ATLAS MDT Electronics
Responsibilities, Costs & Schedule

MDT → HedgeHog → Mezz ASD AMT → CSM → ROD
Design Responsibilities

- HedgeHog Boards
  - Barrel: Pavia (HV), Rome III (signal)
  - EndCap: MIT (HV), Boston U (signal)
- ASD Chip - Boston U and Harvard
- AMT TDC Chip - KEK
- Mezzanine Boards - Harvard and Boston U
- Chamber Service Module - Michigan
- ROD - NIKHEF
Production Responsibilities

• HedgeHogs (common production by CERN)
  – HV - INFN (all types)
  – Signal - Boston (EndCaps), Chamber-Builders (Barrel)
• ASD - Boston U and Harvard
• AMT-TDC - KEK
• Mezzanine Boards - Harvard and Boston U
• Chamber Service Module - To Be Determined!
• ROD - (Freiburg, Munich LMU, Munich MPI) 30%, Nijmegen 41%, Saclay 33%, JINR 6%
Production Costs

- HedgeHogs (32,000 HV+signal): 1,960 kCHF
  - (assumes common CERN production)
- ASD (45,000): $375K ≈ 600 kCHF
  - (source: recent HP quote)
- AMT-TDC (16,000): 1,415 kCHF
  - (source: ATLAS MOU)
- Mezz Boards (16,000): $1,875K ≈ 3,000 kCHF
  - (assumes US production – European prod. being investigated)
- CSM (1,320): $1,221K ≈ 1,950 kCHF
  - (funding source under negotiation)
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**Schedule**

- HedgeHogs (HV & Signal)
- Final Prototype Design
- Final Prototype Testing
- HedgeHog volume production
- HedgeHog volume testing
- ASD development
- Octal ASD Design
- Octal ASD Testing
  - (Octal ASD 2nd iteration submission)
  - (Octal ASD 2nd iteration tested)
- Volume production of ASDs
- AMT-TDC development
- AMT-1 Testing complete
- AMT-2 Design complete
- AMT-2 Testing complete
- AMT volume production
- Mezz development
- Prototype I Design
- Prototype I Testing
- Final Prototype Design
- Final Prototype Testing
- Mezz volume production & testing
- On Chamber Readout Electronics
- CSM-0 Prototype Module
- Test ASD-lite w CSM-0 on mod-0 ch’s
- CSM-1 Prototype Tests
- System Test Octal ASD, CSM-1, MROD
- Production