



AstroPix: Production Vendor

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on behalf of the AstroPix team

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Overview

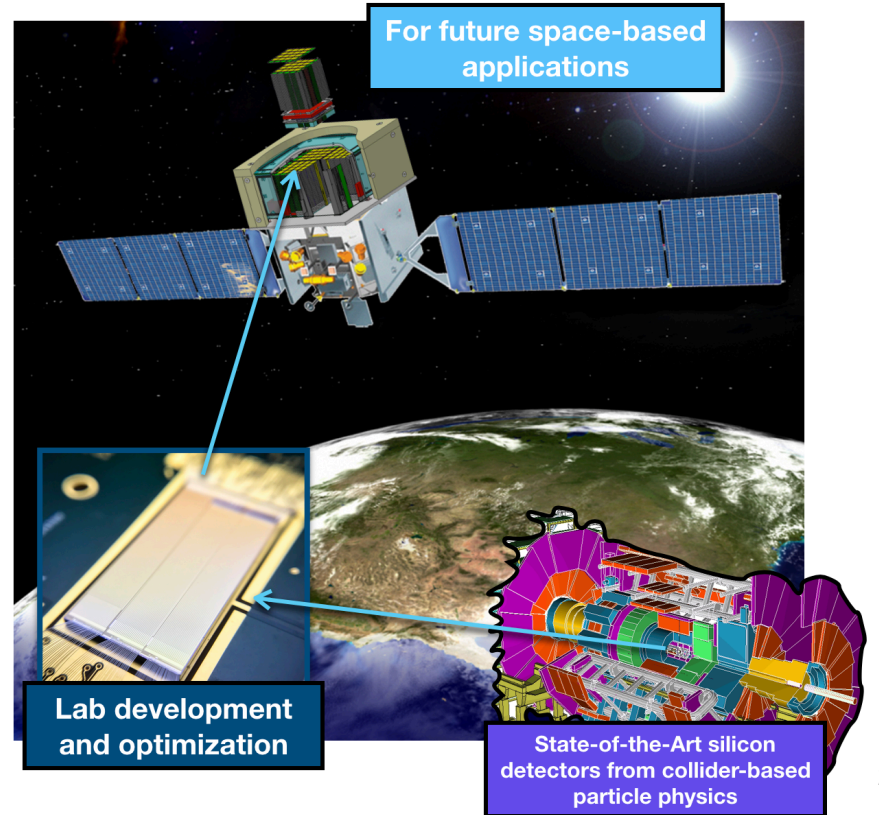
Develop silicon pixel detectors for use in space

- replace double sided silicon strip detector technology
- ATLASPix is a foundation (HV CMOS, monolithic)

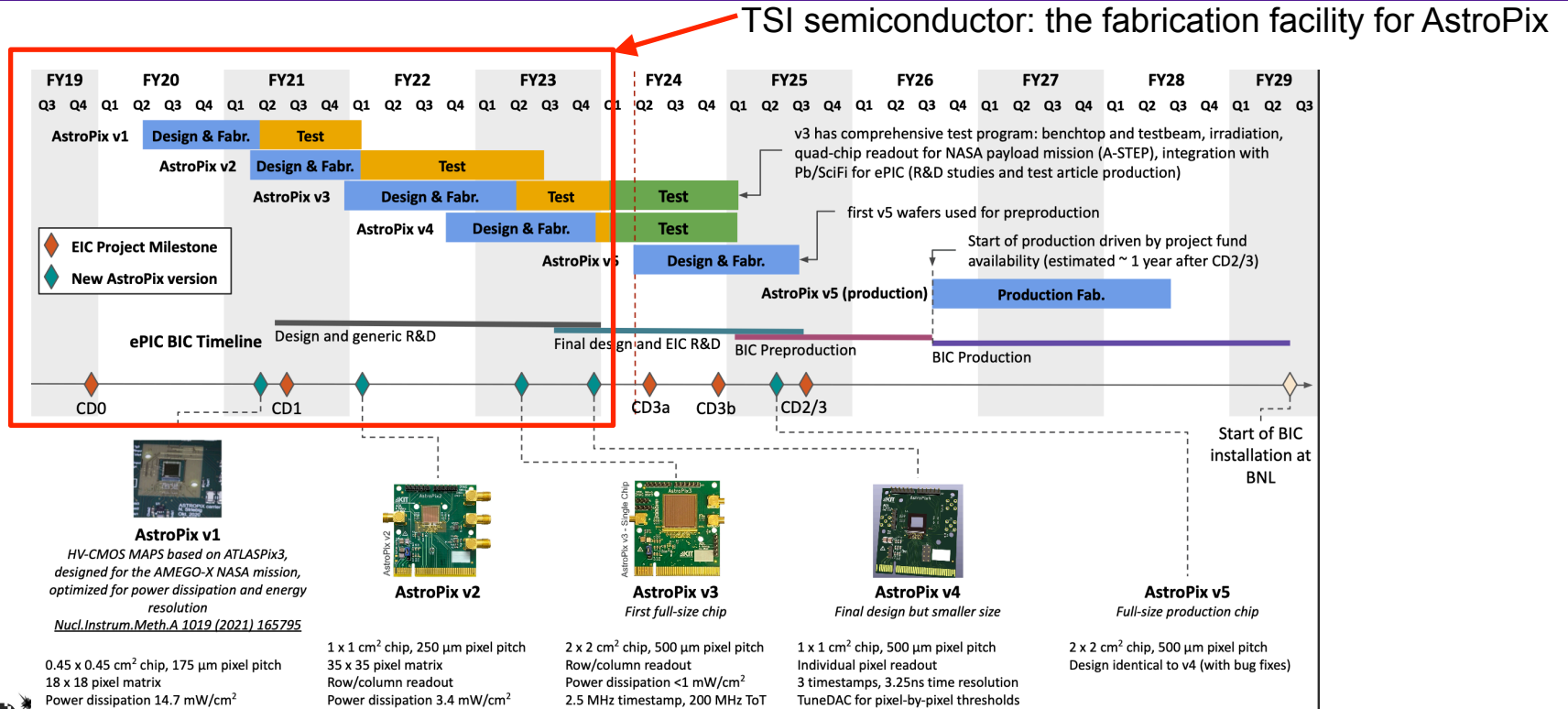
Determine what needs/can be optimized for gamma-ray instruments ← Astro2020 Decadal Priority (next generation wide-field gamma-ray explorer)

Design, fabricate, test AstroPix

Test performance, determine suitability for space use



Production Vendor History



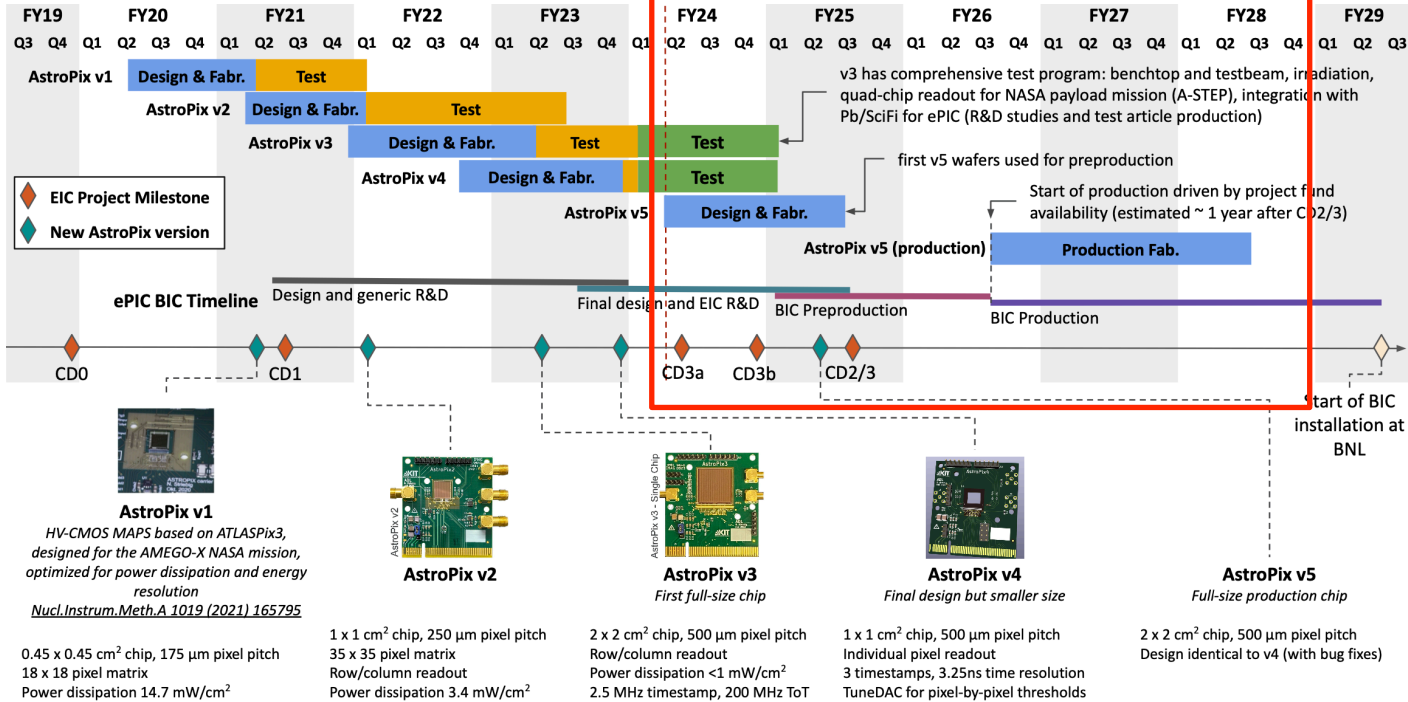
AstroPix Production Foundry (TSI) Status (10/23)

- TSI Semiconductor purchased by Bosch Semiconductor LLC in August 2023
- Bosch is ceasing production of all Si CMOS technologies in favor of silicon carbide in January 2024
- Allowed one final production with masks that exist
 - 25 AstroPix_v3 wafers (total of ~50)
 - Enough for 3 additional layers
- Alternative foundries for AstroPix production (180 nm HV-CMOS)
 - Secured MPW run at AMS early 2024
 - Worked with KIT previously
 - Same aH180 process on high res wafers
 - Determining cost/schedule
 - LFoundry as an additional backup
 - 150 nm technology
 - Benefits, but will need to modify design



Production Vendor Future

AMS next fabrication facility for AstroPix



Likely will need an additional production run at AMS for testing