



Electronic Systems Support

# EPTAB Electronics Pool - Status Report

3 May 2006

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# Electronics Pool's role

## Provide needed instruments to experiments

### ■ Advice

- "I need to measure this: how can I do this?"
- "I rented this, and I obtain strange results"
  - The instrument might have a problem or is badly used
  - We go and see at their place
  - We put people in contact (technician, other physicists, etc)
  - We ask for help to the company
  - Etc.

### ■ Quality control

- After each allocation, we check or repair the instruments

### ■ Select and buy new instruments

# Needed resources

- Data base
  - Data base engineer → technician
    - Rely on IT
    - After merge with CERN stores Baan company
  - Good documentation
  - Good test procedures
  - Up-to-date inventory
- Fewer instruments

# Needed human resources

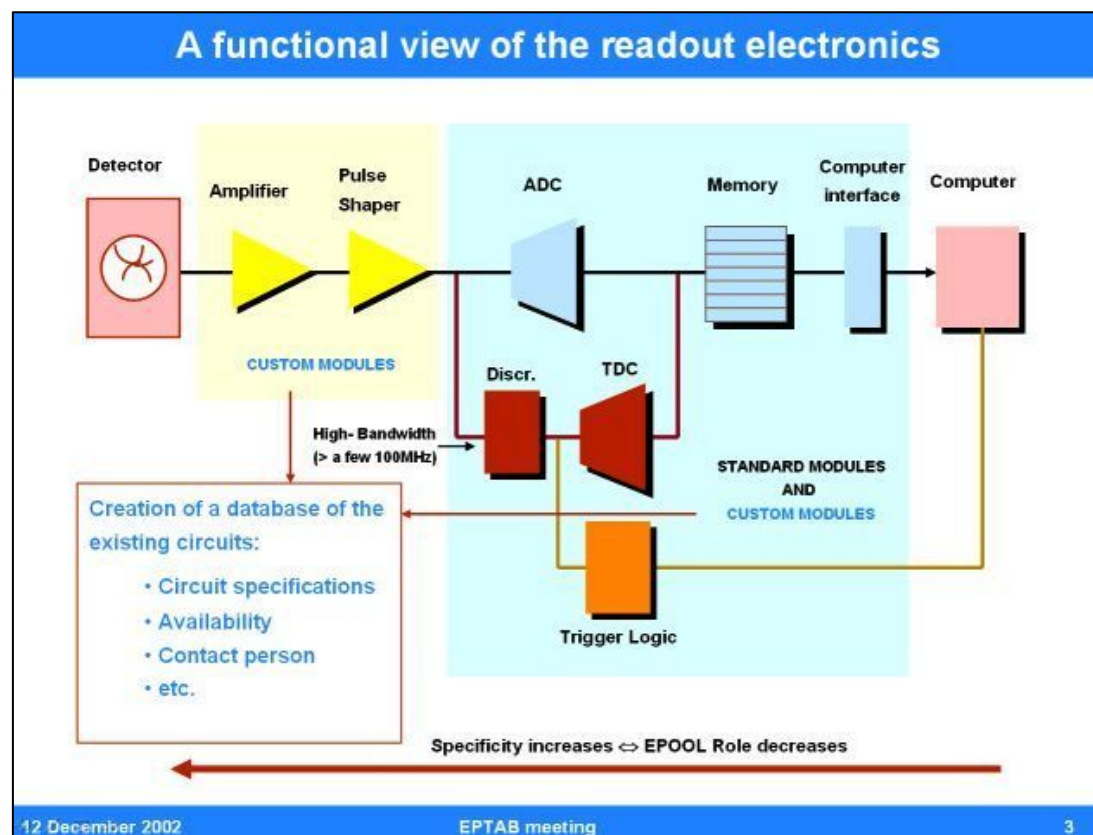
- Advice
  - Good receptionist
  - Well trained technicians with continuity
  - Good contacts within experiments
  - Engineer level access within the group
- Maintain the equipment
  - Well trained technicians with continuity
  - Contacts with firms
- Select and buy new instruments
  - Contacts in experiments - requests from users
  - EPTAB

# What has been done

- Taken EPTAB advice
  - Reducing number ...
  - Implementing coherent set
  - Concentrating on NIM and VME
- Merged with CERN stores Baan data base to replace a Data Base engineer with an electronics technician
- Insourcing
  - Test procedures and documentation
  - Tests
  - Expertise
- Adjusted fees (memo to PH management, EPTAB in Jan 2005)
- Taken in account the user requests
  - Fewer modular items
  - More power supplies, high voltage
  - More lab instruments: analyzers, scopes, TDR, generators
- Made and / or launched Evaluations

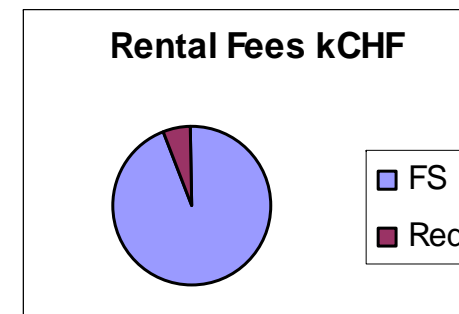
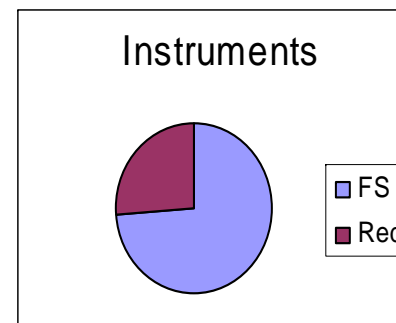
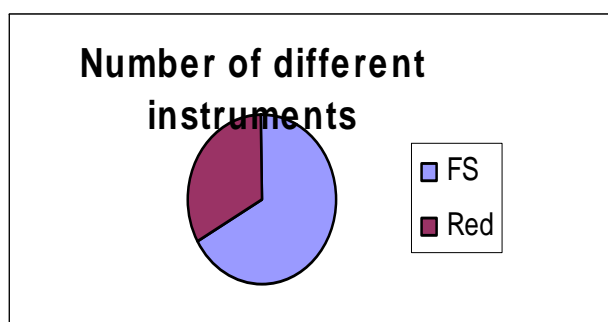
# We have taken EPTAB's advice..

- Implementing “coherent sets” of modular electronics
- Reducing the number of similar items and old stock
- Concentrating on NIM and VMEbus



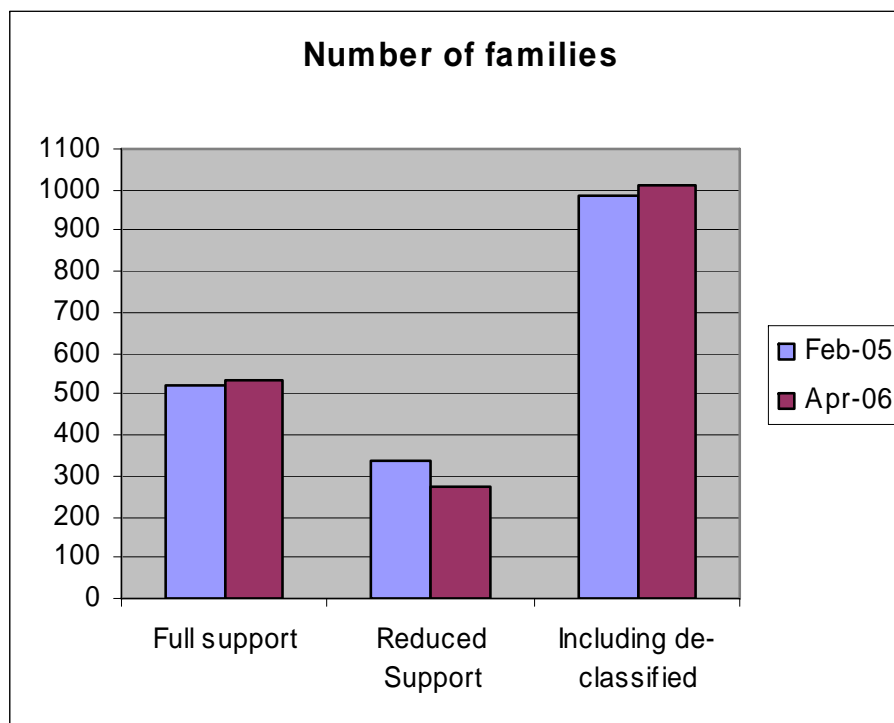
# Reducing the number ..

- Full support:
  - Expertise
  - Existing documentation
  - Existing procedure tests
  - Spares available
- Full support with respect to Reduced Support
  - 2/3 of Full Support are rented
  - half of reduced support are rented



# Reducing the number ..

- Not removing items when tested and available
- Finding equivalent products (Gould scopes)
- De-classified:
  - Fastbus: given to experiments
  - Old OS9 family
  - Old CAMAC in unique or few instruments in category (162 → 124 unique)
  - Old Tektronix scopes (sold at low price)





# Coherent set – NIM and VME

- Fewer modular electronics requested (maybe lack of test beam effect in 2005 ?)
- More instrument tools:
  - Around optical fibers
  - Scopes
  - Generators
  - High voltage instruments
  - Power supplies

# Insourcing

- A lot of expertise had been lost after retirements (eight persons)
  - Checking instruments was outsourced
  - Not immediately visible (a lot tested in advance)
  - Most critical
    - High voltage
    - NIM
- Added documentation (more than 350 different documents added recently)
- More than 1200 instruments tested in 2005

# Investments: new 2005 products

Acterna Optical test	13'000
Tektronix Function generator	47'100
Infratek Wattmeter tri-phased	61'500
Lecroy 500 Mhz scope	41'700
OTDR	44'800
Network bitscope	2'300
CCT VP315 processors	59'000
National GPIB – USB	11'400
<b>Total</b>	<b>280'800</b>

# New products under investigation

- 500 MHz with histograms and maths function scopes
- Fast rise time generators
- TDR
- Infrared cameras
- Optical cameras
- Etc.

# New products investigation

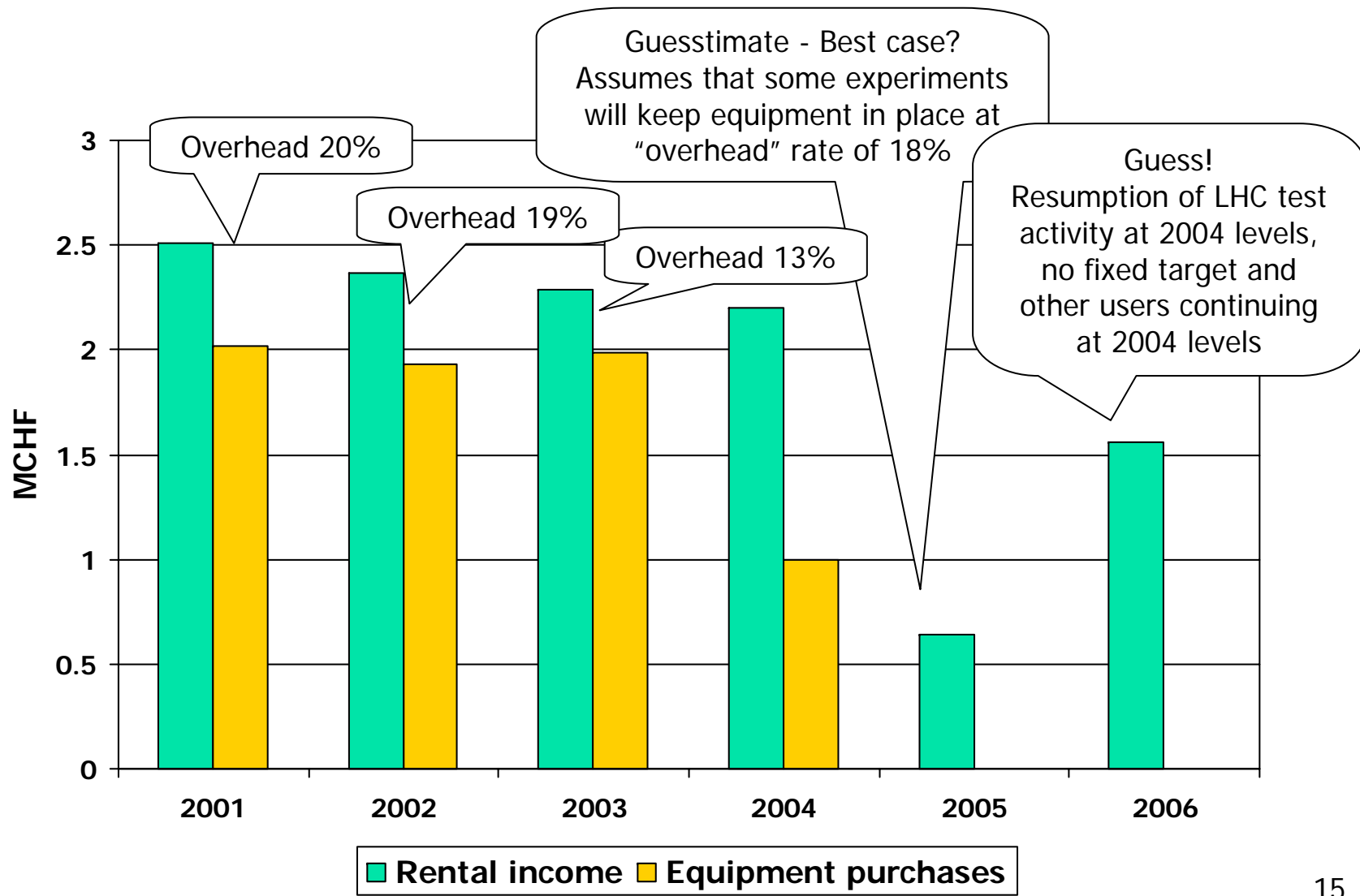
- 500 MHz with histograms and maths function scopes
  - Around 40 different existing scopes.
    - A lot having quantity: one !
    - Should reduce to:
      - High end: 1Ghz with histograms, Jitter measurements & maths functions
      - Middle end: 500 MHz with histograms & maths functions
      - Low end: 300 Mhz, portable reduced available functions
  - Was started in 2005

# Insourcing and Evaluations

- Insourcing: We are progressing slowly
- Evaluations and new products: we need your help

# Income > 2005 : as seen in 2003

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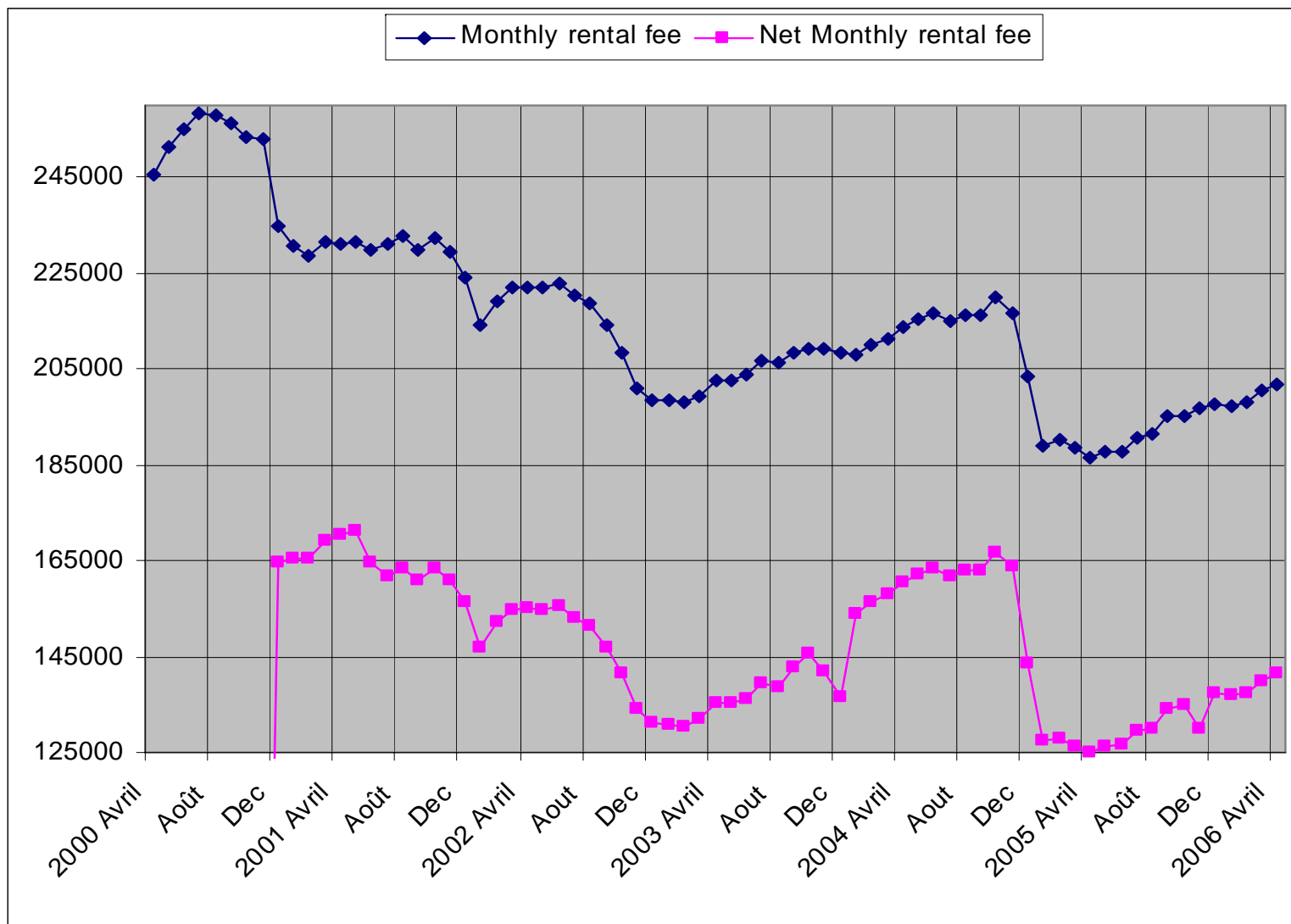
## Forecast 2005 decrease in income

- Re-adjusted fees in January 2005 (memo to PH department and EPTAB):
  - Lowered some old analyzers fees
  - Increased some Power Supplies fees
- Freeze agreements
- Orientation towards laboratory instruments pool rented at higher fees.



# Evolution of income

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# Pool rental “freeze”

- For experiments not wishing to dismantle during shut-down in 2005
  - “Freeze” conditions
    - 18% of normal rental (~overhead costs)
    - No use, no movements, no support
  - NA48, NA49, Cosmics, Dirac, Atlas TRT
  - Finishes June, apart from NA49

# Financial status - end 2005 - 2006

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	<b>2004</b>	<b>2005</b>
Income	2.200	1.800
Maintenance	0.250	0.150
Manpower	0.080	0.170
Investment	1.000	1.180
Total	0.870	0.310

# Customers

- Who are they:
  - Half CERN, half team code
  
- How often to they come. In 2005:
  - 1230 visits + 58 EDH requests
  - 2040 movements
  - More than 8000 data base movements

# We need your help!

- “The board will analyse the requirements of the user community and make recommendations on the Electronics Pool’s overall technical profile [...] and advise on detailed purchases”

Your advice is essential!

- How can we help?
  - Can communication be improved?
  - More formal meetings?
  - ?