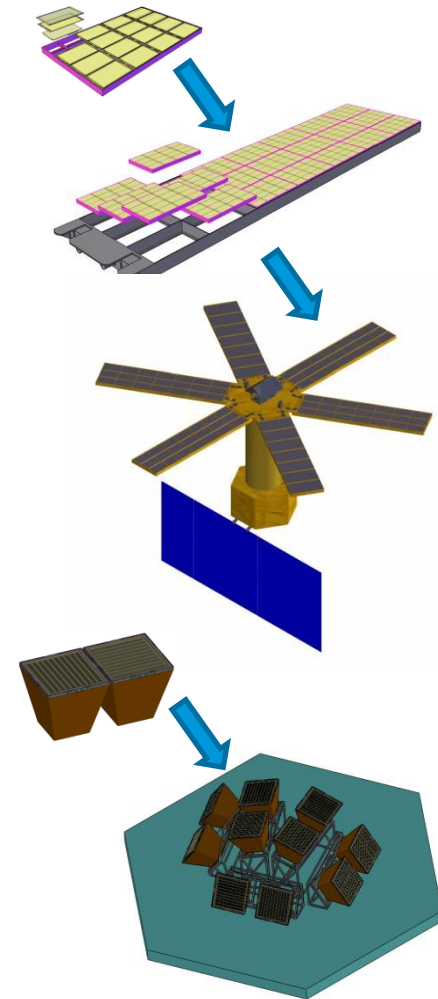


## Mission Description

- Non-imaging X-ray energy & timing observatory in  $\leq 600\text{km}$ ,  $\leq 5.2^\circ$  inclination LEO, 4.25 + 1 year mission duration
- Investigation of neutron star structure, Equation of State of ultra-dense matter in strong g-field conditions
- **LAD**
  - deployed  $10\text{m}^2$  effective area at 8 keV, collimated FoV  $\sim 1^\circ$  FWHM, location accuracy  $1'$ , 2-30 keV nominal energy range,  $10\ \mu\text{s}$  time accuracy, 200 eV (FWHM) energy resolution, nominal Field of Regard 35% of the sky, degraded Field of Regard 50% of the sky
- **WFM**
  - $1\text{pi}$  steradian FoV, location accuracy  $1'$ , 2-30 keV nominal energy range, 500 eV (FWHM) energy resolution,  $10\ \mu\text{s}$  time accuracy, burst-alert service to x-ray astronomy community



## Interface Description

- LAD: ~1000 kg, 1.5 kW, 960 kbps
- Building block: ~520x350x40mm **LAD Module**, ≥123 required to provide the 10m<sup>2</sup> of effective area at 8 keV
  - LAD Module volume envelope the critical I/F
  - Driving requirements:
    - 200 eV detector energy resolution - combined function of radiation dose (orbit) and operating temperature
    - 5K temporal and spatial temperature stability
    - LAD effective area response stability (jitter)
    - 40% observation availability
- WFM: ~100 kg, 110 W, 90 kbps
- Building block: **Camera Unit**, 5 required to provide wide FoV
  - Temperature stability driven by coded mask thermo-elastic distortion
  - Fast burst-alert service (30s to end user)

