

# Linac4 Drift Tube Linac Construction, Schedules, Costs

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- DTs
  - Machining: DMP + Aibe – in collaboration with ESS Bilbao
  - Assembly (Welding, Re-Machining, Cleaning, Metrology): CERN
- Tanks
  - Machining + Welding: CADINOX
  - Copper plating: CERN
- Girders
  - Pre-machining + Shrink Fitting + Re-machining: ?
- End-Covers: Workshop Subcontracting, CERN
- Post-Couplers & Tuners: Subcontracting, Assembly: CERN
- Tooling + Vacuum Sleeve + Supports: Subcontracting
- Assembly CERN

- First Linac4 DTL simulations started in 2004
- Design of a CERN prototype started in 2007
- Prototype manufacturing & assembly in 2008 (INFN-LNL)
- Low and high power testing late 2008 until mid 2010
- Drift Tube development & prototyping mid 2008 until mid 2010
  
- Drift Tube parts manufacturing pre-series Jul 2010 until Apr 2011
- Tank pre-series Oct 2010 until Sep 2011
- Girder pre-series Feb 2010 until Oct 2011
  
- Drift Tube parts manufacturing until Dec 2011
- Series parts (Tanks, Girders, DTs) manufacturing until Aug 2012
- Series assembly at CERN until Mar 2013

- CERN costs – not including:
  - Man-power for CERN staff
  - Prototyping
  - T-couplers, Movable tuners, Vacuum, PMQs
  - Infrastructure
- Major raw materials: 600kCHF – 50% tanks, 35% DTs, 15% ancil.
- Manufacturing: 2400kCHF