ATCA IT Outcome and Common Procurement
Target

• Total estimated needs
  o ATLAS: 100 - 130 units
  o CMS: 100 - 130 units
• Technical requirements: No change compared to the original price enquiry for limited quantities.

Total estimated: 250 shelves

Blanket purchase contracts

• For both, ATCA shelves and AC-DC rectifier units
• Covering procurement and maintenance over long term

ATCA shelf

• 14 ATCA slots w. RTM
• Vertical (or Horizontal) cooling
• DS or FM topology
• 40G backplane (100G optional TBC)
• Bussed IPMB (Radial upon request)
• 1 Shelf man. Included (PP ShMM 700)

- 48Vdc rectifier system

• Up to 18 kW max output pwr (w. expansion unit)
• 9 kW with N+1 redund. (one 1U unit)
• Based on 5 pwr bricks
• Single bulk power output
• Ctrl module (SNMP over eth.)

https://espace.cern.ch/ph-dep-ESE-BE-ATCAEvaluationProject/Procurement/SitePages/Home.aspx
## Procurement process and status

### Status of MS + IT process for the ATCA shelves
- **First draft of MS documents**: April 2020
- **Finalisation of MS documents**: End April
- **Technical auditing**: Mid May
- **Dispatch of MS documents**: Mid May
- **First draft of IT documents**: Beginning July
- **Finalisation of IT documents**: End July
- **Specification Committee date**: Mid August
- **Dispatch of IT documents**: Mid August
- **Submission deadline for bidders**: Mid September
- **Date of FC meeting**: Dec 2020
- **Blanket contract start date**: Jan 2021

### PE for the AC-DC rectifier system
- **Technical specification ready**: August 2020
- **Dispatch of PE documents**: Mid September
- **Submission deadline for bidders**: Mid October
- **Blanket contract start date**: Jan 2021
Outcome of the IT-4604 (shelf) and DO-32713 (rectifier)

Selected companies

- **ATCA shelf**: nVent (Schroff)
- **Power rectifier**: Eltek

*No change compared to the original price enquiry for limited quantities.*

DCS integration

- **ATCA shelf**: Remote control via the Schroff shelf manager (ShMM 700 based)
- **Power rectifier**: Remote control via “smartpack” control module over snmp (warning: no On/Off capabilities)
Procurement framework for ATCA shelf and - 48V rectifier

New procurement framework

- Based on blanket framework contracts
- Ok for large quantities over long term (10+ years)
- Purchase orders placed in common at the end of every quarter
  - Requests to be submitted via dedicated online DB
  - Fixed negotiated prices (subject to yearly price indexation linked to local cost of living)
  - TID (money transfer) to a common account prior to common PO (DAI)
  - Equipment tracked in the DB from common PO on

Goal: Same procedure as for ordering VME crates today
Procurement framework for ATCA shelf and - 48V rectifier

Main contractual conditions

• *Delivery lead-time: 10 weeks from ordering date*

• *Warranty duration: 2 years from delivery date*

• *Long term maintenance:*
  o Fixed repair prices for every type of equipment (independent from the failure reason) Subject to a 3 months repair warranty
  o Fixed verification prices for every type of equipment Mostly applied in case of «no fault found»

• *Faulty equipment: «fault report» to be registered in the DB prior to equipment return at the ePool reception*
  o Subject to budget code registration. But DAI is issued only if equipment is out of warranty

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* : Delivery lead-times of Eltek PS subject to important increase due to Covid related factors. Users knowing their procurement plans please communicate them to me asap. Eltek will book production slots accordingly.
### EP-ESE Technical Database

**Components - Search results**

For help, click on the field tabs.

#### List date: 13-Jan-21, Manufacturer: SCHROFF

Click the LHC inventory number to see the component details. The qty column will let you see all items of this type.

User price is calculated by converting the list price to CHF (if it is in EUR), and adding a transport cost specified in the component's purchase contract, unless the type of the component is "Additional charge." Other factors can also be applied to the price depending on the contract.

The exchange rate used to convert from EUR to CHF is 1.045. It is subject to fluctuations and is automatically adjusted on a regular basis. Prices in CHF get frozen only once a component request has been generated.

*The equipment is verifiable.*

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#### Purchase orders placed in common at the end of every quarter:

- Requests to be submitted via online DB
- TID (money transfer) to a common account prior to common PO (DAI)
- Equipment tracked in the DB from common PO on
Equipment request using the DB

Link to the technical database: https://aisdb.cern.ch/pls/html/db_aisdb_prod/f?p=117

Under the Welcome page, «ordering equipment» click «new request»

In case of trouble/questions, please contact: lvps-crates.support@cern.ch

Simple request workflow

1. User issues request via DB
2. TID (money transfer) by ESE
3. ESE issues Common PO at the end of every quarter (once TIDs are all signed)
4. User can pickup its units from the ePool reception (for large quantities internal transport service is to be used)
Reception tests upon delivery

Test on delivery

- **Reception test can be requested by the users at the time of the purchase request via the technical DB (subject to additional delivery delay of 1-2 weeks)**

- **Depending on the batch size, only sample testing will be performed (10% but at least 1 unit /batch)**

- **The reception test consists in a basic functional test:**
  
  o **Visual inspection**
  
  o **Powering, checking of all fans**
  
  o **Module insertion (in one slot), recognition (by the ShMM) and activation**

Delivery of large quantities

- **Delivery of large size batches (> 10 units) will be subject to internal transport directly to the experiment/user premises**

- **In this case sample testing (if so requested) will be performed at the user’s premises**
User support

Manufacturer documentation


• Eltek: https://ideltameapartners.deltaww.com/docsharing/Documents/
  (User: v-lvps-crates Password: R$MZcBhB)

Support provided by the PS & crate service

• Free of charge verification tests of full shelf systems and/or modules (to be requested via the DB)

• Remote support by email

• Testing of ATCA blades in reference shelf system

Mini shelves available from the ePool

• 2 slots Schroff shelves available from the ePool for rental (w. integrated AC-DC)

Accessories

Filler modules/panels

- Needed in unused slots (air cooling efficiency)
- Available from the CERN stores
  - Front panel, AdvancedTCA Air Deflector 280mm, with air baffle SCEM: 06.61.81.407.9
  - Rear panel, AdvancedTCA Air Deflector 70 mm, with Air baffle SCEM: 06.61.81.409.9

Cabling

- Mains connection and -48 Vdc link between the rectifier and the shelf
- A solution is currently being investigated by CMS (with help from BE-EA)
- Highly rack integration dependant. To be investigated by the end-users.
Thanks for your attention
Useful links


- **SharePoint page about the ATCA equipment procurement:**
  [https://espace.cern.ch/ph-dep-ESE-BE-ATCAEvaluationProject/Procurement/_layouts/15/start.aspx#/SitePages/Home.aspx](https://espace.cern.ch/ph-dep-ESE-BE-ATCAEvaluationProject/Procurement/_layouts/15/start.aspx#/SitePages/Home.aspx)

*In case of questions, contact: lvps-crates.support@cern.ch*