

EICROC monthly
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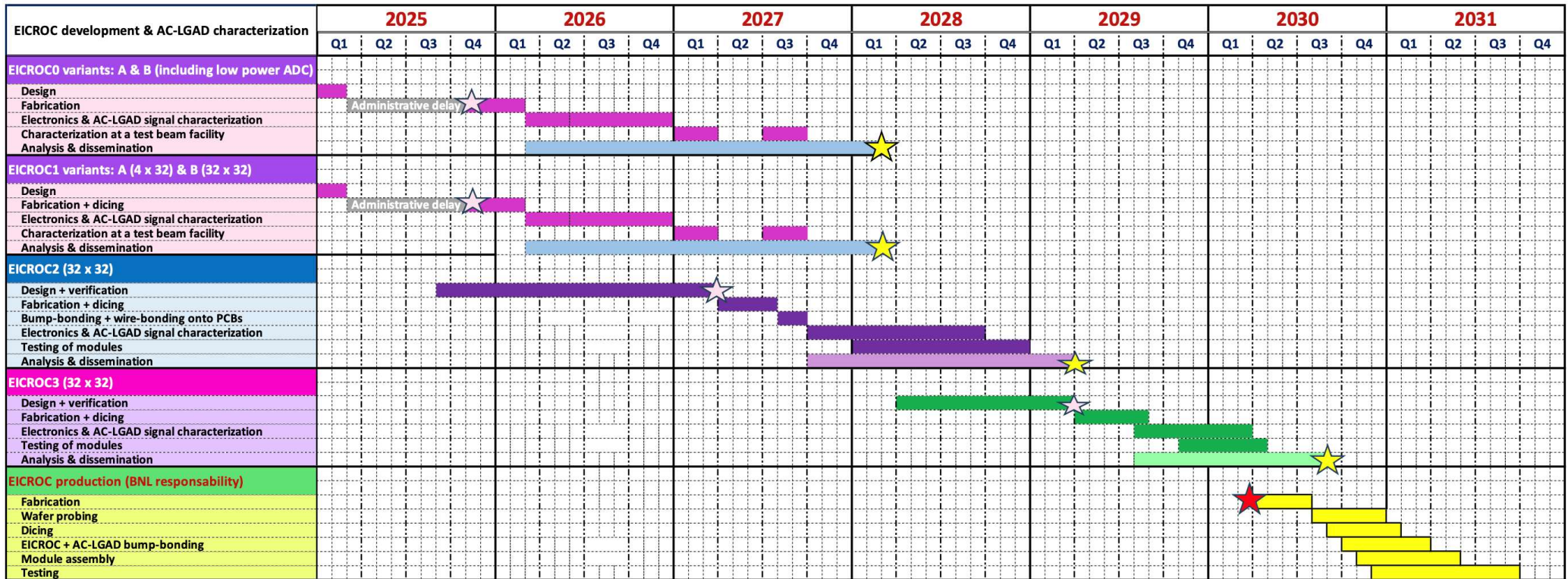
Organization for **M**icro-**E**lectronics desi**G**n and **A**pplications

- EICROC2 (Q1 2027) should be the final prototype
 - DoT and SRO with all functionalities
 - Will be used for detector and SRO DAQ validation
 - Most likely to go to TSMC fab 14 => radiation validation will need to be redone
- Schedule allows a possible EICROC3 iteration for bug fixes : **only for roman pots**
- Production is ~~a single engineering run at TSMC (< 25 wafers)~~ : **33-46 wafers**
 - Note that TSMC has stopped MPWs in 130n, but engineering runs continue
 - Production likely to be shared with CALOROCs
 - **Production run is 25 wafers, engineering run multiples of 6 wafers**
- QA/QC
 - Chips will need to be tested at wafer level with probe station
 - Will need to be outsourced

- Preliminary measurements of the EICROC1 are very encouraging; ~60 chips with fixed inverter issue (spare wafer) to be available for tests with sensors/detectors ~July 2026.
- Specifications for readout and rates from all EICROC detectors to be provided to developers soon.
- Availability of Test Boards to be coordinated with BNL and Tonko very soon.
- QA/QC will need to be performed by collaborating institutions; OMEGA/IJCLab will provide documentation from ALTIROC, for guidance.
- Schedules at OMEGA/IJCLab need to be revised to meet EIC needs. P6 has had EICROC production for all EIC detectors in FY28 for some time now.
- In-Kind contribution is set in EI



EICROC & AC-LGAD read-out characterization Timeline



Possibly

☆ EICROC submissions ★ Publication ★ Start of production

Start of Early Science Program: ~ 2035 ; Roman Pots & OMD installation: not before 2036 → « On schedule »

- EICROC2 will be fabricated Q1 2027, it will have final specs and functionalities
- Extensive tests with sensor and DAQ, « module 0 » validation are necessary to go into production
- If all goes well or only minor modification are needed a production run could be done in 2028
 - If major modifications are needed, EICROC3 would be needed and add ~1 year