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PIP-II Technology Roadmap and PIP2IT

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PIP-II Machine Advisory Committee Meeting

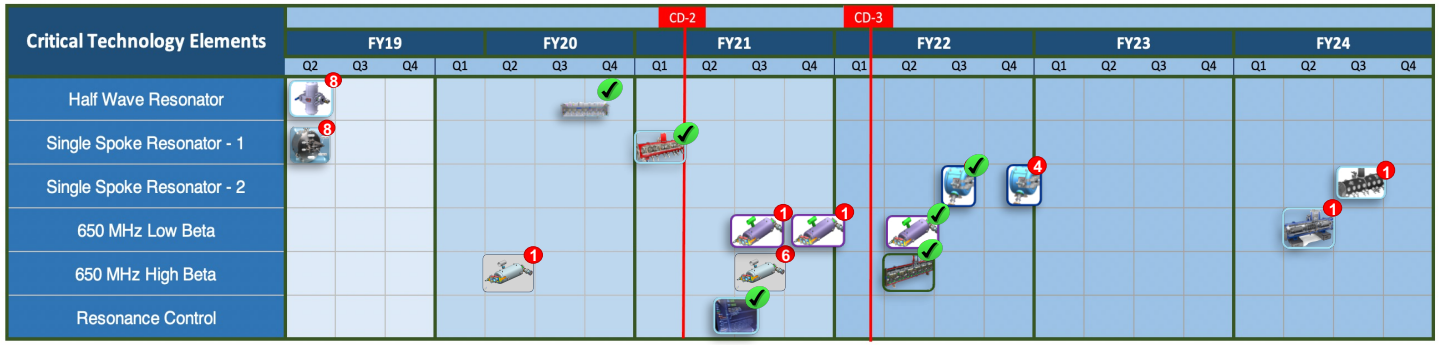
1-3 June 2021

A Partnership of:
- US/DOE
- India/DAE
- Italy/INFN
- UK/UKRI-STFC
- France/CEA, CNRS/IN2P3
- Poland/WUST

PIP-II Technology Roadmap

- PIP-II technology roadmap guides the technical risk management process, tailoring strategy, and priorities
- The core of this approach is a Critical Technology Element (CTE)
- CTE - a technology element is “critical” if this technology is either new or poses major risk
  - Does the component/technology directly impact a functional requirement of the system?
  - Does the component/technology achieve a performance beyond existing state-of-the art?
  - Are there uncertainties in the definition of the requirements for this component/technology?
  - Do the limitations in the understanding of the technology/component non-performance result in a potential:
    - cost overrun (> $500k)
    - schedule delay (> 4 months)
  - Is the component/technology expected to operate under new conditions?

The Roadmap



HWR Cavity with coupler and tuner HTS tested

HWR cryomodule RF tested at PIP2IT

SSR1 Cavity with coupler and tuner STC tested

ProtoSSR1 cryomodule RF tested at PIP2IT

SSR2 Cavity with coupler and tuner STC tested

ProtoSSR2 cryomodule RF tested at PIP2IT

LB650 Cavity with coupler and tuner STC tested

Proto LB650 cryomodule RF tested at PIP2IT

HB650 Cavity with coupler and tuner STC tested

Proto HB650 cryomodule RF tested at PIP2IT

Software tested at PIP2IT

Number of components

Technology Demonstrated

Thank you!