

**Complementary ISTC Projects #3888, 3889p  
for the construction of CCDTL accelerating section of Linac4**

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Within these 2 projects it is foreseen to develop, manufacture and test CCDTL accelerating section of Linac4 (*21 accelerating cavities in 7 modules, ~25m*).

▶▶▶ The developments and results of the project 2875 will be fully exploited ◀◀◀

Distribution of works will be similar:

- 1 The design of Linac4 CCDTL accelerating section will be developed jointly by all the participating parties.
- 2 Tanks and support frames will be built at VNIITF. After copper plating and a test assembly the modules will be shipped to BINP.  
BINP will build and install the drift tubes and take care of the rf tuning and final assembly.
- 3 Rf conditioning and high power tests of all the 7 modules will be done at CERN.

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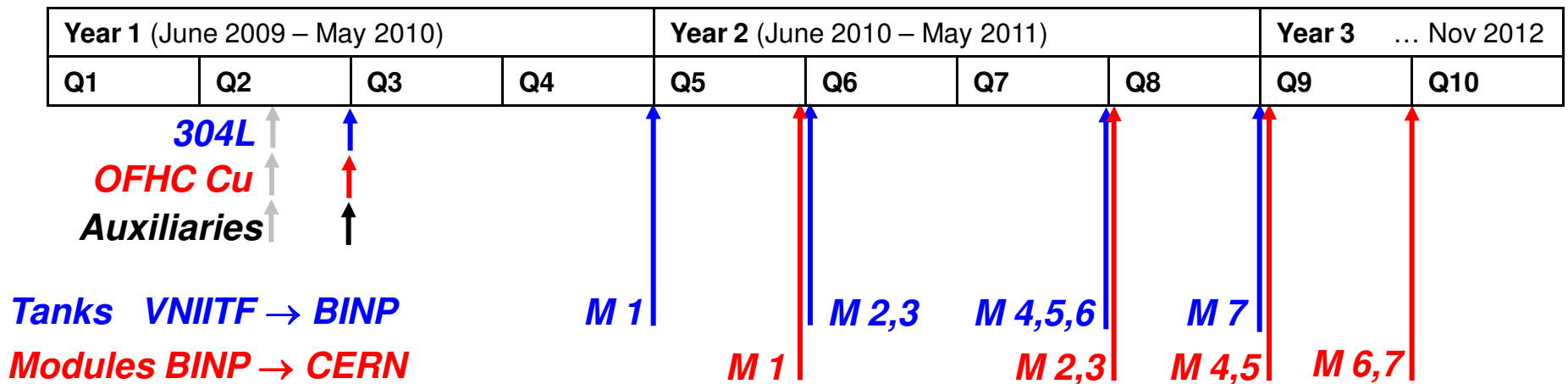
Although the CCDTL prototype built within the ISTC Project 2875 performed good, certain design and production technology improvements will be implemented to the CCDTL modules to be built.

- Drift tube will be brazed rather than EB-welded.
- Drift tube to tank connection will be dismountable rather than permanently welded.
- Alignment concept and procedure will be different.

+ modifications in the vacuum pumping scheme, optimization of the water cooling scheme

This calls for more R&D activities, which are in progress now.

**We still believe we can follow the schedule in general**



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### Current status

#### **BINP**

- Drift tube mock-ups and a test vacuum vessel with drift tube girder are being made and should be finished in Dec. 2009
- Auxiliary tools.
  - Assembly table is being made and should be finished in Dec. 2009
  - Drift tube alignment tools are being made and should be finished in Dec. 2009
  - Aluminum dummy drift tubes for measuring resonant frequencies of the cavities upon their arrival from VNIITF should be finished in Dec. 2009
- Test and measurement area should be finished in Dec. 2009
- As soon as the materials for drift tubes and tuners are delivered to BINP, manufacturing will start. Final machining will be done after rf measurements of actual tanks received from VNIITF.

#### **VNIITF**

- Galvanic shop upgrade (aimed at handling large half-tanks of high energy modules) is in progress
- Technological tools have been designed, procurement of the materials for the tools and procurement of standard tools are in progress.
- Execution drawings of the tanks and coupling cells are prepared and will be transferred to the Workshop as soon as all the design modifications are finalized.
- Manufacturing will start as soon as the materials for tanks and coupling cells are delivered to VNIITF.

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## Current status

### **BINP**

- Drift tube mock-ups and a test vacuum vessel with drift tube girder are being made and should be finished in Dec. 2009 – **completed in February 2010**
- Auxiliary tools. – **completed by December 2009**
  - Assembly table is being made and should be finished in Dec. 2009
  - Drift tube alignment tools are being made and should be finished in Dec. 2009
  - Aluminum dummy drift tubes for measuring resonant frequencies of the cavities upon their arrival from VNIITF should be finished in Dec. 2009
- Test and measurement area should be finished in Dec. 2009 – **completed in March 2010**
- As soon as the materials for drift tubes and tuners are delivered to BINP, manufacturing will start. – **materials arrived in January 2010, during this meeting we expect to agree on the DT design and production technology.** Final machining will be done after rf measurements of actual tanks received from VNIITF.

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