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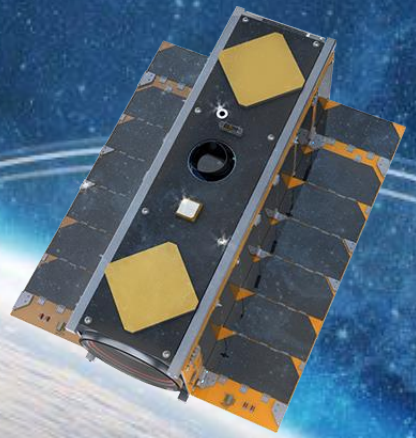

Avionics for emerging space market,

Powered by PicoSkyFT Technology

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CEO

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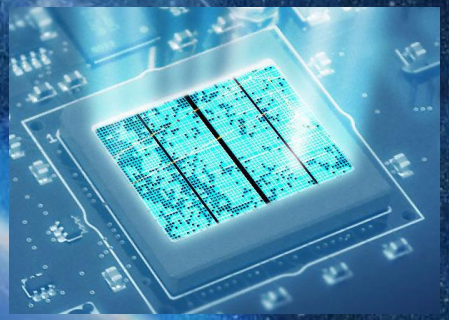
SkyLabs at glance

- **Highly skilled electronics and software engineering team**
  - **Embedded electronics and software development**
  - **Analog electronics, radio systems, and signal processing**
  - **IP Cores (digital and mixed signals)**
  - **M2M solutions and protocols (M2M, COAP, MQTT)**
- **Engineering development approach**
  - **Miniaturization key aspect (following latest technology trends)**
  - **Hardware accelerated approach**
  - **Awareness of harsh space environment effect**
  - **Following ECSS, MIL, SAE**
- **R&D**
  - **H2020 experience**
  - **Core research capabilities (8 FTE)**
  - **Cooperation with University of Maribor**
  - **Safety critical applications (FT system design)**
  - **Decentralised intelligent remote terminal units (sensors, actuators, …)**

SkyLabs Vision

We are innovating the aerospace market with SkyLabs disruptive technologies, products and solutions to change the layout of space.

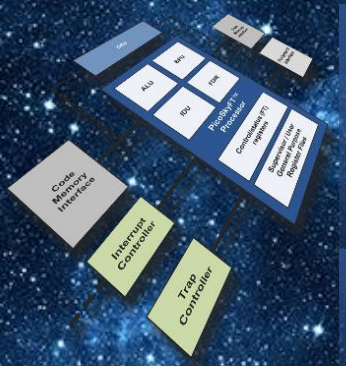


esa OHB NASA Jet Propulsion Laboratory California Institute of Technology SYDERAL ELECTRONICS AND SOFTWARE -P-C-L- Printech Circuit Laboratories teletel dhv technology

PicoSkyFT Ecosystem

Radiation hardened by design 8/16bit small footprint processor

[PicoSkyFT processor ecosystem]

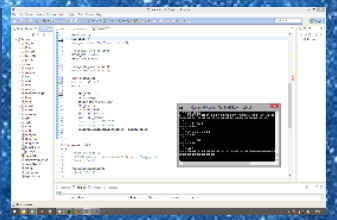


PicoSkySIM™ & Toolchain

- *Complete toolchain and debugger*
- *Clock exact simulator*
- *Interface board*

TMRCreator

- *Tool for automatic full or selective triplicated spatial redundancy on flip-flops level*



PicoSkyFT Radiation characterization

- *PSI Vilingen Switzerland: proton beam 225MeV, ~ 2 SEU / s*
- *CHARM CERN, France: Heavy Ions (Argon) 40GeV, ~ 200 SEU / s*

[DB-A3PE]

[SKY-9213]

[DB-M2GL]

[SKY-9202]

Development Boards

- *MIL-STD-1553B*
- *SpaceWire*
- *CAN*
- *USB*
- *ADCs, DACs*
- *SPI / TWI*
- *SerDes*
- *RS422/232*
- *PIO*

cpciSDR 1x1

- *3U CPCI® SDR Card*
- *Xilinx Artix®-7 FPGA*
- *RF 1 × 1 transceiver*
- *Dual CAN, SpW*

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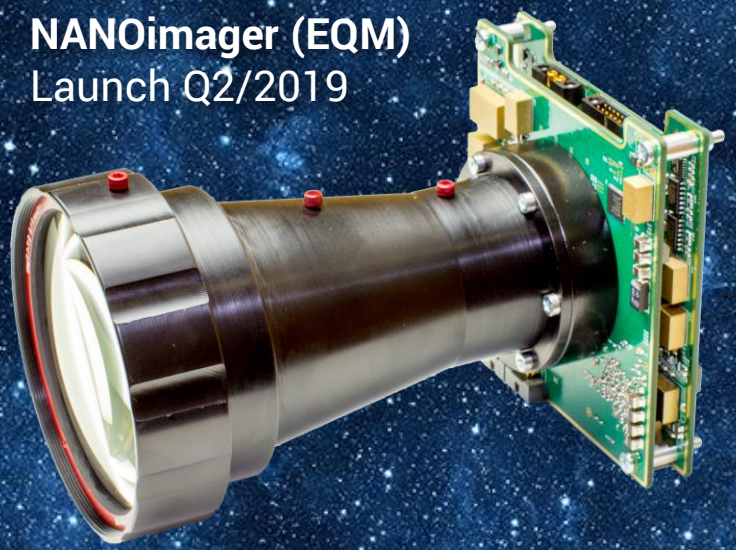
Multispectral SWIR Camera

NANOimager (EQM)
Launch Q2/2019



- *20 spectral channels 900nm – 1700nm*
- *Radiation hardened by design*
- *Hot redundant mass storage eMMC with capacity up to 64 GB*
- *LVDS interface link for high speed data transfer*
- *Hot redundant CAN interface for TM/TC*
- *Powered by PicoSkyFT™ processor*

Target applications:

- *Enhanced situational awareness with lowest light imaging capability*
- *Imaging through extreme conditions including haze, smoke and dust*

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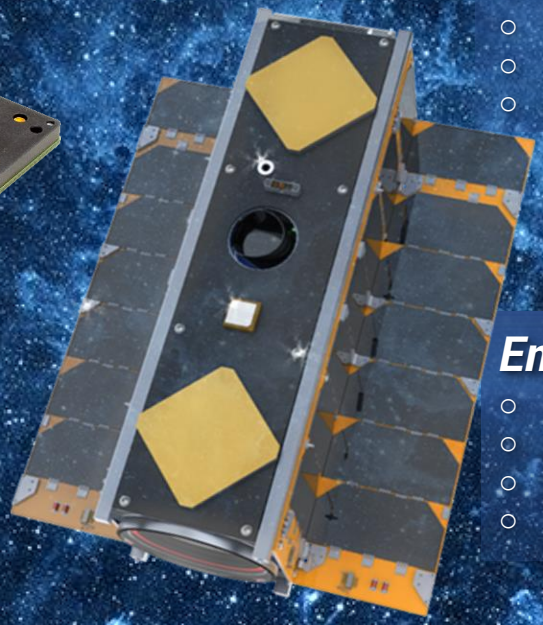
NANOsky I - Satellite avionics

Highly miniaturized but big on features reliable system

NANOlink - S-band transceiver

- *Software Define Radio architecture w/ FDIR*
- *Tx @ up to 2W or 5W*
- *8 Mbps @ 4 MHz BW (OQPSK)*
- *Hot redundant transceiver*
- *ECSS CCSDS compliant*

NANOsky platform



NANOobc - On-board computer

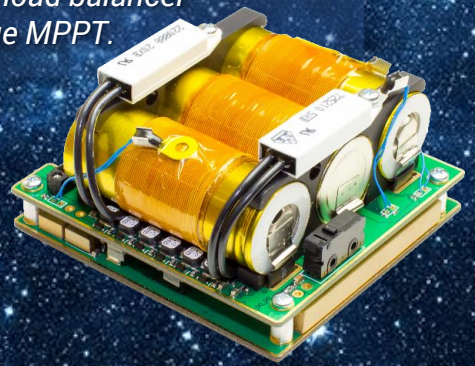
- *SEE Tolerant w/ FDIR*
- *Powered by **PicoSkyFT***
- *Hot redundant mass storage*
- *Latch-up protection*
- *High speed links*

NANOcomm – TM/TC communciation module

- *ECSS CCSDS compliant*
- *Several modulation schemes supported*
- *UHF downlink / VHF uplink*
- *Full duplex @ 32.8 kbps / 2W*
- *Hot redundant receiver*
- *Direct command interface*

Embedded Power Supply

- *30Wh / LifePO4 battery tech*
- *Three level FDIR policy*
- *Passive load balancer*
- *Analogue MPPT.*



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„We innovate aerospace“

nanoRACK concept

Remote Terminal Unit in 2.5” card slots

nanoRACK concept

*The **nanoRACK** concept*

- *Compact and miniaturized 2.5" **NANOrtu***
- *High number of interfaces at reduced volume & mass*
- *Highly scalable and modular approach*
- *Interoperability through standardized redundant CAN communication protocol.*
- *Comprehensive local telemetry acquisition*

NANOrtu-PowerIO card

NANOrtu-DS-AI card

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- Avionics for emerging space market
- Special embedded systems build in Fault Tolerance techniques
- Key enabling technology for safety critical applications
- Highly versatile development boards

Koroska Cesta 53D

SI-2000 Maribor

Slovenia

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