Giuseppe Sisinni

CubeSat Platforms for Astronomy Missions

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Our Mission

EnduroSat designs, engineers and integrates **remarkable CubeSats**, creating a functioning **Space infrastructure**

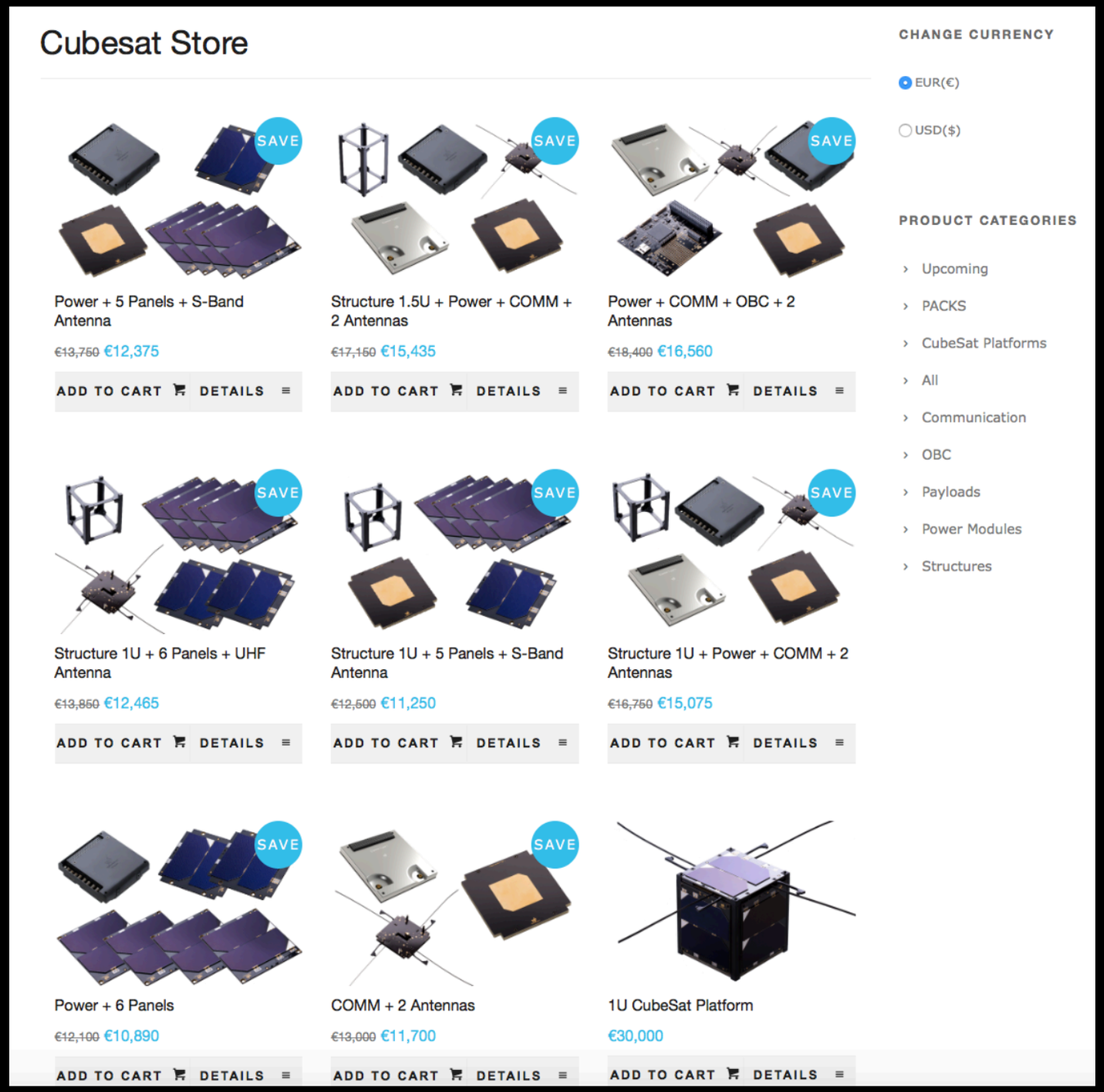
https://www.endurosat.com

Achievements

Unique online satellite store

Configure and order a satellite in **less the 5 min.**!

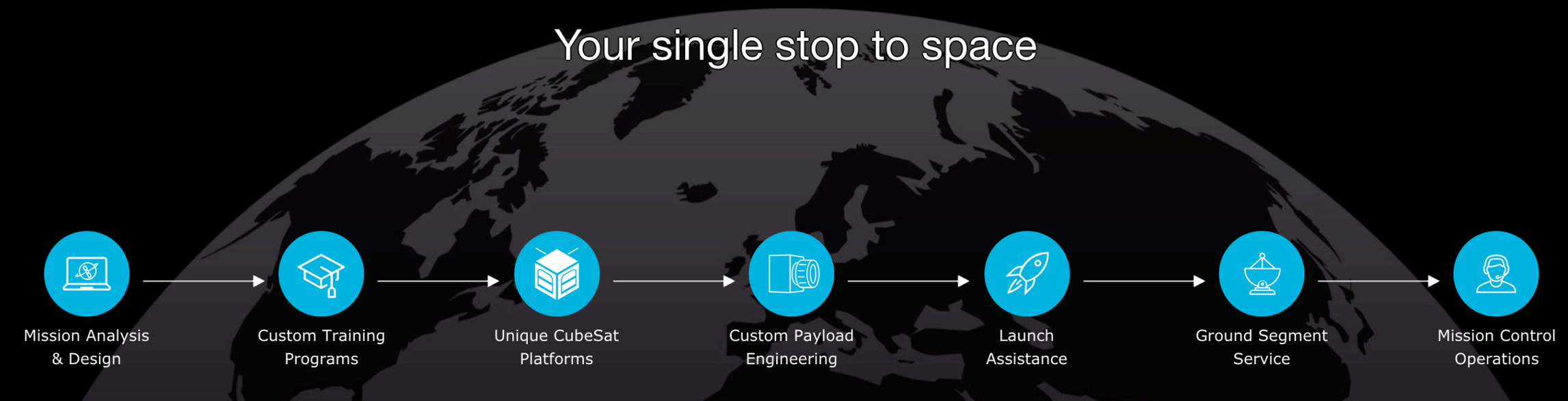
5-days delivery time for all satellite subsystems!



https://www.endurosat.com/store

Satellite as a Service

- Spaceflight-ready satellite
- Mission analysis and launch procurement
- Assistance in satellite registration
- Ground Segment and Operations Services
- Training of customer’s engineering team



Small Satellites

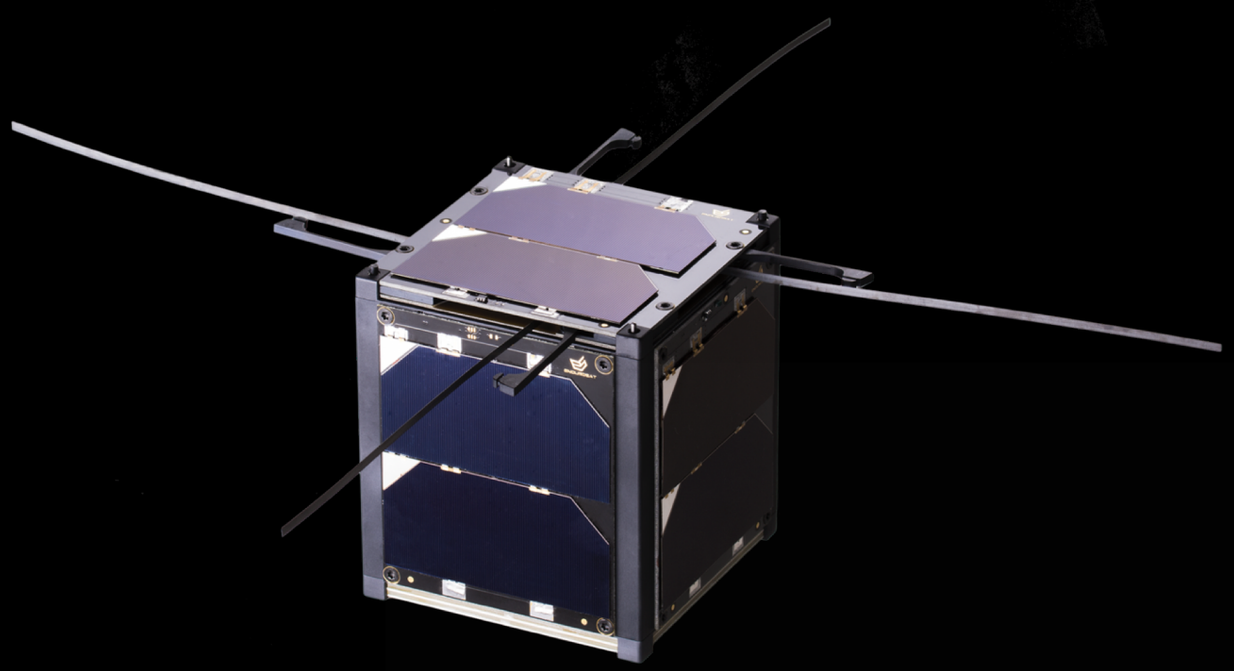
- Small Satellites are satellites of low mass and size usually under 500kg
- Typical classification of Small Satellites:

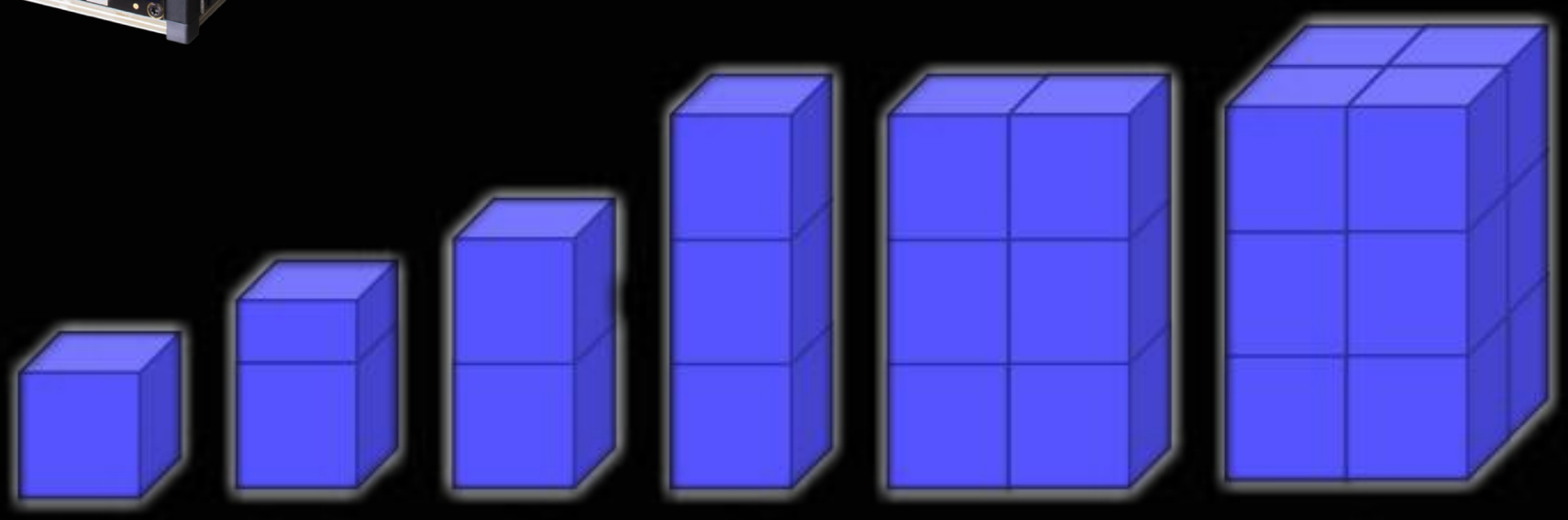
	Mass	Total Cost (M$)
Mini	100 -500	10-150
Micro	10-100	1-30
Nano	1-10	0.1 - 1
Pico	0.1-1	0.05-2
Femto	<0.1	< 0.05

- CubeSat is a specific class of nanosatellites

ENDUROSAT

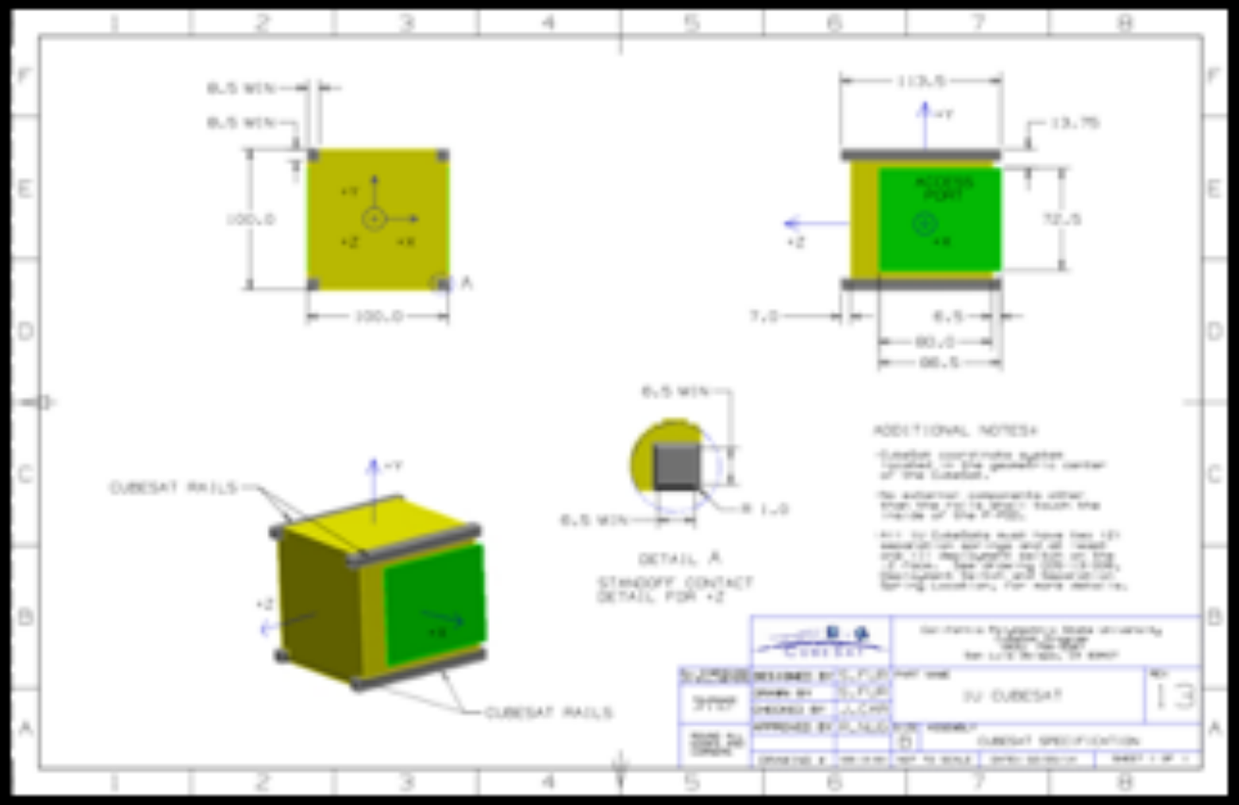
CubeSats





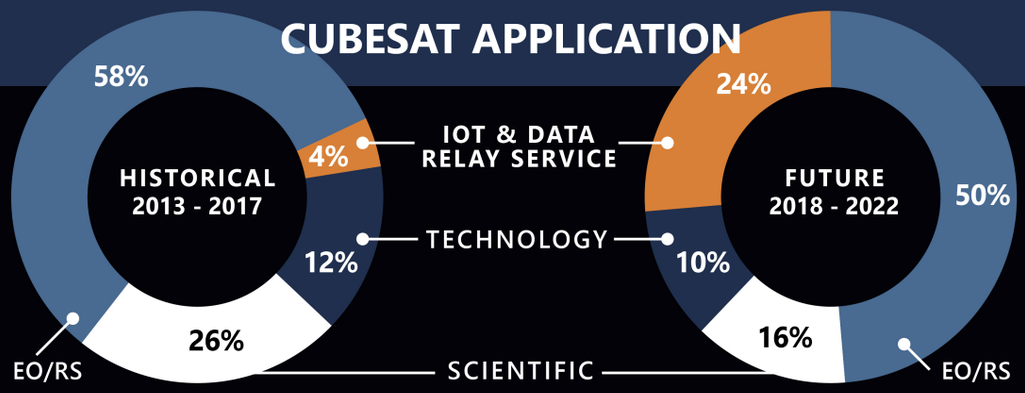
ENDUROSAT

CubeSat Design Specifications

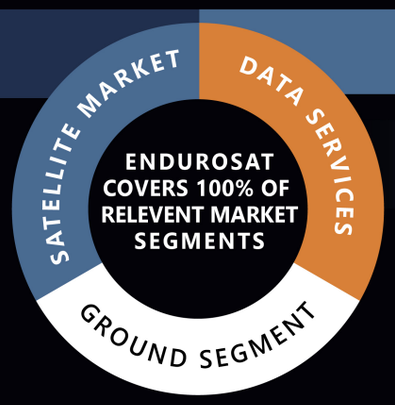


Why it matters?

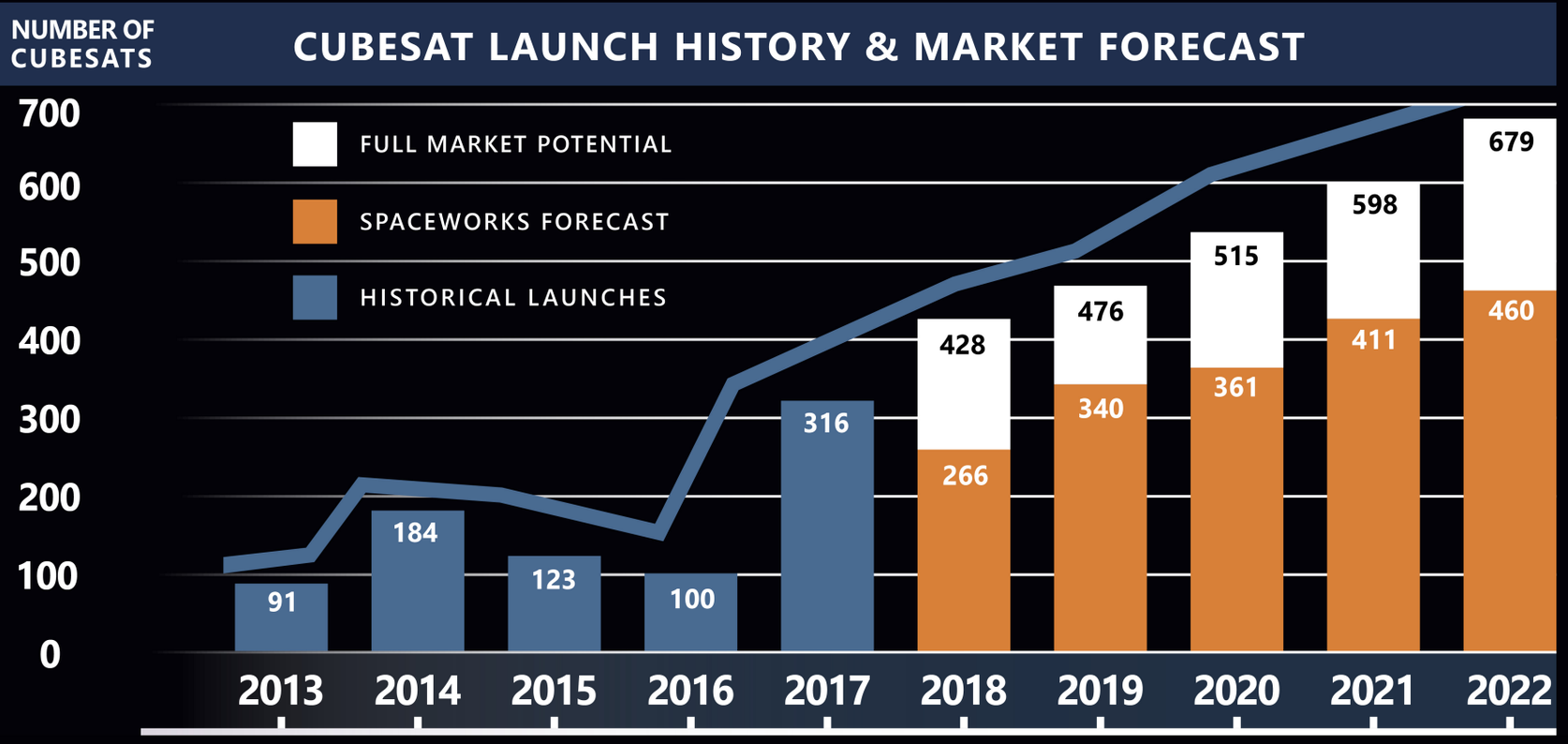
CUBESAT APPLICATION



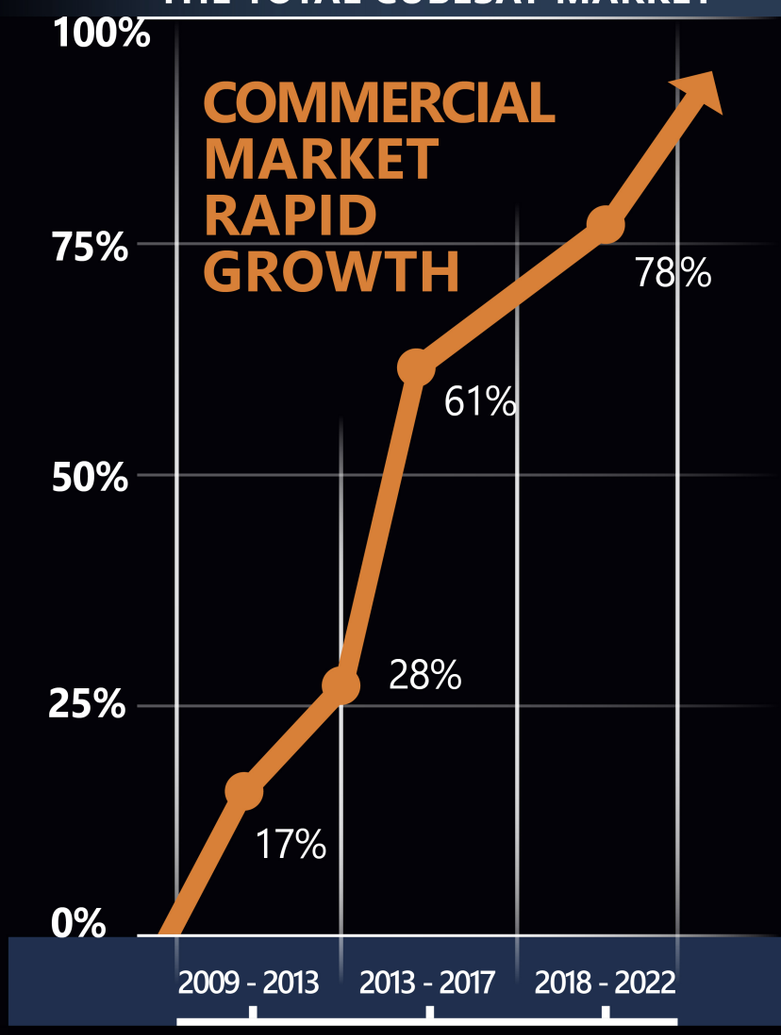
MARKET



CUBESAT LAUNCH HISTORY & MARKET FORECAST



COMMERCIAL APPLICATIONS OF THE TOTAL CUBESAT MARKET



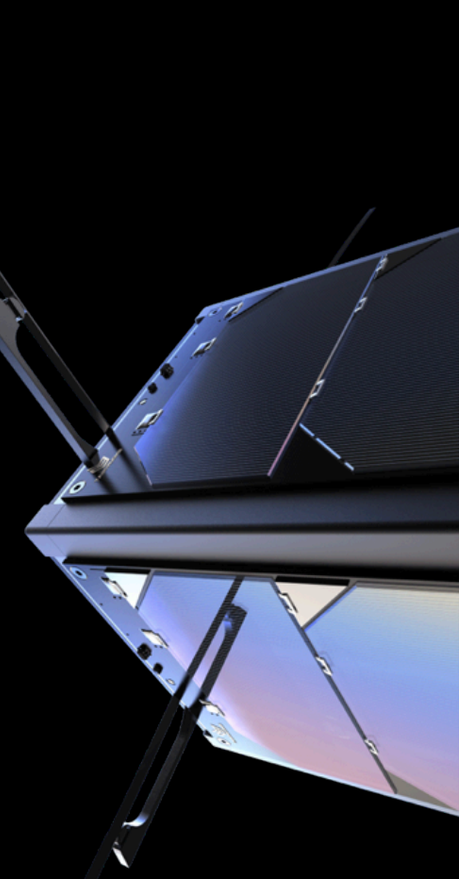
CubeSats

Benefits

- Low(er) cost
- Flexible Launch Strategies
- COTs
- Standardized building blocks
- Short Development time
  less then 12 months from
  KO to Launch
- Constellation (revisit time, coverage,
  scalability, data latency)

Limitations

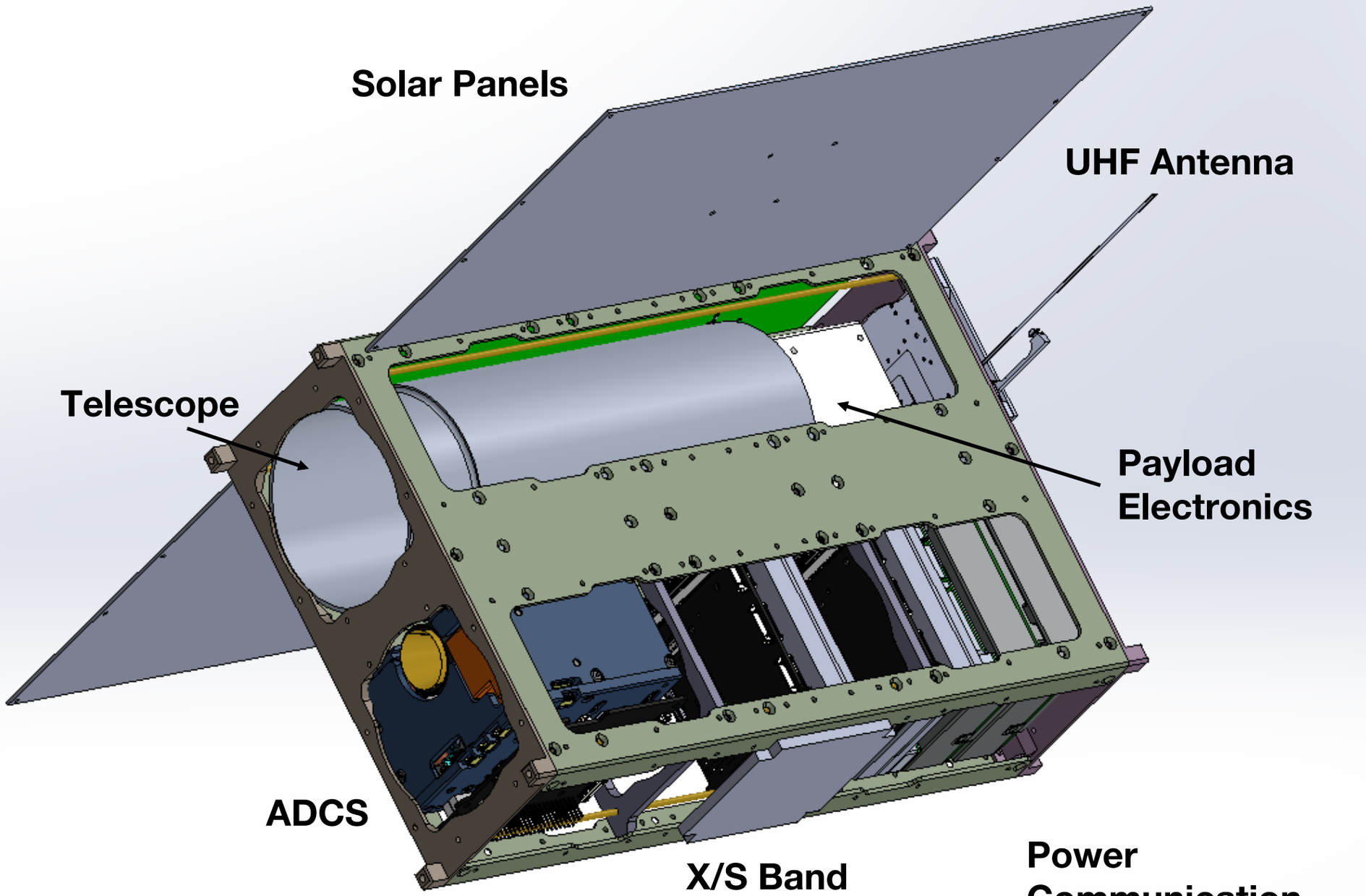
- Size
- Power
- Data rates
- No Rad-Hard
  Components



CubeSat Capabilities

	1U	3U	6U
Payload Volume	up to 0.4U	up to 2U	up to 4U
Power Generation	Up to 8W	Up to 50W	Up to 75W
Payload Power	2W orbit average	12W orbit average	24W orbit average
Energy Storage	10 - 20 Wh	40 Wh (expandable)	40 Wh (expandable ~100Wh)
Pointing accuracy	~3°	<0.5° (typical) <0.01°	<0.5° (typical) <0.01°
Data Storage	expandable via SD cards	expandable via SD cards	expandable via SD cards
Data Downlink	10 - 20 kbps	~120Mbps	~120Mbps
Frequency	V/UHF	V/UHF S/X-Band	V/UHF S/X-Band

Toliboy Mission



How much does it cost?

1U CubeSat

- Platform: $25k
- Launch: $70k or Free
- Operations: Free

6U CubeSat

- Platform: > $200k
- Launch: $450k
- Ground Station: $100 per pass

Thank you!

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SpacePort

SPACE CHALLENGES
DARING LEAP IN SPACE

Home Medals 3D map

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