

FYLA WE LASER
THE NEW INDUSTRY



All-fiber Laser Frequency Combs: from Defense Systems to CubeSats

We create and commercialise laser technology by joining
Singularity, Quality and Profitability
for our Clients and Stakeholder

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We Deliver Unique All-fiber pulsed lasers
in the Ns, Ps, and Fs. Range

TARGET MARKETS

- ▶ **FOOD-MINING SORTING**
- ▶ **INDUSTRIAL SPECTROSCOPY**
- ▶ **SEMICONDUCTOR METROLOGY**

- ▶ **MICROSCOPY (CONFOCAL - LSFM)**
- ▶ **MICROSCOPY - MPM**
- ▶ **ENDOSCOPY (VIS and NIR platforms)**
- ▶ **OCT - PHOTOACOUSTIC IMAGING**
- ▶ **TERAHERTZ IMAGING**

- ▶ **RESEARCH**
- ▶ **LASER SURGERY**
- ▶ **SURFACE ABLATION & TREATMENT**
- ▶ **COLD PROCESSING**

- ▶ **DEFENSE & SECURITY**
- ▶ **PHOTONIC DIGITAL RADAR / PADC**
- ▶ **RoF SIGNAL GENERATION**
- ▶ **TERAHERTZ GENERATION**

METROLOGY & INSPECTION

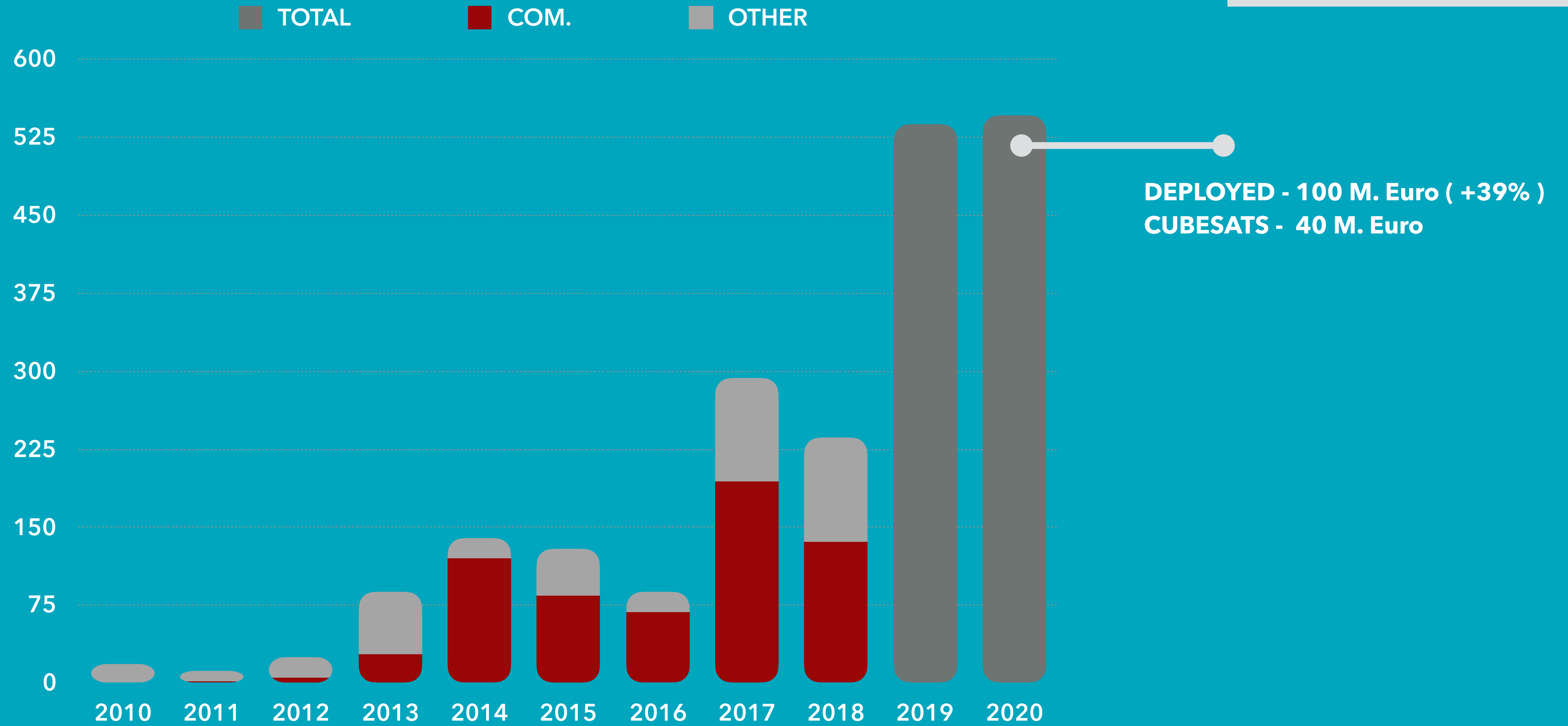
MEDTEC & BIOIMAGING

ADVANCED PROCESSING

OPTICAL COMMS

TARGET MARKETS

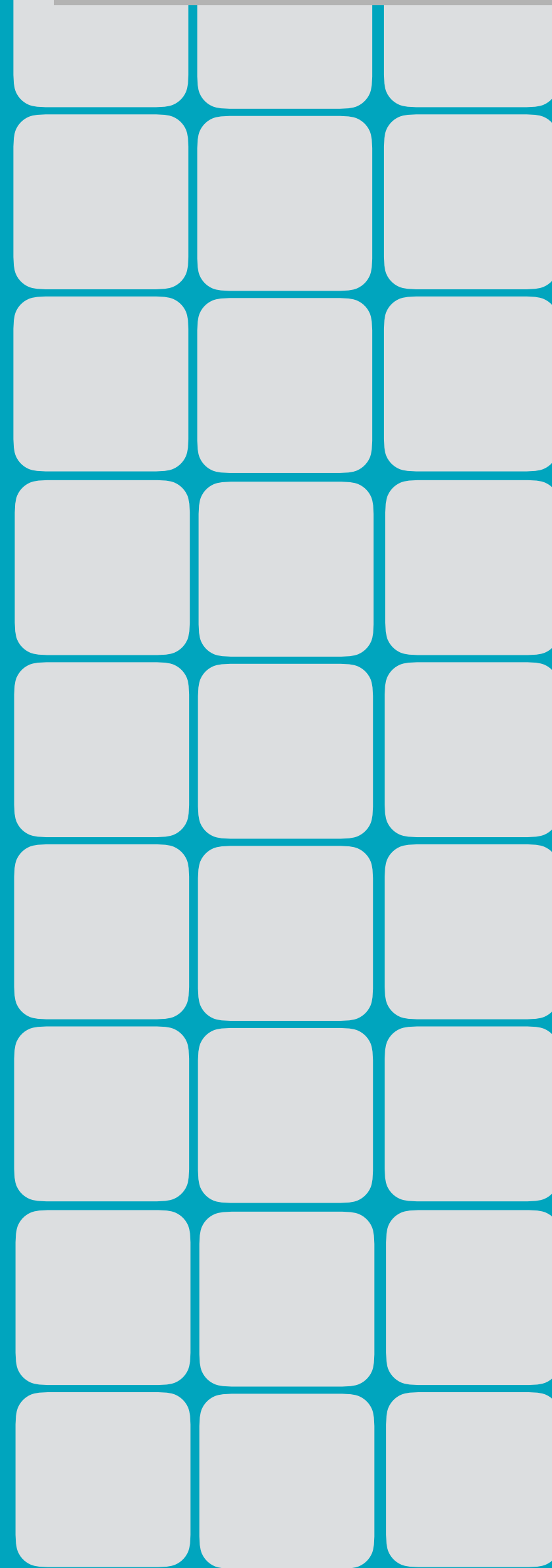
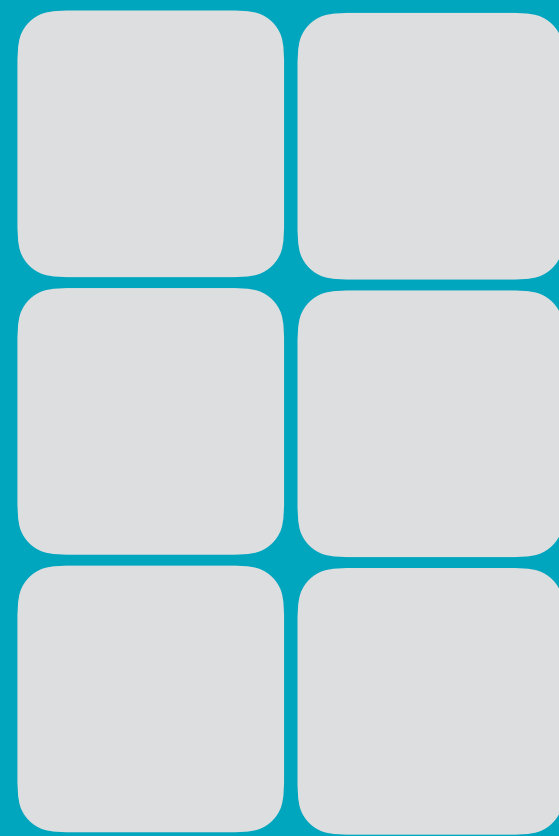
OPTICAL COMMS





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10 cm³



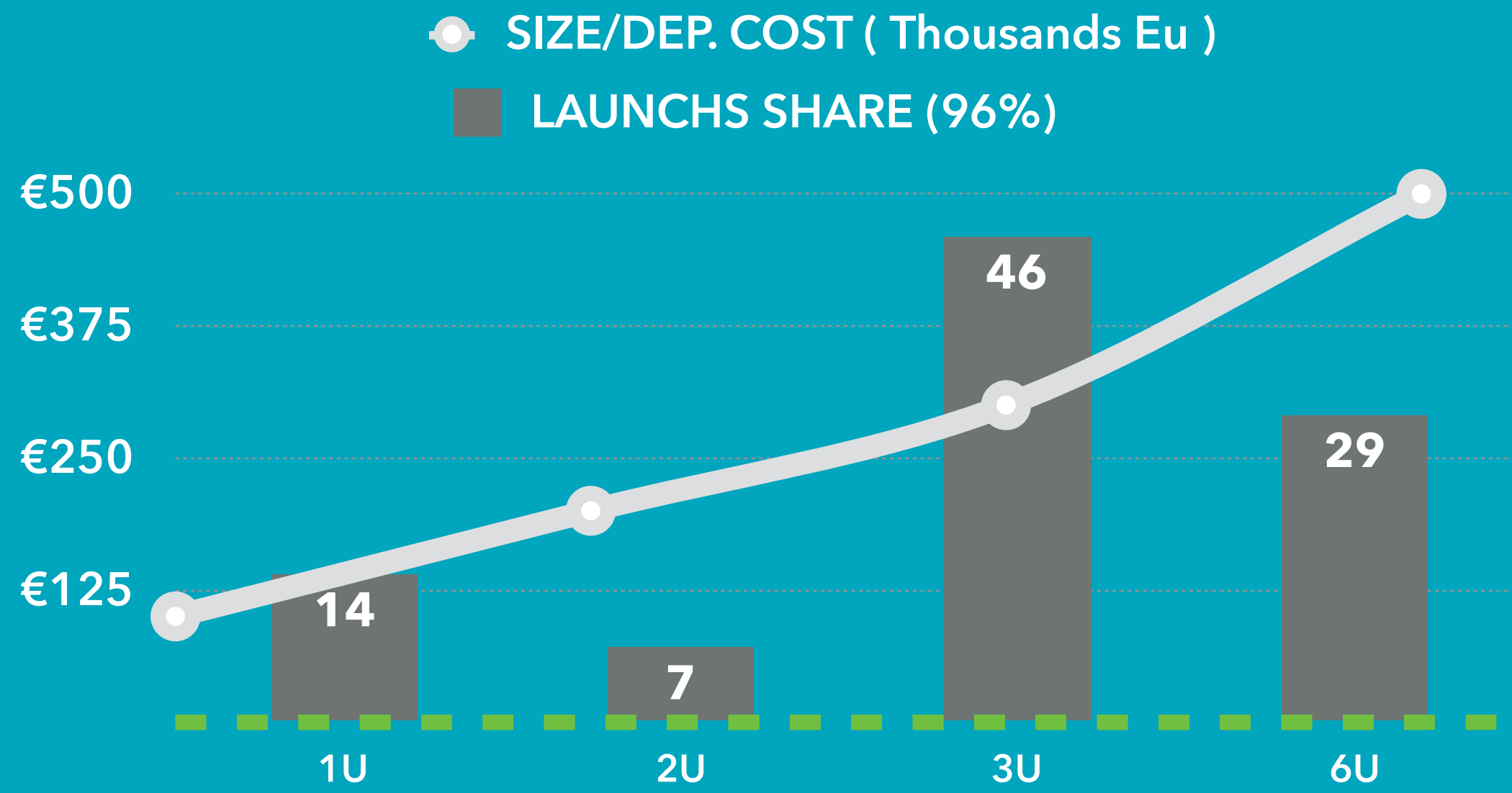
KEY STOPPERS - FORM FACTOR

OPTICAL COMMS

- **STRUCTURE**
- **POWER MODULE**
- **COMMUNICATION MODULES**
- ANTENNA
- ON- BOARD COMPUTER
- SOLAR PANELS
- "PAYLOADS"

KEY STOPPERS - COSTS

OPTICAL COMMS

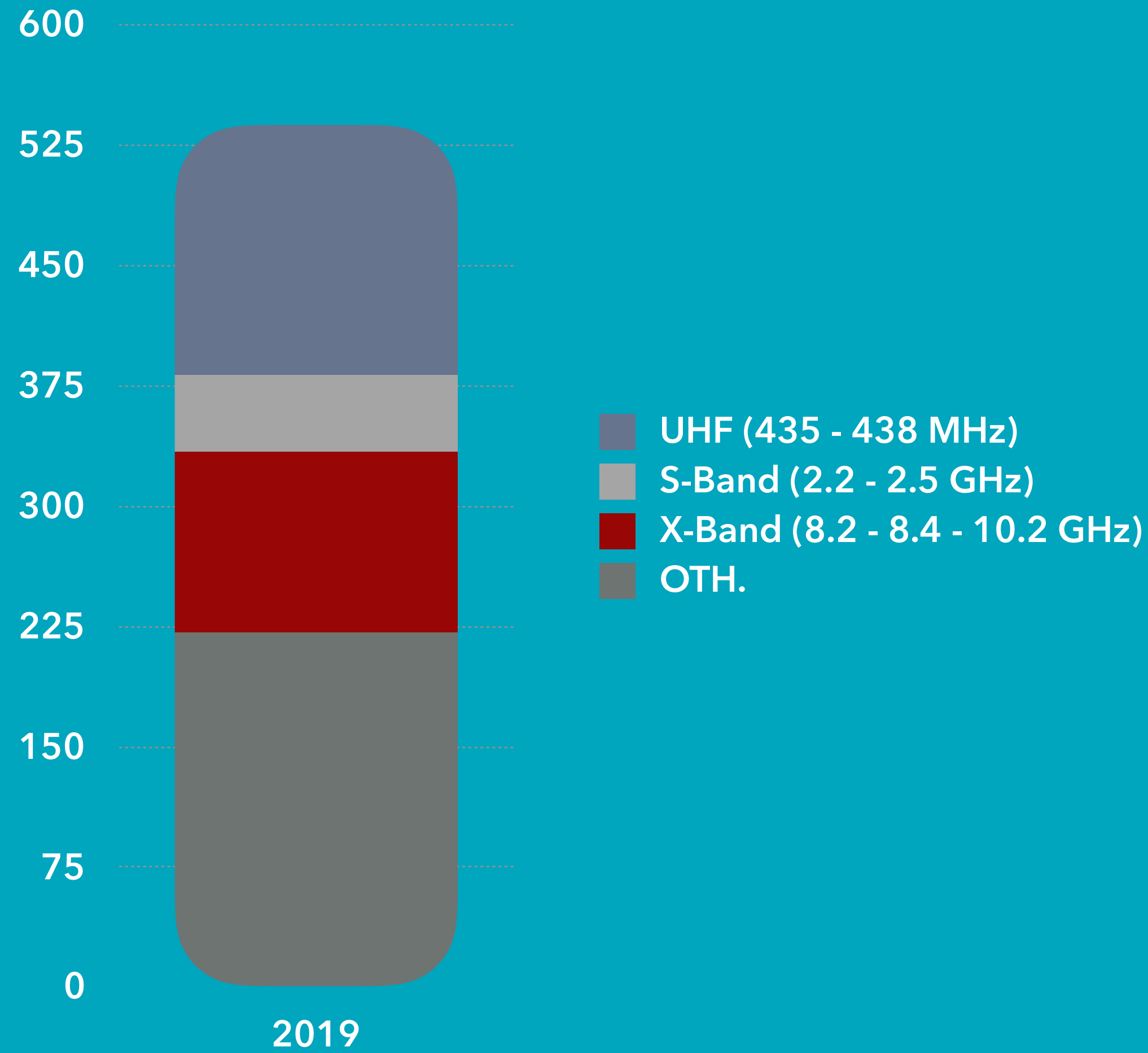


- STRUCTURE
- POWER MODULE
- COMMUNICATION MODULES
- ANTENNA
- ON- BOARD COMPUTER
- SOLAR PANELS
- **"PAYLOADS"**



KEY STOPPERS - VERSATILITY

OPTICAL COMMS



- STRUCTURE
- POWER MODULE
- **COMMUNICATION MODULES**
- ANTENNA
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- SOLAR PANELS
- "PAYLOADS"

CUBESATS

CONSTRAINS of VOLUME/POWER

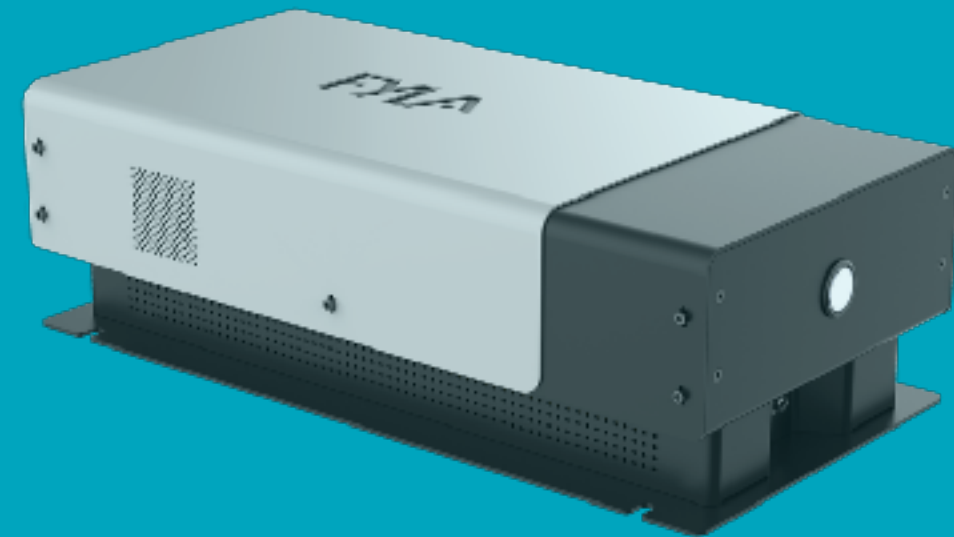
- 20-30W
- 6U / 3U as Growing standard
- Move from 100Kg to 10Kg systems range

CONSTRAINS of TRANSMISION RATE & QUALITY

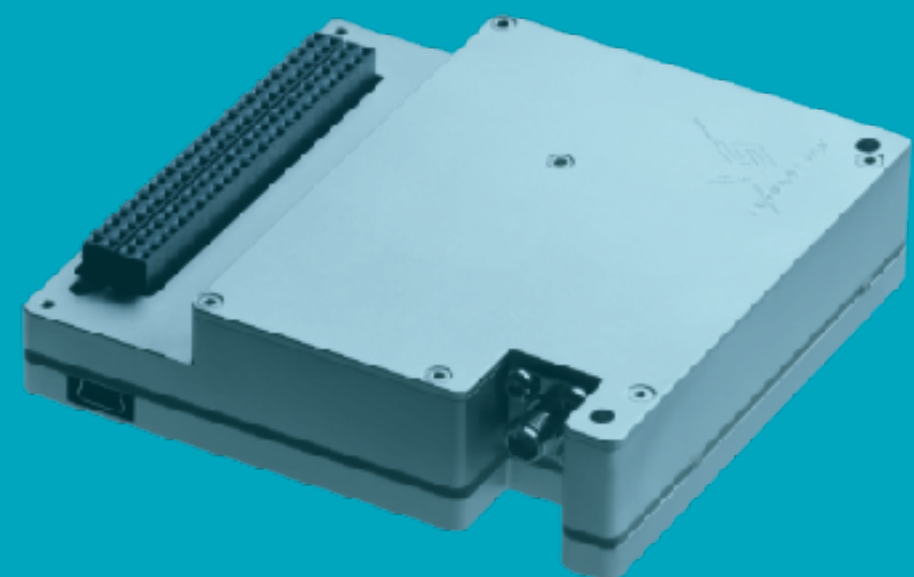
- Move from RF (UHF) rates to S/X band rates
- Jump from Mbps to Gbps or more
- best SNR / dB to decrease power consumption/signal Q

CONSTRAINS of ROI

- More Space for PAYLOADS, better Data/Volume ROI
- Success Deployment Rate from 50% to 30%



Emission technology	SNR	SFDR	Transmission band	Transmission Rates	Price/Volumes
RoF	>55 dB	>100 dBc	2.2 + 8.8 GHz 2.5 + 10 GHz	Tb/s	<18k
RF	max. 33 dB	60 dBc	8.8 GHz	Gb/s	~20k





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