Satellite communication applications

Taken for granted in many aspects of everyday life and for specialized tasks



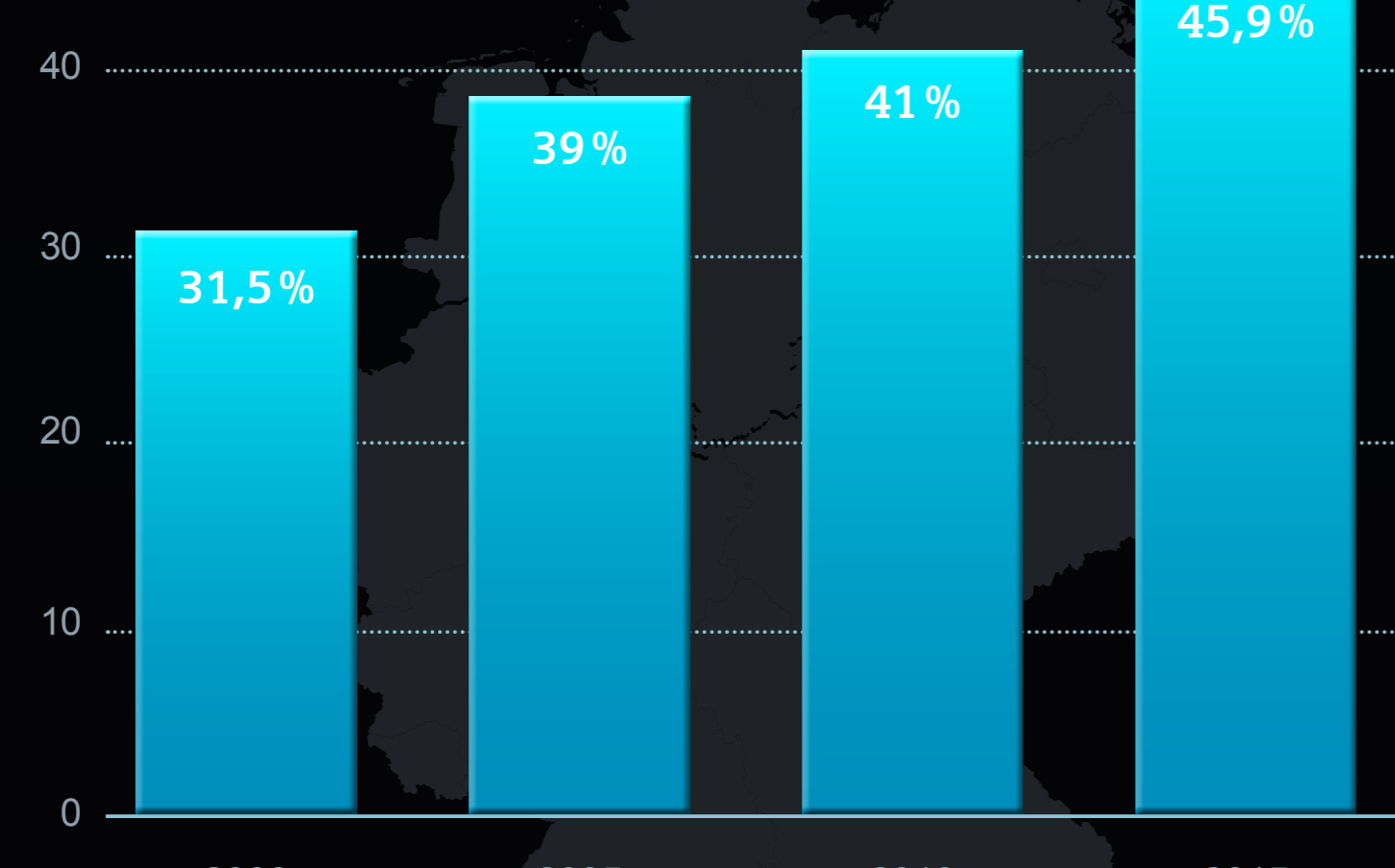
### The satellite industry - dealing with enormous values

Distribution of the satellite industry revenue worldwide by sector in 2015 (in billion U.S. Dollars)



### Satellite TV exemplifies the recent success of satellite services

Share of private households with a satellite TV connection in Germany



Satellite channels worldwide

**40.000**



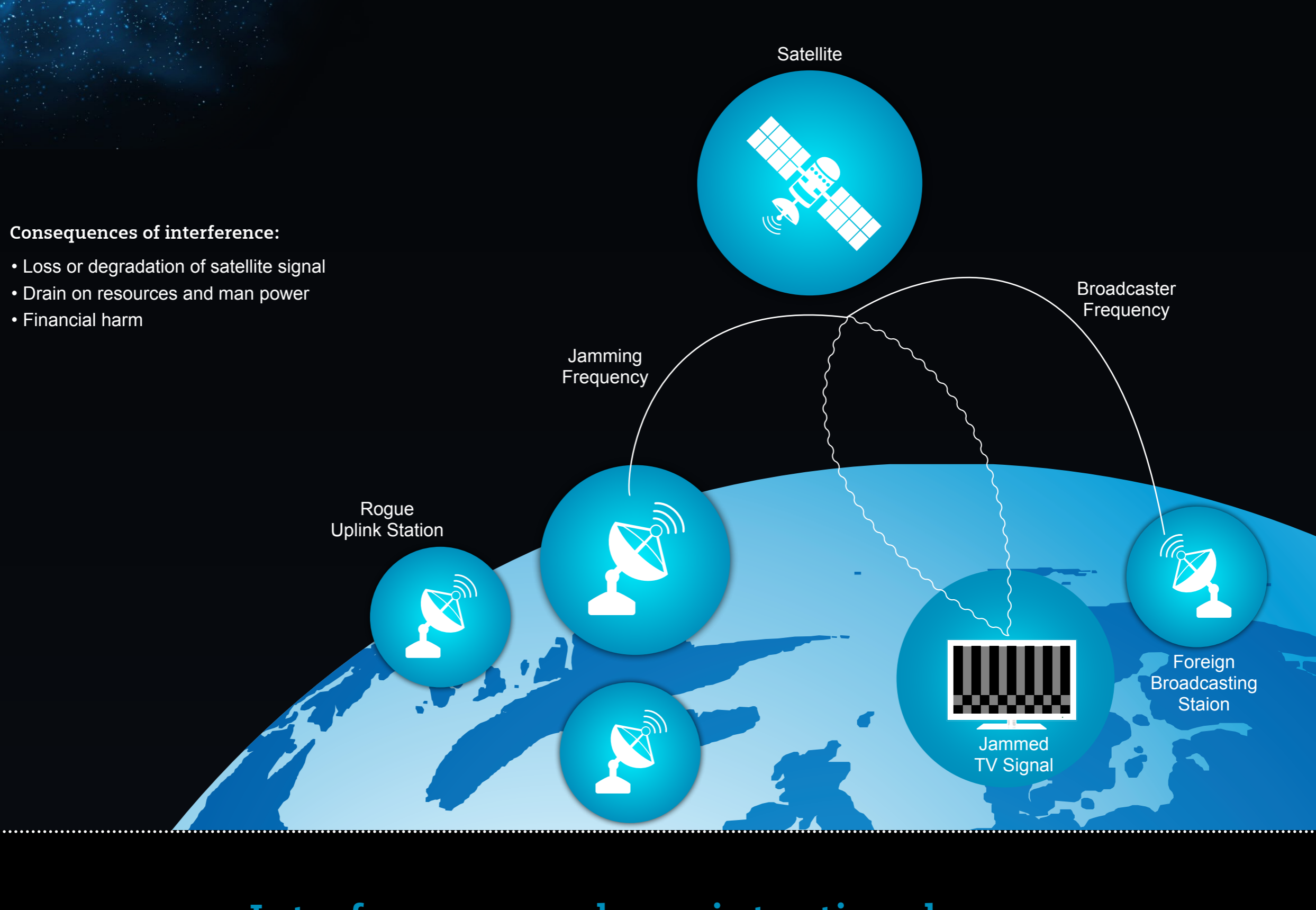
HD satellite channels worldwide

**8.600**

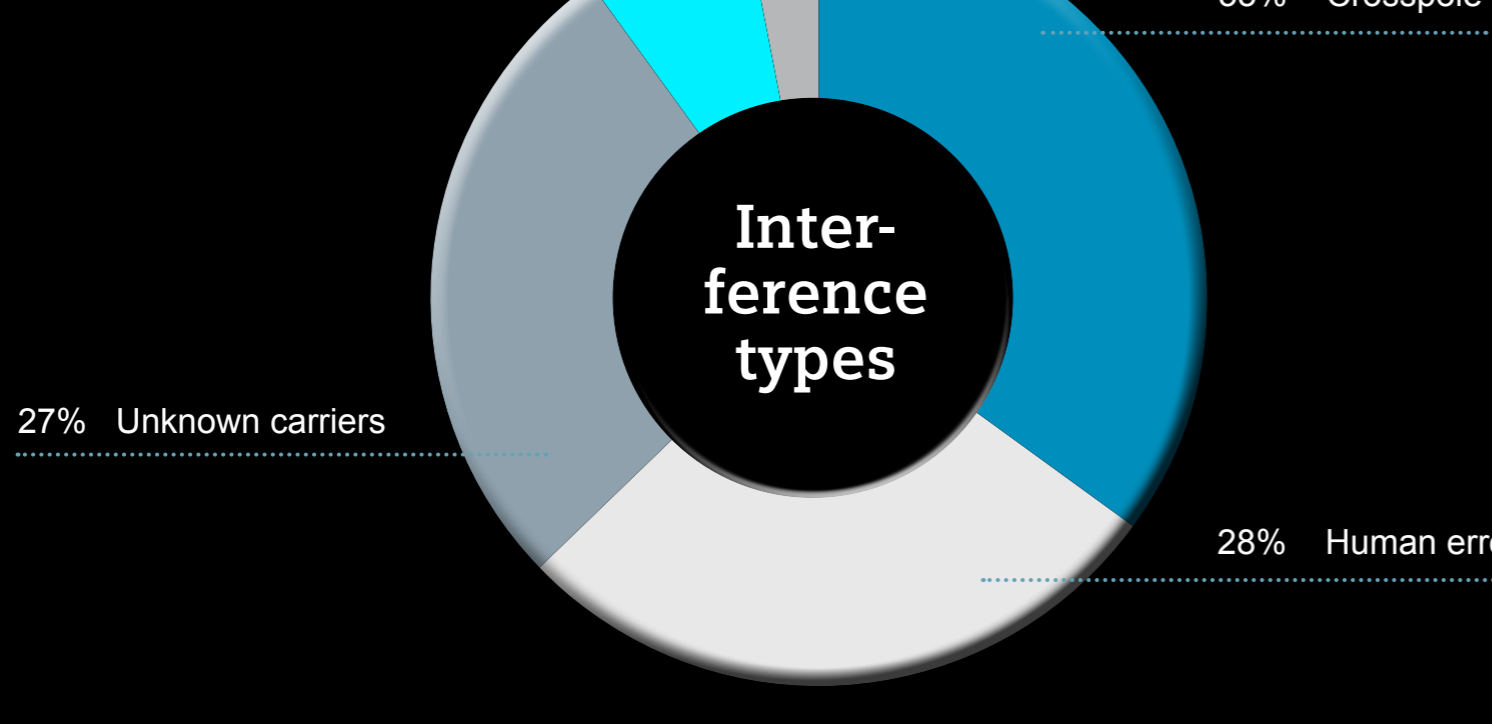
### With success comes responsibility

#### Satellite data highway challenges: interference threatening data integrity

How interference happens



#### Interference can be unintentional...

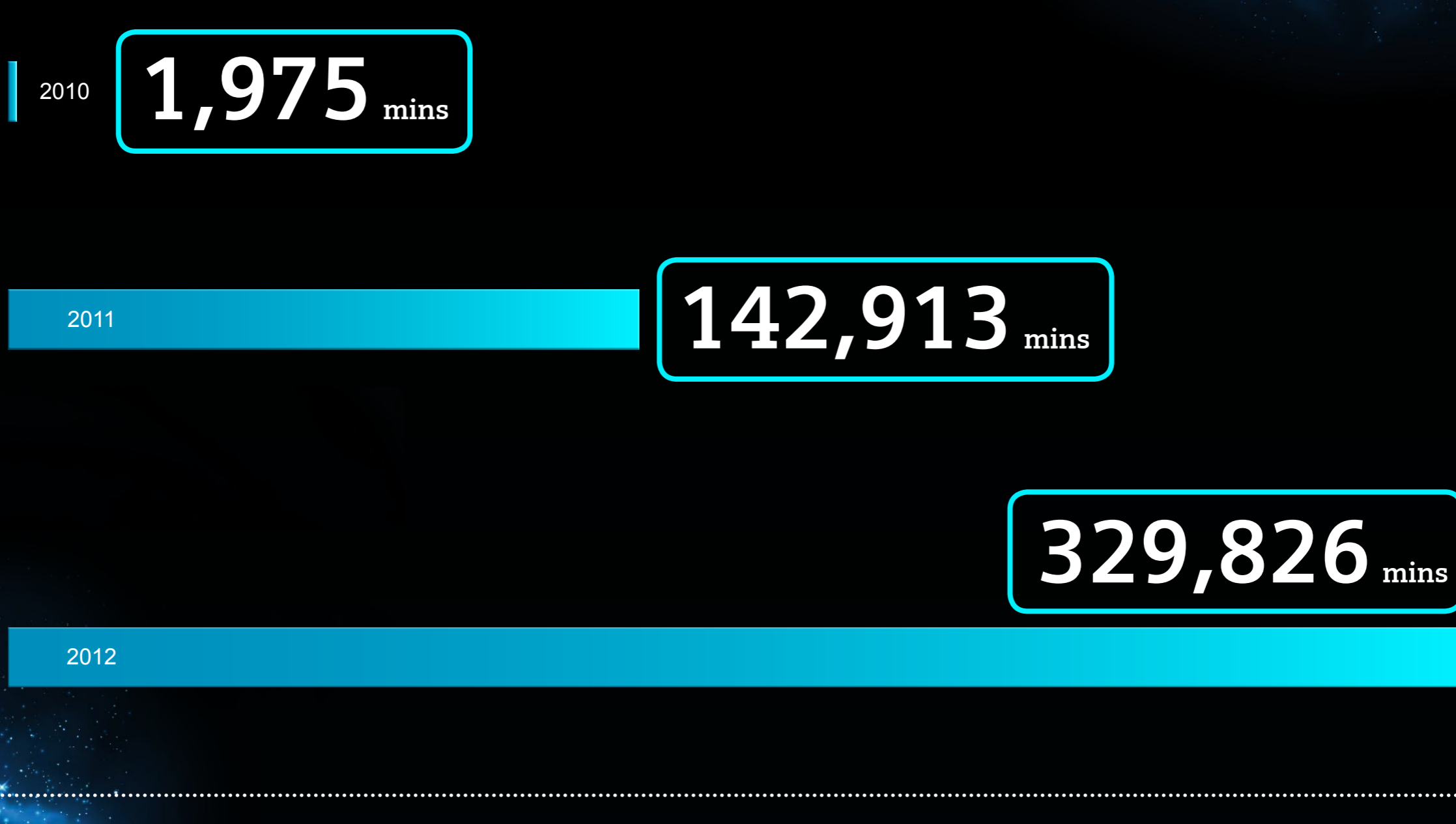


Additional reasons for interference include:

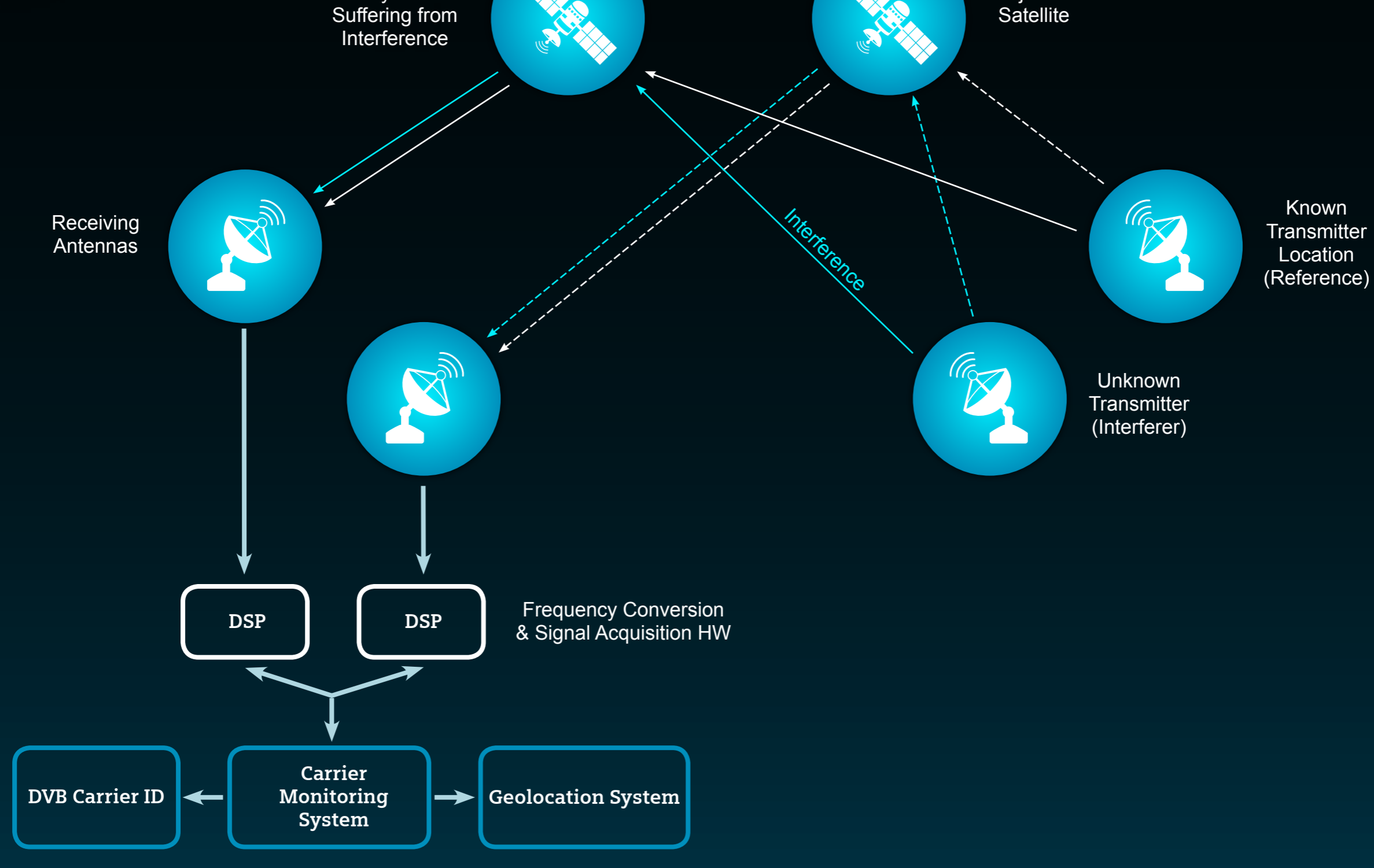
- Adjacent satellite interference
- Terrestrial service interference

#### ...or deliberate

Example: A satellite operator reported cases of deliberate interference rose dramatically in quantity & duration from 2010 to 2012



### The fight for satellite signal integrity: How can sources of interference be located?



Upgrade to the traditional setup shown above: the latest satellite geolocation technology is able to localize interference even without the need for an adjacent satellite, drastically improving success rates.



The volume and importance of satellite communication is increasing rapidly with signal integrity being vital not only for end consumers but even more so for satellite and service operators.

Operators now have access to more and more sophisticated tools to help mitigate satellite interference threatening their business models and contributing to their reputation as secure, reliable service providers independent of the constraints of ground-based data highways.