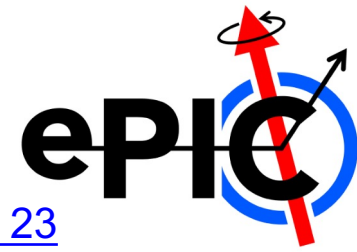


# SVT IB production:

- update on interested institutions

N. Apadula (LBNL), D. Elia (INFN), G. Viehhauser (Oxford)

# ePIC SVT IB interested institutions



## Map of interests/contributions:

update wrt [ePIC SVT meeting Jan 23](#)

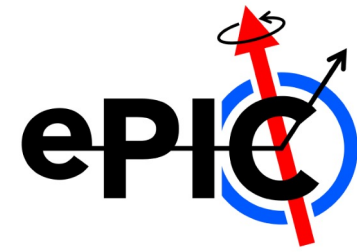
- integrated design of the 3 innermost layers including mechanics, cooling, readout and powering, up to the electrical/optical interface:
  - ✓ develop bending procedure, eg L0 (similar for L1)
  - ✓ extend to L2 considering additional issues
  - ✓ design L0/L1 and L2 support structures
  - ✓ integration of the cooling needs
  - ✓ development of the edge FPC(s)
- choice of the cooling:
  - ✓ simulation studies with ANSYS
- thermo-mechanical prototypes:
  - ✓ build prototypes for both L0/L1 and L2
  - ✓ perform dedicated tests of prototypes in wind tunnel
  - ✓ test of embedded silicon thermal properties in a thermal chamber
- support structure within the subsystem to keep everything together
  - ✓ connection of L0/L1 to L2
  - ✓ explore needs for a (light) supporting external shell (to L2)



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## Specific activities from design to construction:

- **INFN:**
    - ✓ L0 & L1 concept/prototyping
    - ✓ construction of L0 & L1 (should include bending, wire bonding, testing etc.)
    - ✓ IB global mechanics design/prototyping/production
    - ✓ ER2/3 sensor test and characterization
    - ✓ ageing tests in climate chamber
    - ✓ possible interest for IB FPC (qualification/production?)
  - **MIT:**
    - ✓ L2 concept/prototyping
    - ✓ construction of L2 and integration with L0 & L1 (same as above)
    - ✓ wafer probing of sensors
    - ✓ ANSYS-based simulations
    - ✓ wind tunnel development and related tests
  - **LBL:**
    - ✓ cooling → prototypes and simulation, air inlet & outlet, beam-pipe bake-out
    - ✓ service cones and how they connect to IB & first disc
    - ✓ interest in entire IB design, but not clear on workforce availability for this
    - ✓ interest in IB construction as well → can see where we fit in with the other efforts
  - **STFC:**
    - ✓ IB FPC design/prototyping, possible interest in production
- in most cases interests to be confirmed/cross-checked against funding and workforce availability
  - detailed production plan needs to be discussed, timeline and connections of different steps being implemented/updated in the corresponding (WP4) WBS