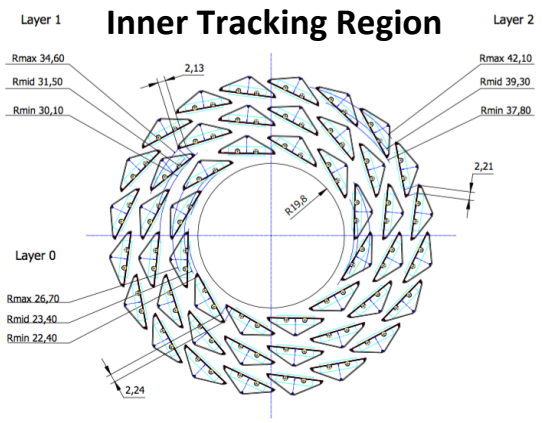
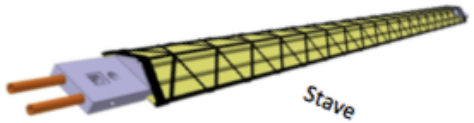
Goals

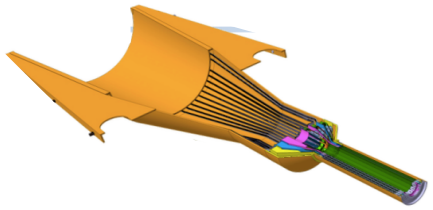
- Formation of MAPS Detector Group
  - Institutions and contacts
- Prepare for the September MAPS Cost & Schedule Review
  - Who: contact person, institute, expertise
  - When: your plan and schedule
  - What: resources, interest and tasks
- Future Plan discussion
  - sPHENIX cost and schedule review, ~Nov. 2016
  - New collaborators and other external funding opportunities
  - DOE MIE proposal writing? (needs to act fast!)

Scope of the Proposed MAPS Project

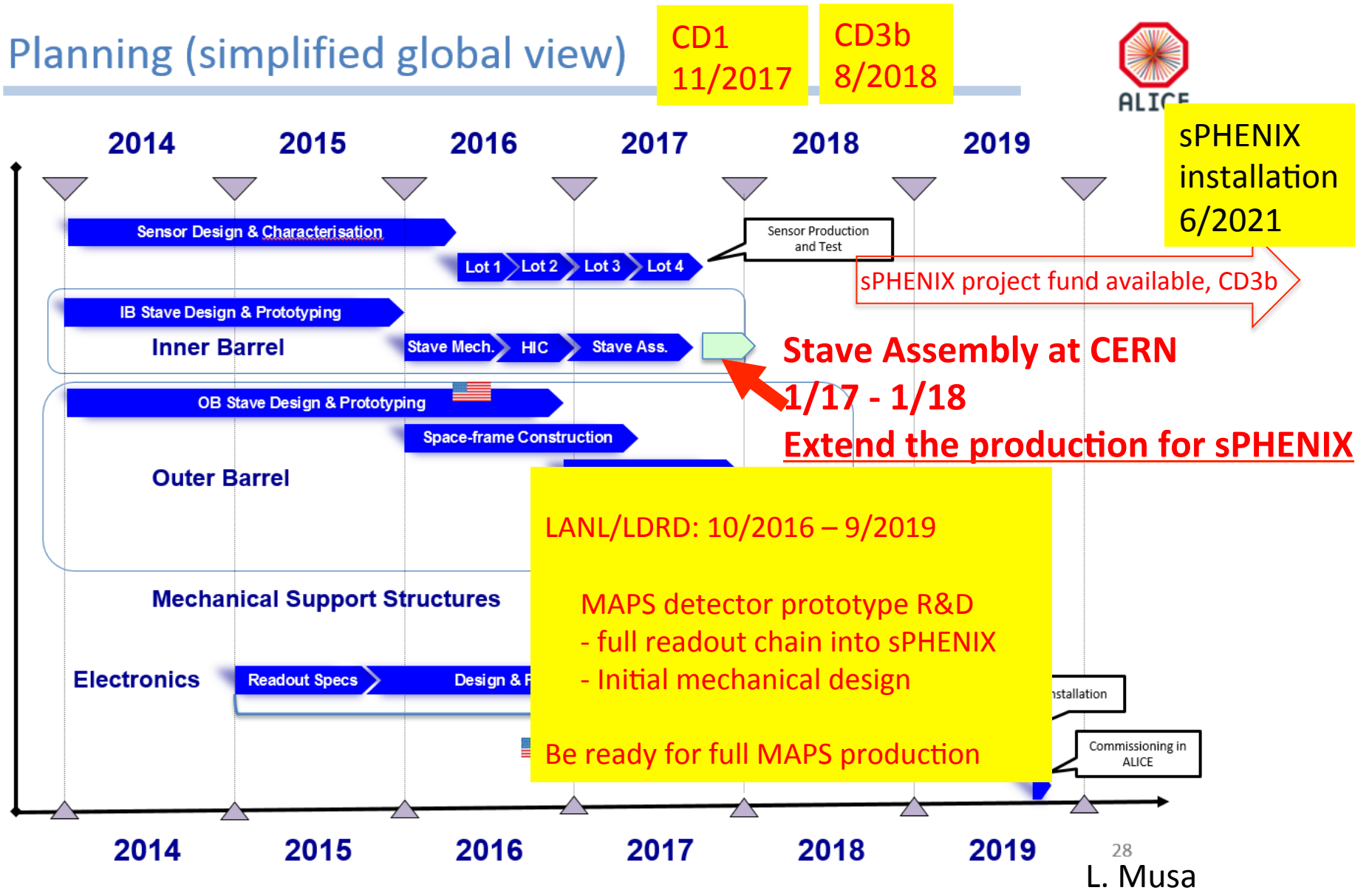
- Build “a copy” of ALICE/ITS 3-layer inner MAPS detector for sPHENIX
- Extend ALICE/ITS stave production
  - Minimize technical risks
  - “Buy” assembled and fully tested staves from CERN (48+40% =68)
  - ITS produces 120 staves (2x+20%)
- Modify ITS readout to match sPHENIX DAQ
- Modify ITS mechanical frame to fit sPHENIX world
- Physics and simulations
- Work at CERN on MAPS/ITS as ALICE Associate Members







Current ITS Schedule, +6 months delay



sPHENIX MAPS Detector Questionnaire

- Your institution and contact person
- Expertise and interests in the sPHENIX MAPS project
- Manpower
- Manpower could be used for activities at CERN?
- Available resources and capabilities

What of the above would you like us to include in the September tracking review presentations?

Backup

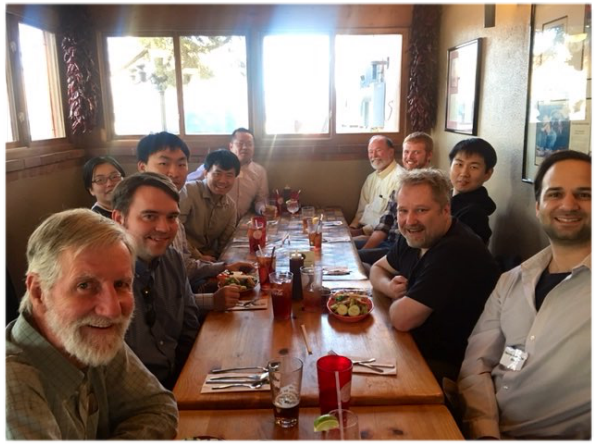
Building Collaboration

- Workshops organized in Santa Fe
  - MAPS experts from CERN, LBNL and BNL
- Strong support from ALICE MAPS groups
  - ITS project management, Musa et al
  - LBNL
  - Yonsei/Korean Institutions
- US institutions
  - UNM, NMSU, other (s)PHENIX institutions
  - MIT HI/ME groups
  - STAR/HFT group
  - LBNL, LDRD proposal to build mechanical support
- Other international collaborators
  - CCNU/ALICE?

sPHENIX Tracking Workshops in Santa Fe

1st Pre-DNP sPHENIX Tracking Workshop held in Santa Fe, Oct. 27, 2015
https://indico.bnl.gov/conferenceDisplay.py?confId=1364

Discussed various options for sPHENIX Tracking needs
MAPS technology clearly stands out from others



LANL MAPS Silicon Option
was examined at Santa Fe MAPS Cost & Schedule Workshop, Mar 30-Apr. 1, 2016

Excellent turn-out from sPHENIX, ALICE, STAR/HFT, EIC experts

https://indico.bnl.gov/conferenceDisplay.py?confId=1741

Take Home:
- Extension of ALICE production possible
- Inner tracker cost <$5M inc. contingency

BNL MAPS mini Review 6/30/2016

Very constructive feedback, ~60 homework items

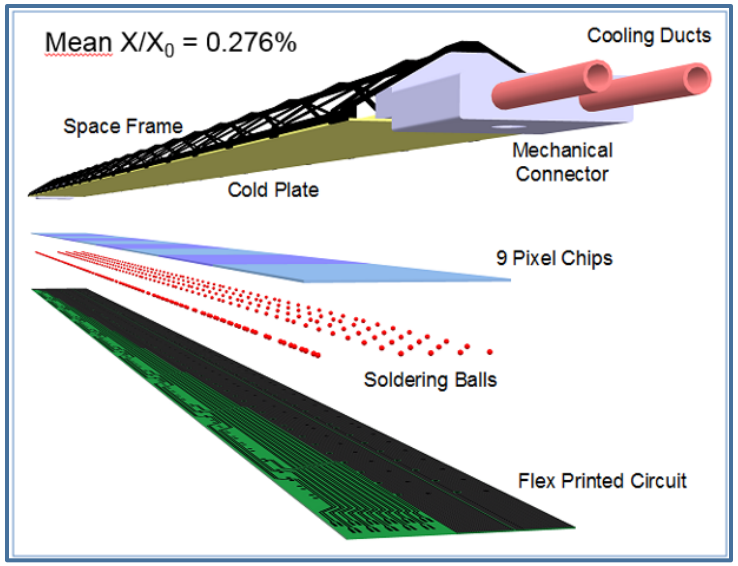
Summary of review action items and homework problems from sPHENIX MAPs mini-review 06/30/16

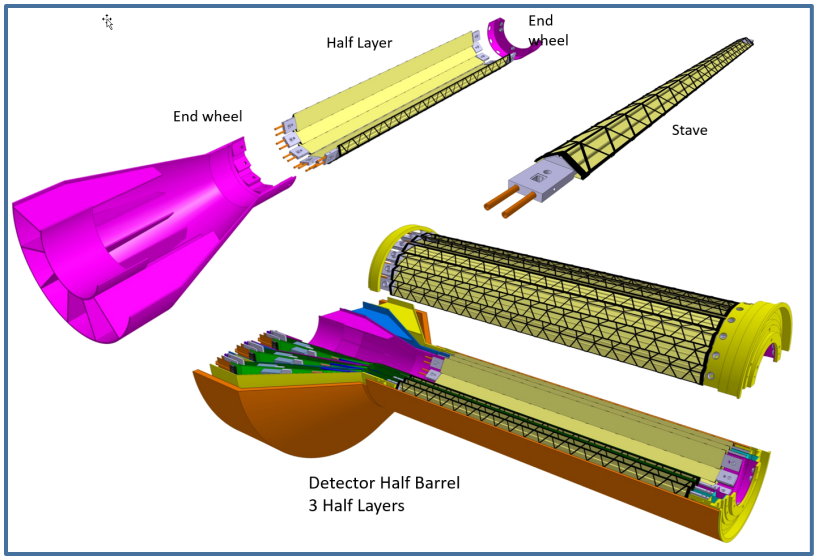
Project, schedule, budget and resource issues:

1. Estimate how long it will take to put a LANL-CERN agreement of cooperation on sPHENIX MAPs into place. Immediately address the details of this once the LDRD is approved.
2. Determine whether the MAPs sensors received by sPHENIX are tested or raw (untested)? If tested, who does the testing, CERN or LANL personnel sent to CERN? Is labor for this accounted for in project file?
3. Rearrange the WBS procurement tasks by grouping them into common sets of procurements. Arrange the sets of procurements in the schedule to occur in parallel rather than the current serial procurement structure. Not enough time is allocated for procurement. Evaluate and modify as appropriate. Identify long lead items for orders and ensure that they are properly included in the schedule.
4. Match the LDRD budget profile with the MAPs project schedule.
5. Define the complete scope for MAPs in the sPHENIX Project. What are the MAPs activities and deliverables that are covered by the sPHENIX Project?
6. The "Tooling (for final assembly)" tasks in the WBS needs to be more specific. The design time seems short. Try to get additional information on tooling from the ALICE ITS project and base the sPHENIX tooling plans on this information.
7. Specify stave shipping times for sPHENIX and add it to the project schedule as appropriate. Take into account import/export times, shipping memo approvals, etc. Does the shipping time for any other items need to be accounted for in the project plan?
8. Determine whether the travel and per-diem costs for personnel stationed at CERN are in the project costs. Are they in the LDRD budget?
9. Identify facilities and lab space at CERN needed for sPHENIX MAPs assembly and testing. Will there be a competition for resources? Can we reserve the needed CERN facilities/space so that they will not be oversubscribed?

ITS Inner Layers

Leo's talk
@Santa Fe





48 inner staves

Readout for:

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

Very comparable to PXL