



Facility Panel Goals

- The DOE Office of Science has charged all of its Federal Advisory Committees to help with “an important task” – prioritization of facilities.
 - **At SC’s suggestion, empanelled a subcommittee.**
 - **The specific advice sought is an assessment of:**
 - **ability of facility to contribute to “world-leading science” in next decade**
 - **readiness of the facility for construction**
 - **The assessment is to be summarized in broad categories:**
 - **Science**
 - a) **absolutely central**
 - b) **important**
 - c) **lower priority**
 - d) **don’t know enough yet**
 - **Construction readiness**
 - a) **ready to initiate construction**
 - b) **significant scientific/engineering challenges to resolve before initiating construction**
 - c) **mission and technical requirements not yet fully defined**
 - **SC: “do not rank order the facilities”**
 - In the preceding presentation, Jim Siegrist has covered the relationship of this subpanel to the Community Planning & P5 process.
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Science Classification

- **ability of facility to contribute to “world-leading science” in next decade**

- **Classes:**
 - a) **absolutely central**
 - b) **important**
 - c) **lower priority**
 - d) **don't know enough yet**

- **consider, for example:**
 - **Scientific impact:** extent to which the proposed or existing facility or upgrade would answer the most important scientific questions;
 - **Uniqueness:** whether there are other ways or other facilities that would be able to answer these questions;
 - **Breadth:** whether facility would contribute to many or few areas of research
 - **Breadth of users:** especially whether facility will address needs of the broad community of users including those supported by other Federal agencies;
 - **User demand:** what level of demand exists within the (sometimes many) scientific communities that use the facility.
 - **Synergies:** whether construction of the facility will create new synergies within a field or among fields of research;



500 GeV ILC

- Technical design completed/reviewed, TDR complete
 - Successful multi-year world wide R&D on SRF Linac technology, high gradient SCRF cavities
 - Intense R&D on detector concepts
 - Detailed baseline designs for detectors
 - Global collaborations (GDE/detector concepts/physics)
- 9 years from ground breaking to start of beam commissioning
 - Technically ready to initiate construction



US Participation in Japanese Hosted ILC

- Science drives the need for e^+e^- collider
 - ILC addresses absolutely central physics questions and is complementary to the LHC
 - Japanese hosted ILC could be under construction before 2024
- Parameters of a potential US contribution are not known and depend on international agreements
 - The US has made substantial contributions to detector and accelerator development through the global effort
 - Should an agreement be reached, the US particle physics community would be eager to participate in both the accelerator and detector construction