Possible path forward: IB option

PLAN-A
(conservative, sPHENIX assembles at CERN)

- Buy "spare" components from CERN
  - No $$ commitment to CERN until CD3a
  - payment @CD3a, 11/2017
  - MAPS(~2% ALICE)
  - HDI/Staves (~50% ALICE, 48/120)
    - New Staves/HDI productions needed?
  - MAPS chips available ~6/2018
- We do:
  - New Staves/HDI productions via CERN
  - Reuse ALICE IB assembly lines/tooling
    - Stave assembly @CERN
    - Contract w/ CENR or we provided manpower
    - QA, assembly & testing
  - Setup tooling @US
    - It will take a long time and trainings, experience
  - Develop readout interface (LANL)
    - Copy ALICE RO
  - Mechanical support (LBNL?)
- Full system ready by 12/2020
  - 2018/2019/2020, 3-years
  - Ready for beam 6/2021

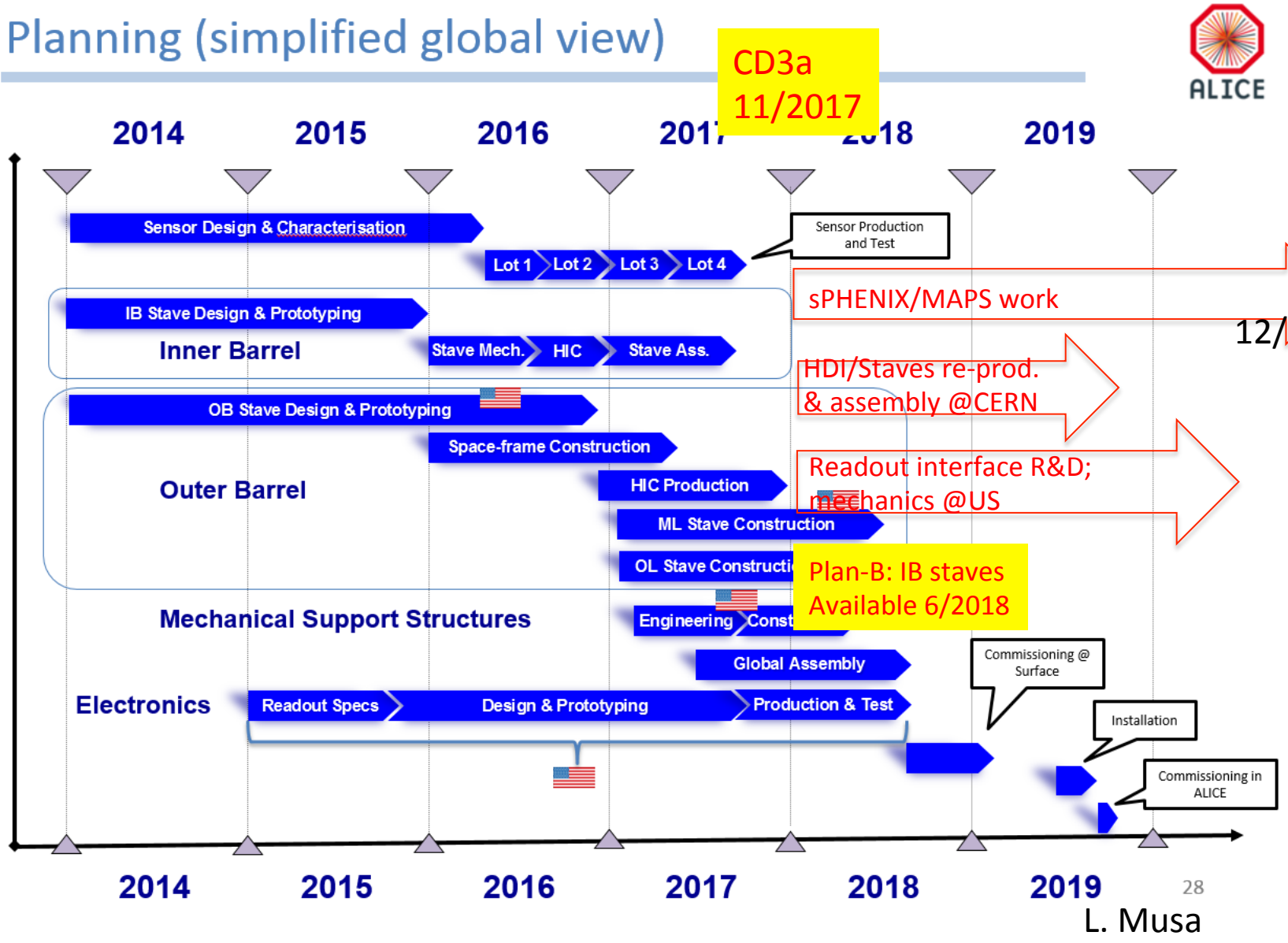
PLAN-B
(aggressive, purchase 60+ staves)

- Get fully assembled staves from CERN (IB)
  - O($1M) on material + labor
    - External funding before CD3
      - Nov/2017 (Jul 2018)
    - What if funding fails?
  - Available early 2018 (w/ ALICE IB)
  - Requires early contract with CERN
    - By 12/2016?
- We do:
  - Readout interface
    - LANL LDRD/FVTX setup
    - Copy ALICE RO
  - mechanical support
    - LANL LDRD?
    - Other institution, LBNL?
- Full system ready by 12/2020
  - 2018/2019/2020 3 years
  - Ready for beam 6/2021

$$ buy out risks and time

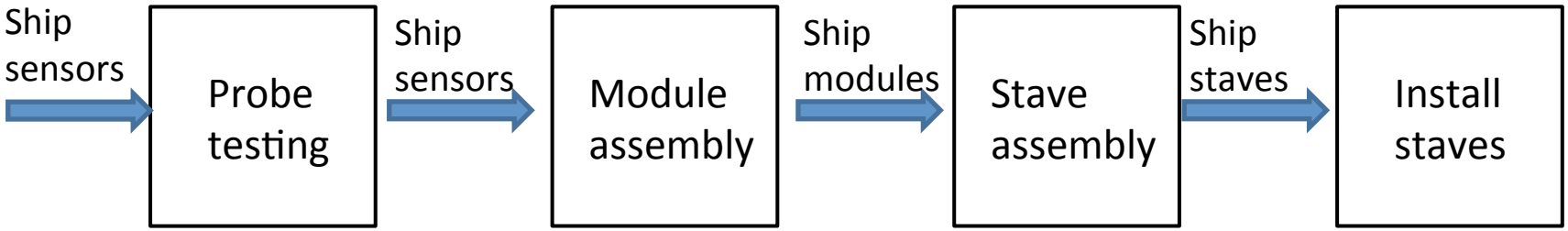
Leo's talk

Current Schedule: option-A/B



Workflow overview

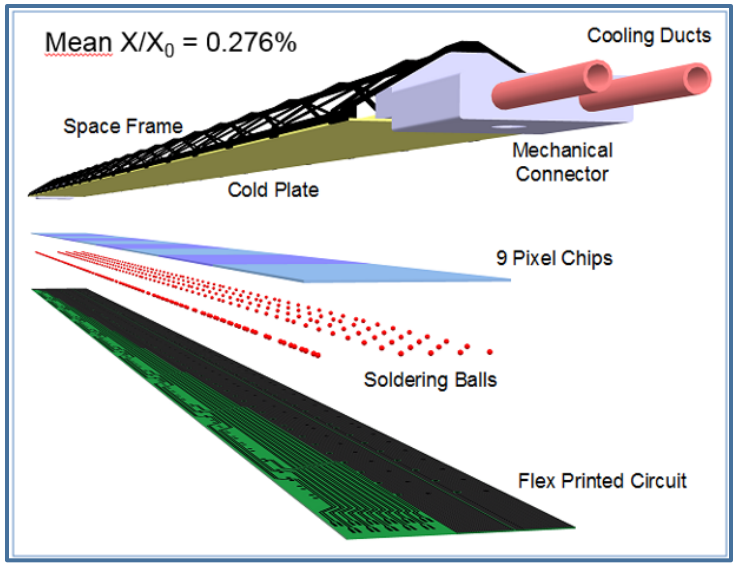
Leo's talk

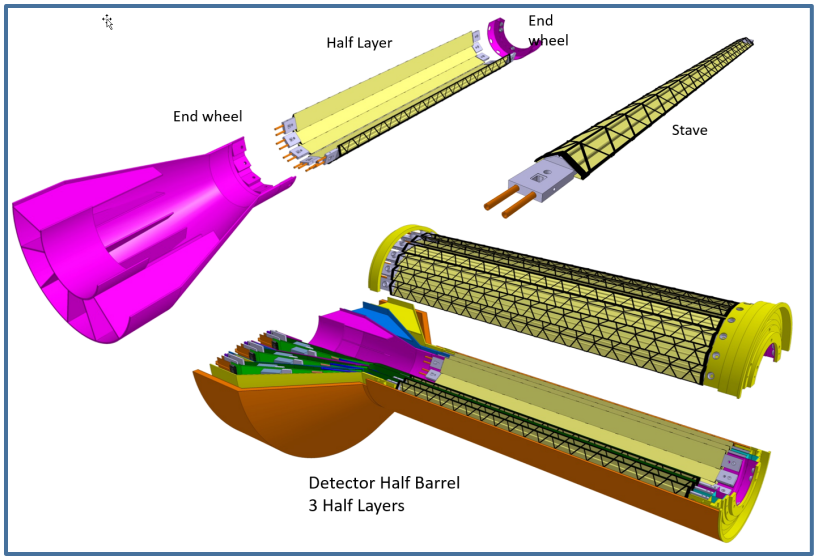


- This is a draft overview of the workflow for building middle and outer layer staves.
- For this draft, we assume wire bonding for the interconnection technology.
- For this draft, we assume the tabbed version of the FPC.
- We are specifying a baseline workflow and will update as the sequences become more developed.
- Not all processes are fully developed.
- In the shipping stages, the barcode information for each item is stored in the database.

ITS Inner Layers

Leo's talk





48 inner staves

Readout for:

- 432 Sensors
- 226 M pixels
- 0.19 m^2 of silicon

Very comparable to PXL