

# RANGE OF NANOSATELLITES





The current market for access to space and of space applications is undergoing a revolution. Industry, communication and Internet giants have generated this departure from the norm. The small satellites of tomorrow, whether deployed alone or by constellation, will provide the data forming the digital economy of the future and promote the emergence of new services and applications. HEMERIA contributes to this change by offering an unmatched balance between quality, cost, development schedule and time to orbit of a modular satellite platform solution.

#### **HEMERIA OFFERS:**

- ★ A range of small platforms
- ★ An excellent operational reliability
- ★ Satellites dedicated to observation, low-speed telecoms and technological demonstration
- ★ A lifetime of up to 5 years
- ★ COTS and ITAR-Free components
- ★ A very attractive cost
- ★ Leadtime from 12 months



MARKETS



#### SPACE

Large space or government agencies, industrialists and satellite or space equipment manufacturers.

### DEFENCE

States, government agencies, armed forces, intelligence or intervention services.



#### INDUSTRIES AND TRANSPORT

Interest for private use of satellites (e.g. insurance, perishable goods manufacture, piracy, humanitarian aid, risk and disaster management)

#### RESEARCH

research centres, laboratories, universities, etc.



# APPLICABLE MISSIONS

**Medium and high resolution earth observation (video and imagery):** detailed mapping, urban studies, precision farming, environmental monitoring, extensive infrastructure monitoring, planning and organization of humanitarian assistance, mapping of impacts natural disasters...

In-flight demonstrations: satellite solution, payload elements, system architecture

Scientific research: science of the earth and the universe, pioneering missions ...

**Connected object data collection:** fleet monitoring, extensive infrastructure monitoring, connected object control, AIS / VDES, ADS-B, Blue forces ...

Defense: surveillance of space, listening, real-time imaging on theater of operation

	Standard Platform Configuration (tech demo missions)	Intermediate Platform Configuration (simple commercial missions)	Advanced Platform Configuration (E0 mis- sions, constellations)
Nominal configuration	Core Avionics, Core AOCS, S-Band downlink,	Core Avionics, Core AOCS, High Rate S-Band downlink, +2 Reaction Wheels, GPS, Star Tracker	Core Avionics, Core AOCS, High Rate S-Band downlink +2 Reaction Wheels, GPS X-Band downlink, Propulsion, Star Tracker
Spacecraft Size	8U	12U	16U
Spacecraft Max Solar input Power	80W	100W	160W
Payload Mass	~5 kg	~10 kg	~8 kg
Payload volume	4 liters	5 liters	7 liters
Payload Pwer (EOL Թ 600 km SSO)	Up to 15W avg. 100W peak	Up to 30W avg. 200W peak	Up to 45W avg. 200W peak
Uplink Data Rate	64 kbps (S-Band)	Up to 256 kbps (S-Band)	Up to 256 kbps (S-Band)
Downlink Data Rate	512 kbps (S-band)	Up to 2.5 Mbps (S-band)	Up to 2.5 Mbps (S-band) Up to 100 Mbps (X-band)
Delta-V	-	-	Up to 500 m/s
Attitude Pointing Error	< 5°	< 1°	< 0.1°
Mission lifetime	3 years	5 years	5 years
AOCS Pointing modes	NADIR, SUN	NADIR, TARGET, SUN	NADIR, TARGET, SUN



## AN << A LA CARTE >> NANOSATELLITE ?

- Star Tracker
- X band for high speed TM (100 Mbps)
- Propulsion
- Broadband amount link (256 kbps)
- GNSS receiver
- Tailored configurations of solar generators

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