

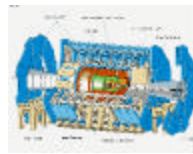


# Status of ATLAS Resources

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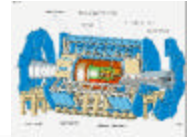
Presentation to the RRB 22.10.2001

Markus Nordberg



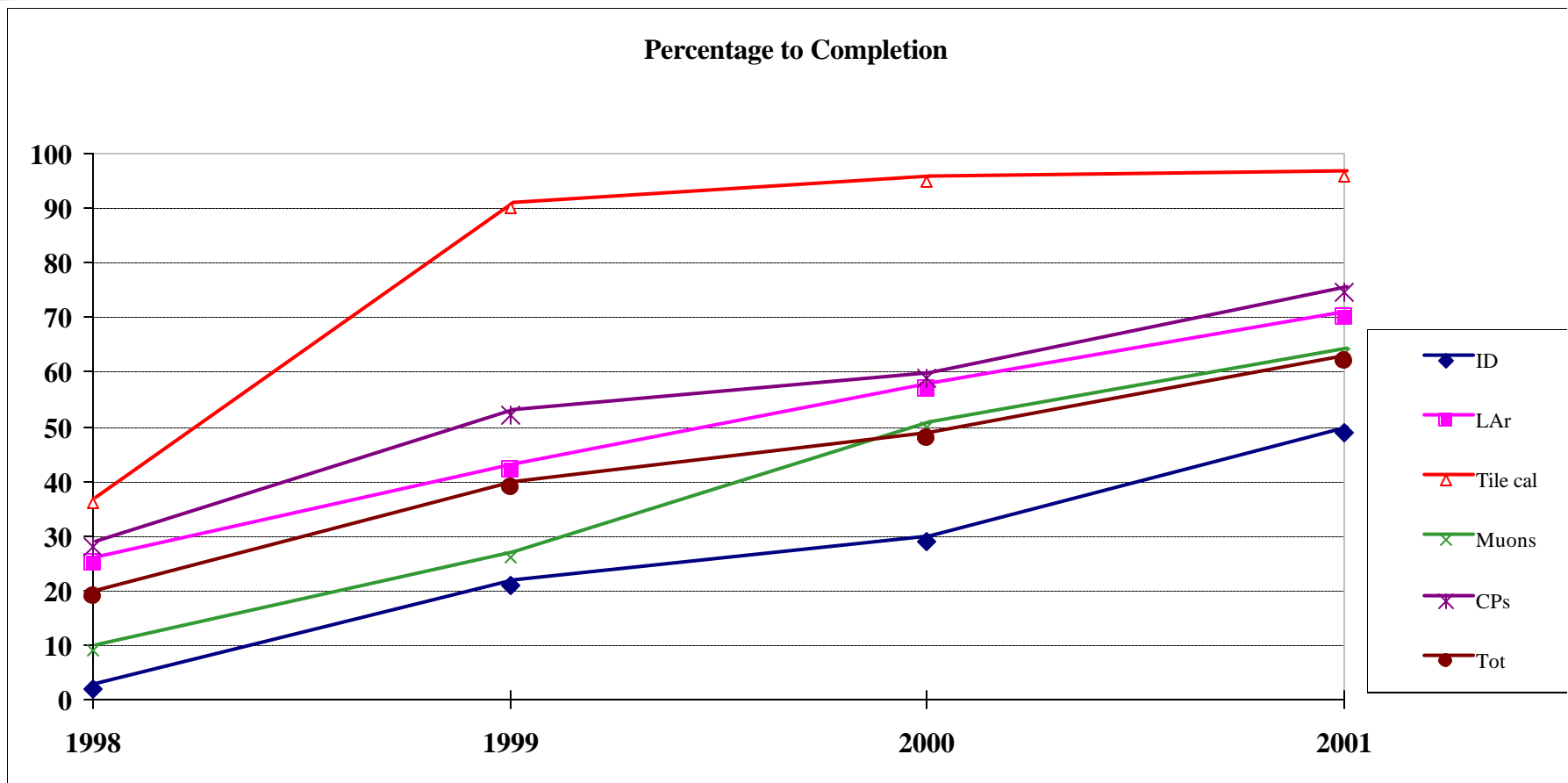
Resources Coordination

# Summary Status of the Project



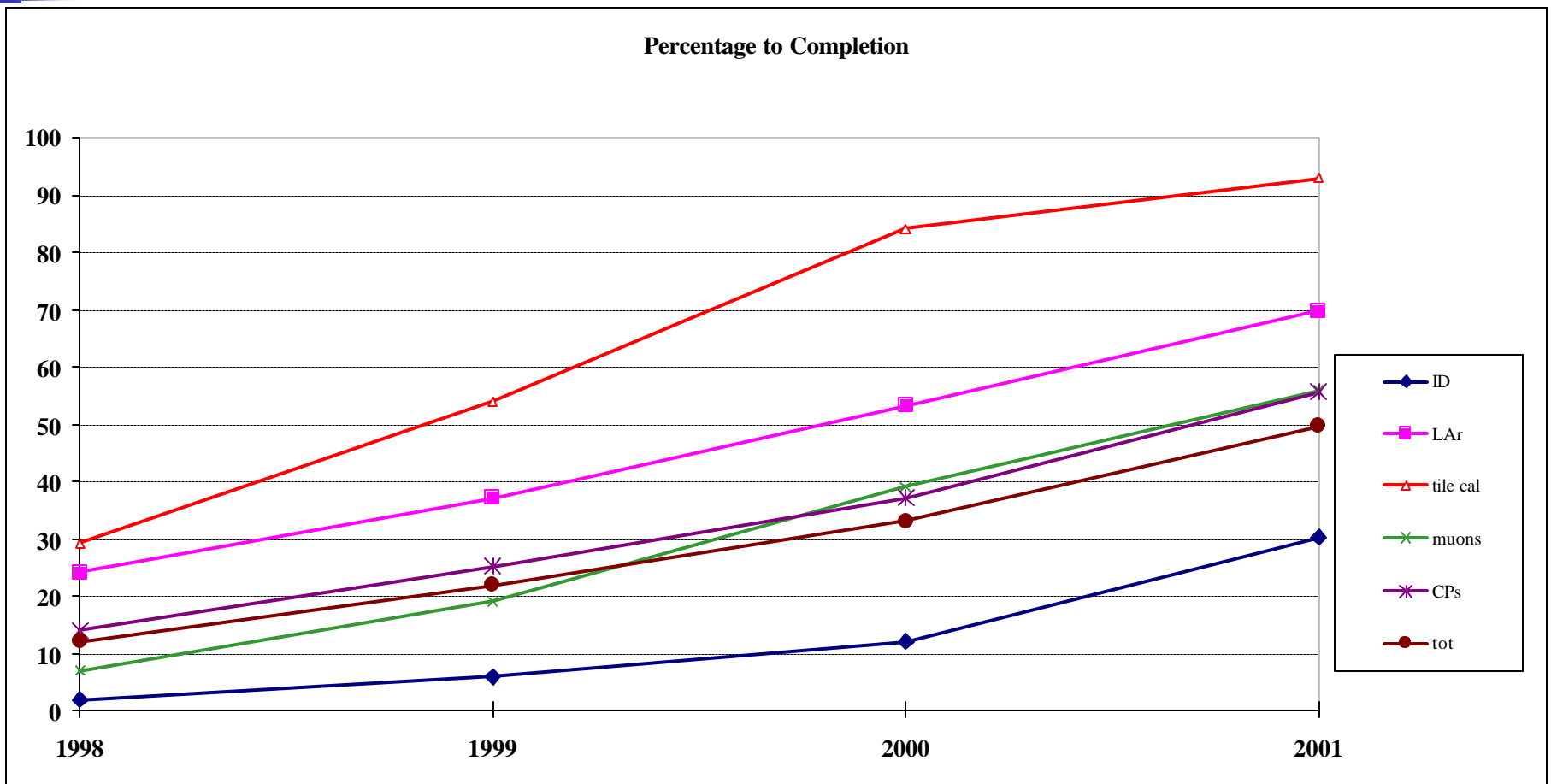
- Financial status
  - Steady progress: By End of Year 2001, 60% of resources committed, 50% allocated (by end of 2000, 50% and 30%, respectively)
  - Missing resources have been assessed to complete the detector
    - Supplementary costs (both CORE and non-CORE; 52.0 MCHF)
    - Maintenance & Operation costs (incl. Commissioning & Integration) before 2006, not covered within the CORE MoU (46.0 MCHF)
    - Note: computing costs not included
- Status of human resources
  - Reducing global resources => impact on materials resources

# System completion (% , commitments)



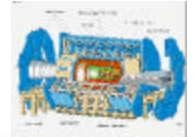
Resources Coordination

# System completion (% , payments)



Resources Coordination

# Revised ATLAS CORE Budget 2001



Inner Det.	LAr Cal.	Tile Cal.	muon cham.	TDAQ/DCS	Common Projects	total
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commitments  
payments

33.9	10.6	1.0	7.9	1.5	38.5	93.4
27.9	12.6	2.7	9.2	1.2	39.8	93.4

## **budget 2001, update April 2001 (RRB-D 2001-110)**

Inner Det.	LAr Cal.	Tile Cal.	muon cham.	TDAQ/DCS	Common Projects	total
------------	----------	-----------	------------	----------	-----------------	-------

commitments  
payments

24.2	12.2	1.0	7.4	0.9	39.6	85.3
17.6	14.9	2.8	8.6	1.0	46.7	91.6

## **budget 2001, update October 2001**

Inner Det.	LAr Cal.	Tile Cal.	muon cham.	TDAQ/DCS	Common Projects	total
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commitments  
payments

15.6	10.6	1.0	6.2	0.9	31.9	66.1
14.6	13.4	2.7	7.5	1.0	38.9	78.1

Resources Coordination

# Status of ATLAS Member Fee Contributions



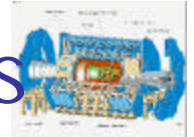
	annual due	paid 1996	paid 1997	paid 1998	paid 1999	paid 2000	paid 2001	paid future
Armenia	12.5	12.5						
Australia	25.0	25.0	25.0	25.0	25.0	25.0	25.0	50.0
Austria	12.5	12.5	12.5	12.5	12.5	12.5	12.5	
Azerbaijan	12.5	12.5	12.5	9.6				
Belarus	25.0	12.5	12.5	1.3				
Brazil	12.5				12.5	12.5	12.5	
Canada	87.5	87.5	87.5	87.5	87.5	87.5	87.5	
China NSFC+MSTC	12.5	12.5	12.5		12.5	12.5	25.0	
Czech Republic	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5
Denmark	12.5	12.5	12.5	12.5	12.5	12.5	12.5	25.0
Finland	12.5	12.5	12.5	12.5	12.5	12.5	12.5	
France CEA	12.5	12.5	12.5	12.5	12.5	12.5		
France IN2P3	75.0	75.0	75.0	75.0	75.0	75.0	75.0	
Georgia	12.5	12.5	12.5	3.1				
Germany BMBF	112.5	112.5	112.5	112.5	112.5	112.5	75.0	
Germany MPI	12.5	12.5	12.5	12.5	12.5	12.5	12.5	
Greece	37.5	37.5	37.5	37.5	37.5	37.5		
Israel	37.5	37.5	37.5	37.5	37.5	37.5	37.5	
Italy	150.0	150.0	150.0	150.0	150.0	150.0	150.0	
Japan	162.5	162.5	162.5	162.5	162.5	162.5		
Morocco	12.5	12.5		12.5	12.5			
Netherlands	25.0	25.0	25.0	25.0	25.0	25.0	25.0	
Norway	25.0	25.0	25.0	25.0	25.0	25.0	25.0	
Poland	25.0	25.0	25.0	25.0	25.0	25.0	25.0	
Portugal	12.5	12.5	12.5	12.5	12.5	12.5	12.5	
Romania	12.5	12.5	12.5					
Russia	87.5	87.5	30.0	87.5				
JINR	12.5	12.5	12.5	12.5	12.5		25.0	
Slovak Republic	12.5	12.5	12.5	12.5	12.5	12.5	12.5	
Slovenia	12.5	12.5	12.5	12.5	12.5	12.5	12.5	
Spain	37.5	37.5	37.5	37.5	37.5	37.5	37.5	
Sweden	50.0	50.0	50.0	50.0	50.0	50.0	50.0	
Switzerland	25.0	25.0	25.0	25.0	25.0	25.0	25.0	
Taipei NSC	12.5	12.5	12.5	12.5	12.5	12.5	12.5	25.0
Turkey	25.0	12.5	12.5	25.0	25.0	25.0	25.0	
United Kingdom	162.5	162.5	162.5	162.5	162.5	162.5	162.5	
US DoE & NSF	400.0	400.0	400.0	400.0	400.0	400.6	475.0	
CERN	12.5	12.5	12.5	12.5	12.5	12.5	12.5	
<b>total</b>	<b>1837.5</b>	<b>1800.0</b>	<b>1717.5</b>	<b>1751.5</b>	<b>1675.0</b>	<b>1650.6</b>	<b>1512.5</b>	<b>137.5</b>

Resources Coordination



# Comments on Member Fee Contributions

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- More than 50% of contributions missing
  - Armenia: Despite cash shortage, efforts being made to generate cash through in-kind contributions (Note: 100 kCHF in-kind already achieved in TileCal)
  - Azerbaijan: No news. 3rd instalment partially received
  - Belarus: No news. Two instalments received
  - Georgia: Corrective steps taken. Contributions made in 2001. 3<sup>rd</sup> instalment partially received
  - Morocco: Corrective steps taken. 3<sup>rd</sup> instalment received in 2001
  - Romania: Positive statements made by Romanian President at CERN. 2 instalments received so far
  - Russia: Corrective steps being taken in 2001

# Evolution of ATLAS CORE Budget 2002



**first budget estimates for 2002, as presented in April 2001 (RRB-D 2001-111)**

Inner Det.	LAr Cal.	Tile Cal.	muon cham.	TDAQ/DCS	Common Projects	total
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commitments  
payments

15.3	8.9	0.7	8.8	3.2	27.3	64.3
29.1	9.3	1.1	8.5	2.9	41.9	92.9

**2nd budget estimates for 2002, update September 2001 (RRB-D 2001-123)**

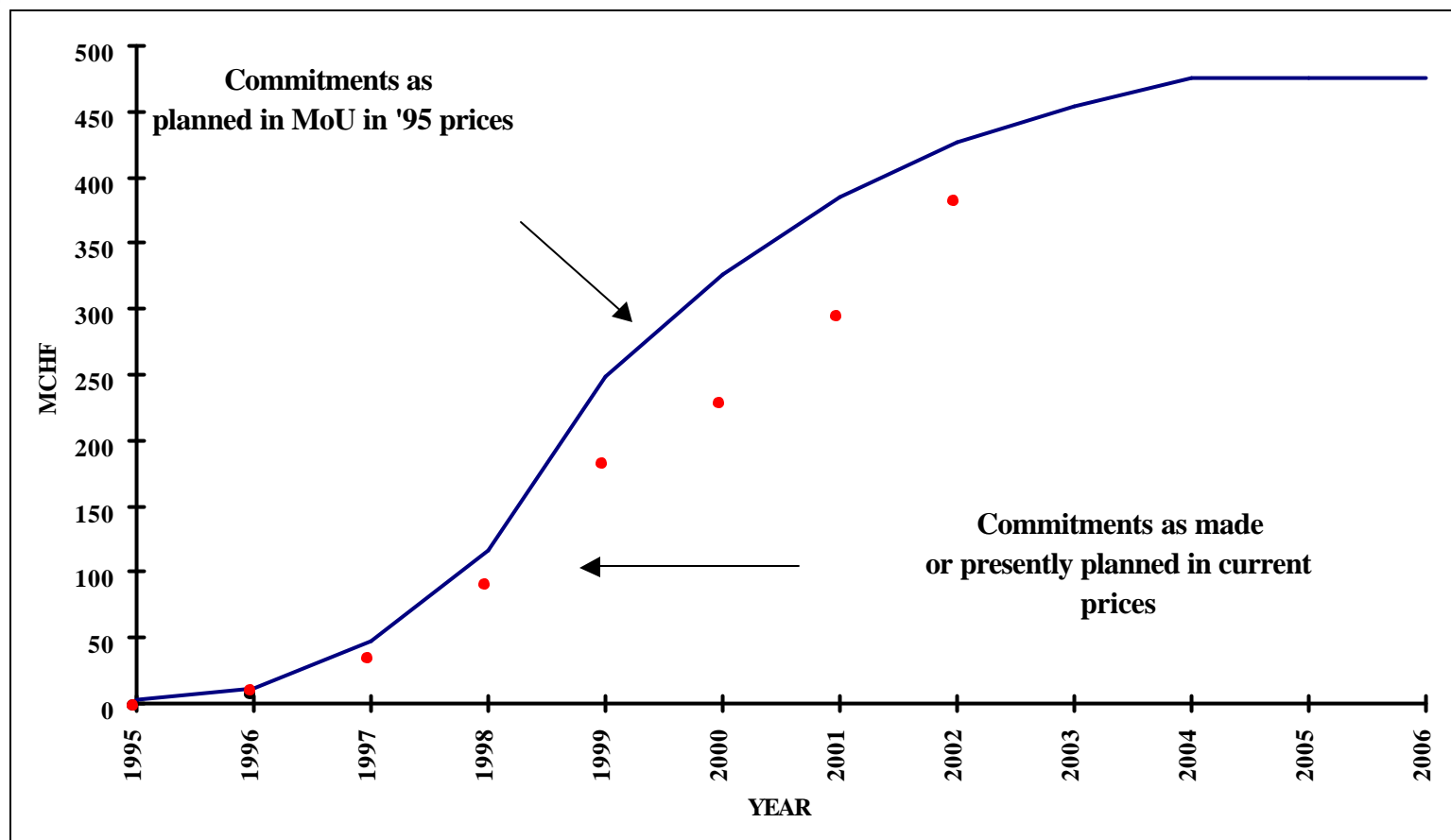
Inner Det.	LAr Cal.	Tile Cal.	muon cham.	TDAQ/DCS	Common Projects	total
------------	----------	-----------	------------	----------	-----------------	-------

commitments  
payments

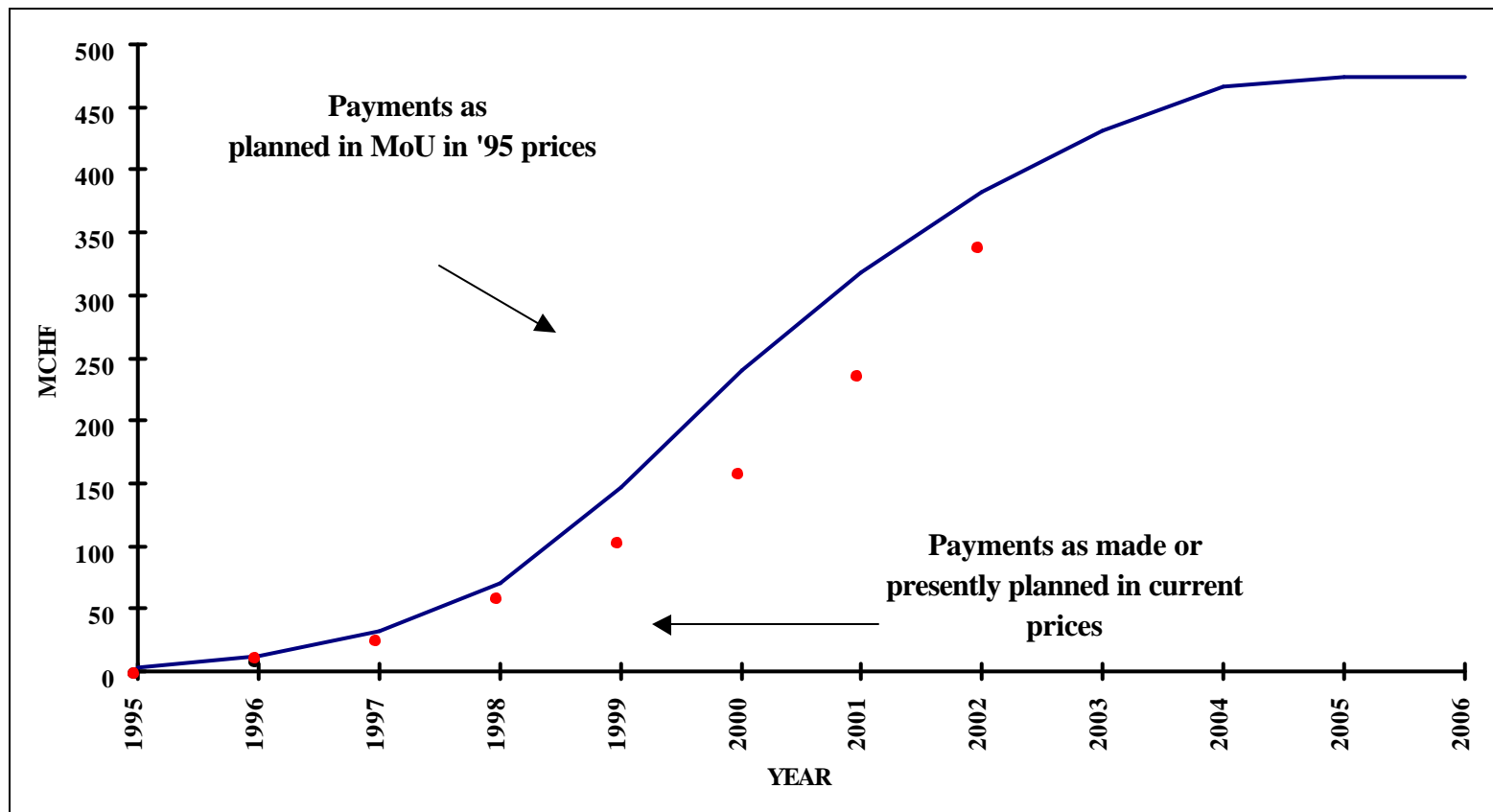
22.1	9.5	0.8	9.3	2.7	42.6	87.0
30.0	9.4	1.0	8.9	2.4	50.5	102.1



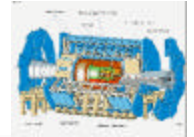
# Evolution of Commitments (MCHF)



# Evolution of Payments (MCHF)

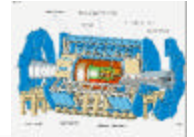


# Completion Costs



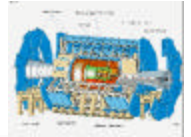
- ATLAS has updated its costs to completion
  - Result: Additional 52.0 MCHF (2001 prices) are needed over and above the approved CORE (475 MCHF, 1995 prices)
  - Mostly cash; in-kind contributions also possible
- Situation for 2002
  - Planned supplementary commitments: 17.5 MCHF
  - Planned supplementary payments: 9.6 MCHF (of which 7.6 MCHF for magnet)
  - ATLAS is able to handle some payments in 2002 without the full contributions provided that RRB allows ATLAS management to make payment transfers between the Common Fund and systems account (deliverables) and that Funding Agencies agree to pledge for that amount needed
- Resources planning for 2003-2006 is under way
  - "First things first" (setting priorities)
  - Further (periodical) scrutiny of estimates
  - Delay payments
  - Seek for special in-kind contributions

# M&O/C&I Costs



- Maintenance & Operation and Commissioning & Integration costs have been analyzed
  - Result:
    - M&O (2002-2005): 25 MCHF (2001 prices) are needed for running the ATLAS infrastructure
    - C&I (2002-2005): 21 MCHF (2001 prices) are needed to integrate and commission the detector
  - Situation for 2002
    - M&O
      - Planned commitments: 10.8 MCHF. Note: 7.5 MCHF provision for ID (4.6 MCHF) & LAr (1.7 MCHF) spares, ID infrastructure (1.2 MCHF); contributions requested only after 2005
      - Planned payments: 3.0 MCHF
    - C&I
      - Planned commitments: 3.5 MCHF
      - Planned payments: 3.1 MCHF
    - Contingency Plan
      - Delay some of the testing up to 2003
      - Delay start of assembly, integration (SR-building!)
      - Borrow test equipment, bring home institute instruments to CERN
      - Negotiate with CERN reduction in technical service costs (Category A), delays in payments
      - Share facilities (storage, clean areas, labs, equipment), technical services (operators, transport, integration teams) with other experiments

## M&O/C&I Costs (2)

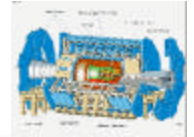


- Planning for 2003-2006 is under way
  - Cost estimates being revised (so far, B costs not scrutinized)
  - Setting priorities as a function of time (Category A/B)
    - Verify assumptions
      - Cost relationship between C&I activities and installation schedule
      - electronics replacement rates
      - on-line computing support
      - use of manpower (sharing across experiments? New institutes?)
    - Clarify with CERN services charging policies, cost monitoring principles
    - Clarify with CERN the sharing of costs associated with Technical Coordination activities
  - Discuss on an individual basis with Funding Agencies about the time profile of cost sharing, negotiate together with CERN intermediate solutions



# Summary of the Present Status

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- ATLAS is half way down the road!
- Completion costs have been thoroughly assessed
  - 52 MCHF + deliverables
    - CORE (40.2 MCHF), non-CORE (11.8 MCHF)
  - M&O and C&I before 2006 (46.0 MCHF)
- Manpower
  - Linkage between reducing manpower in institutes (incl. CERN) and cost over-runs, supplementary costs
- Sharing proposed
  - 40.5 MCHF to be shared in common (to be endorsed by RRB)
  - 11.5 MCHF to be shared within systems (to be endorsed by Institute Boards)
  - Contributions needed no later than 2003. Plans are made to minimize delays and to further optimize the new schedule to save in costs and delay payments