# EICROC status and plans
# eRD109 monthly meeting
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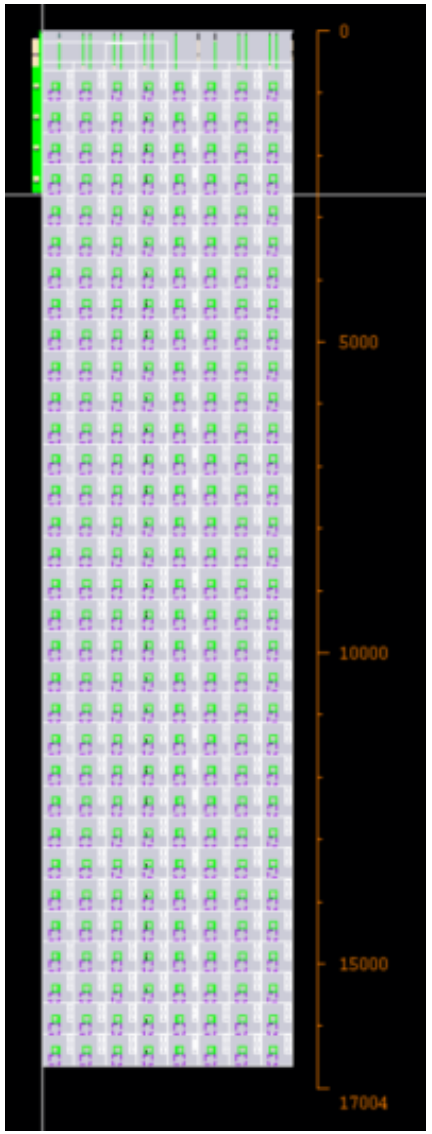
Organization for Micro-Electronics desiGn and Applications

# Next steps : EICROC1 32x32

- EICROC1 : 8x32 = 256 pixels or 32x32 = 1024
  - Layout complete for 8x32. DRC/LVS OK
  - Still EICROC0 digital architecture and Readout
  - 2/8 data outputs : 1 for 128 pixels (4x32)
  - Looking to increase R/O speed. Possibility to skip pixels by slow control
  - Looking to improve testability.
  - Verifications in progress (~2 months)
  - 32x32 would likely have 3-4 different flavours of 8x32




- EICROC1 addresses floorplan issues
  - Power drops along column, threshold uniformity
  - TDC uniformity and dependance on number of channels triggering

- Variants of EICROC0 will also be submitted
  - Lower power in the ADC branch (100 µW)

# Chips versions

| Chip | date | Techno | size | Analog | Digital | goal |
|---|---|---|---|---|---|---|
| EICROC0 | Jun 2023 | 130n | 4x4 | Conservative | Simple | Study sensor |
| EICROC0A/B | beg 2025 | 130n | 4x4 | Low power | same | Study analog |
| EICROC1 | beg 2025 | 130n | 32x32 | Conservative | Same | Study power distribution |
| EICROC0_65n | end 2025 | 65n | 4x4 | final | Simple | Study analog in 65n |
| EICROC2 | End 2026 | ? | 32x32 | Low power | Final | First final prototype |

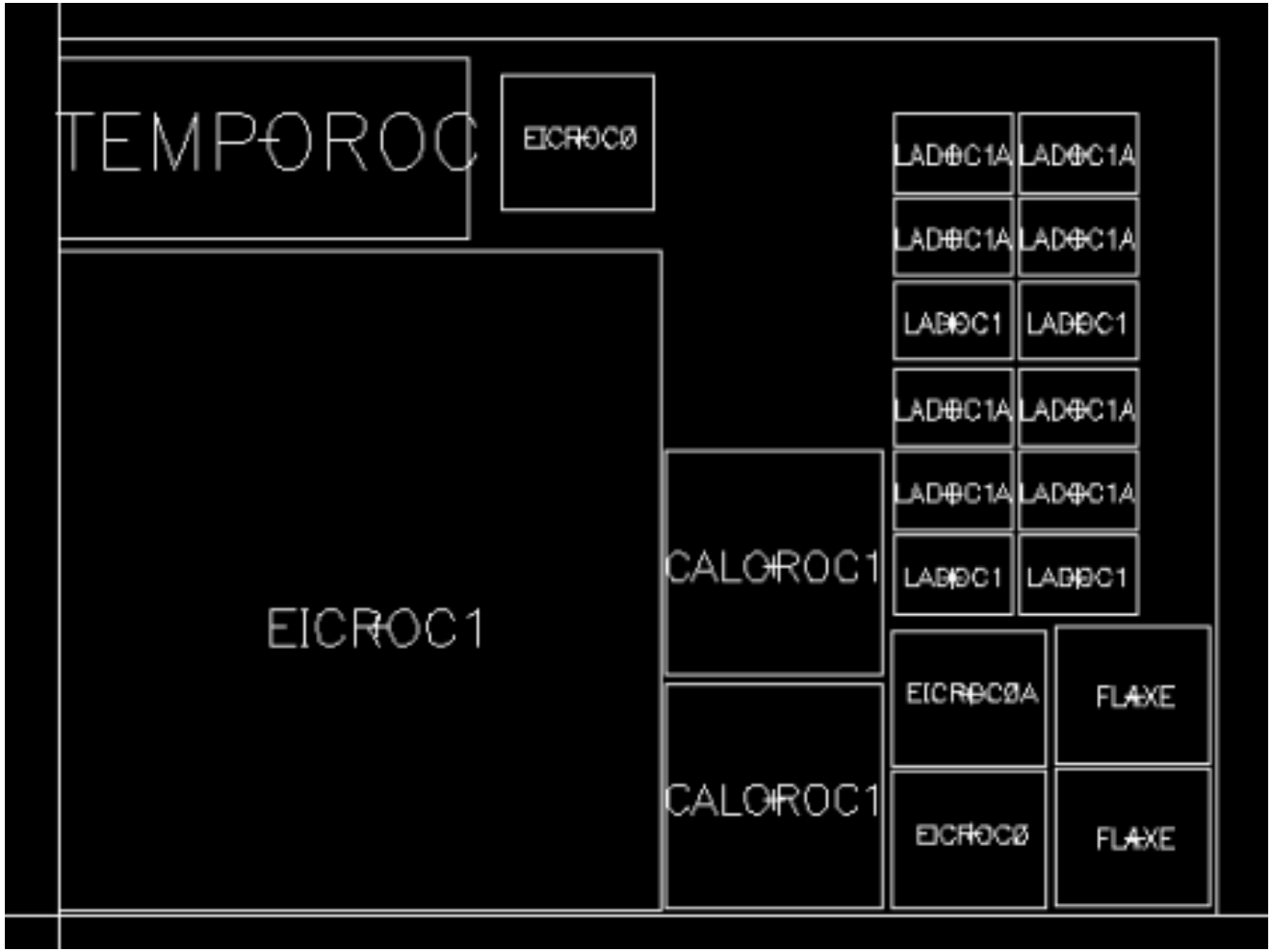
| Chip | date | Techno | size | Analog | Digital | goal |
|---|---|---|---|---|---|---|
| CALOROC1A | beg 2025 | 130n | 36ch | Conservative | Final | Study sensor |
| CALOROC1B | beg 2025 | 130n | 36ch | Low noise | final | Study analog |
| CALOROC2 | End 2026 | 130n | 36/72 | final | final | First final prototype |

# EIC reticle 2024

- TSMC now requires to fully populate the reticle of 24x32
  - Cost ~300 k€

- For EIC we would have
  - EICROC1
  - 2 or 3 EICROC0/A/B
  - 2 CALOROC1A/1B
  - ~60% of reticle area

- Possible additionnal partners
  - ~20% of reticle area
  - Still space available (if ready in time !)



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