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# WP2 Progress Report

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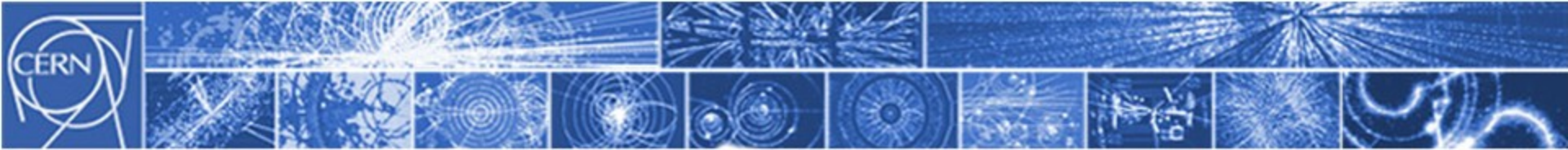
## WP 2 Objectives:

*-Project Management preparation.*

Set up the **project monitoring structures**, set up a finance management system and set up a **quality assurance plan**

*-Put in place networking and communication.*

Set up collaboration communication structures and set up information storage and dissemination  
(Completed by M12)



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## **Project Monitoring structure**

“Earned Value” concept

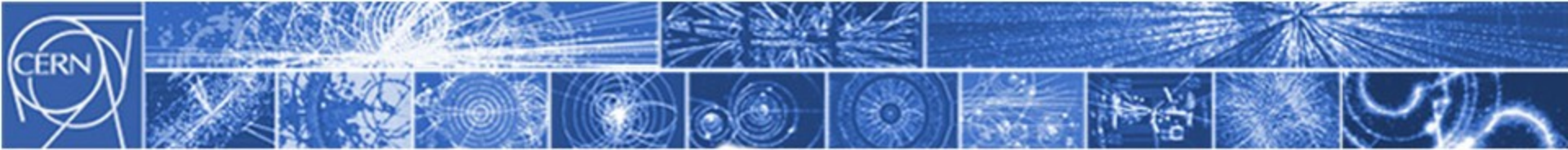
Software implementation in APT

## **Quality Assurance Plan**

Purchasing Process

In-Kind contributions

Linac-4



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## Concept of Earned Value

### *Planned Value (PV):*

the sum of all material and manpower investments once the project is finished on schedule, as a function of project progress

### *Work Breakdown Structure:*

division of the project into workunits with a fraction of PV  
( $t < 1$  year, managed by one organisational unit)

### *Reporting:*

every workunit reports periodically on progress.

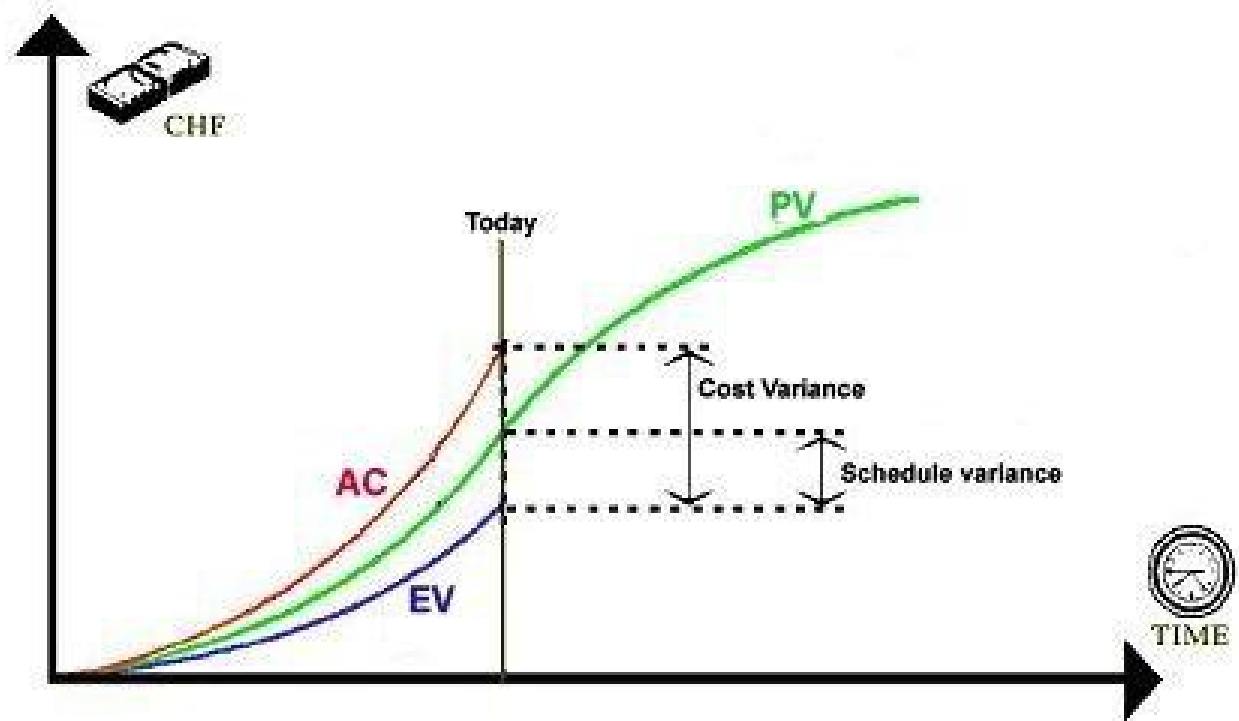
One compares the “earned value”, the state of the project expressed in monetary terms, and the “actual cost”, of supplies and manpower.

☺  $AC(t) < EV(t)$  and  $EV(t) > PV(t)$

☹  $AC(t) > EV(t)$  and / or  $EV(t) < PV(t)$

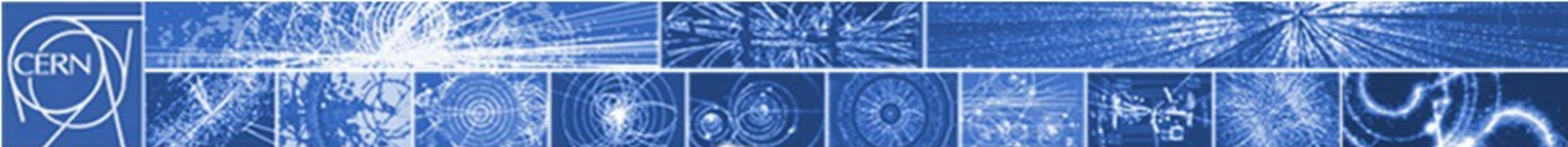


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-  Original planning (Planned Value)
-  Real evolution of the costs (Actual Cost)
-  Costs budgeted for the work carried out (Earned Value)





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## Implementation at CERN

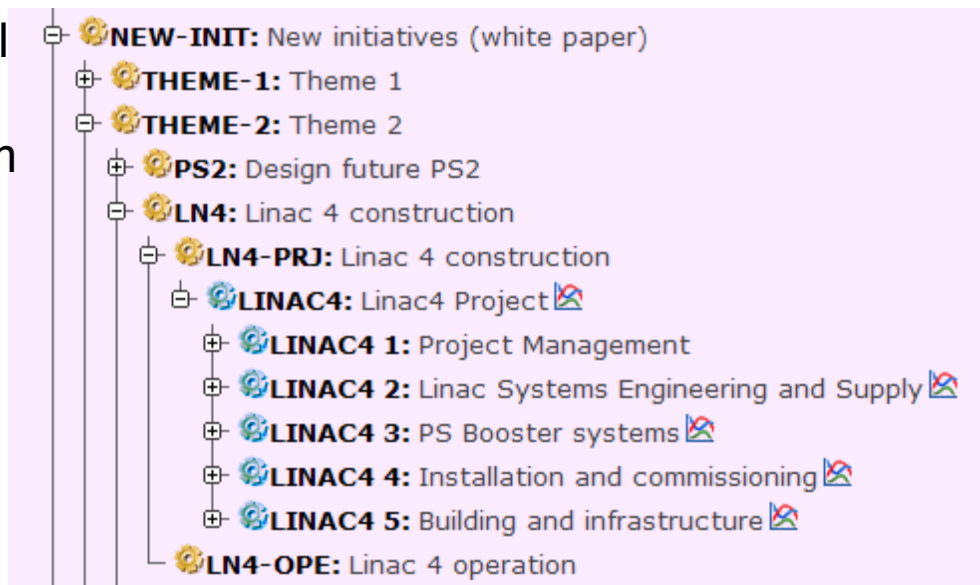
For LHC, managers had to

- Enter work units in Activity planning tool
- Report progress in a stand-alone EVM software, based on data extractions from APT.

SLHC-PP co-financed manpower in the Application Programming Group to seamlessly integrate EVM into APT.

From the records of workunits in APT, EVM reports can be generated “on the fly”

Collaborating institutes can have access to APT and can record their progress.





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## **Quality assurance (QA) plan for the implementation phase.**

Quality standards and approval trees have to be defined. The components and installations delivered by the various partners and industry have to be on a common high quality standard and according to their specification; a QA plan will be created for this (CERN).

Purchasing Process

Example for full QAP: Linac-4

In- Kind Contributions (in progress)

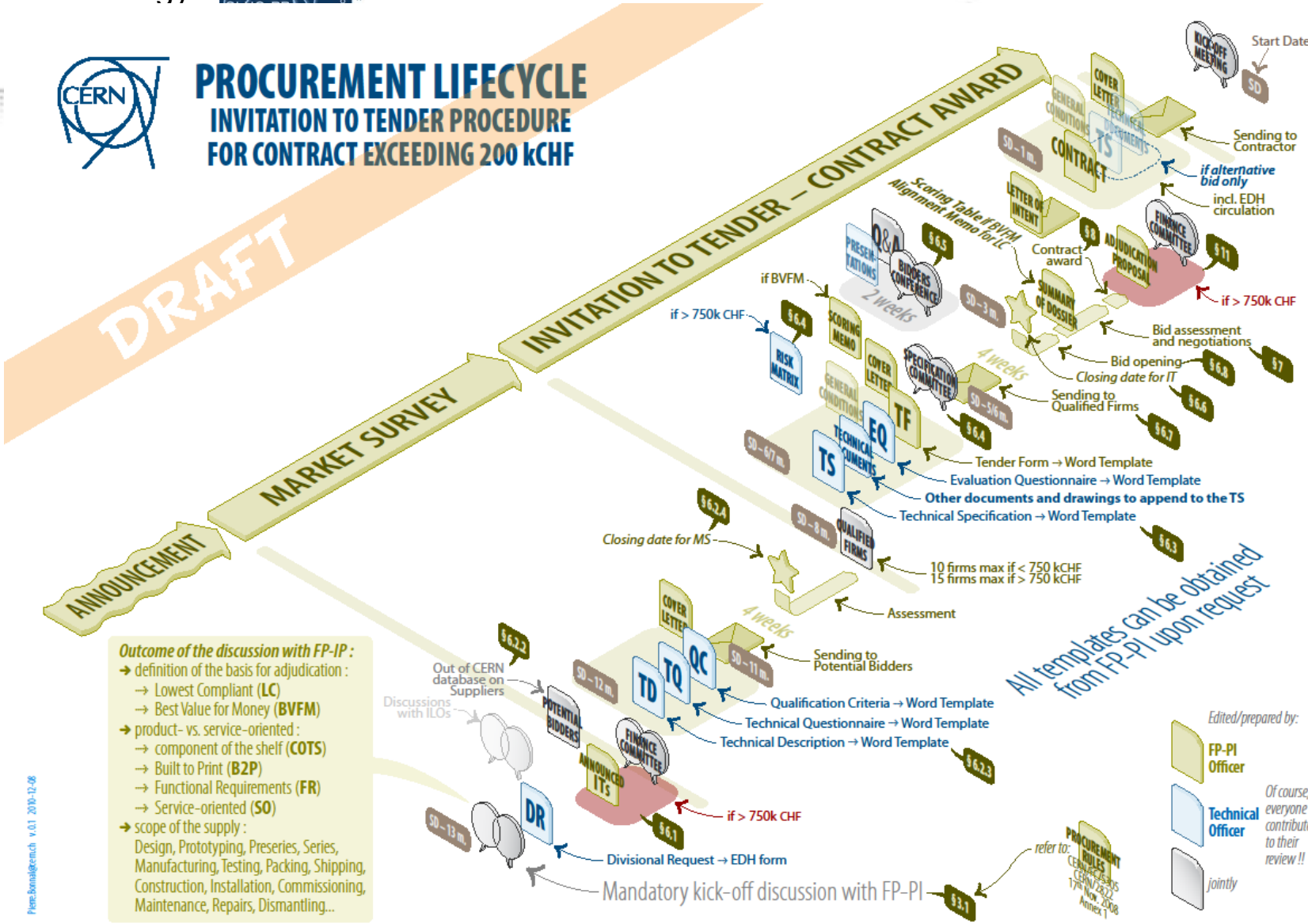


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# PROCUREMENT LIFECYCLE

## INVITATION TO TENDER PROCEDURE FOR CONTRACT EXCEEDING 200 kCHF







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## Purchasing Documents

*CERN Financial Rules*

*Market Survey*

*Invitation to Tender*

**General Conditions for Invitations to Tender**

Technical Specification

Tender Form

QA Working group has produced a unique template for the Technical Specification.

It is, as far as possible, free from administrative and legal aspects (reported to the Tender Form and annex documents)

The template is at the moment tested.



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## LINAC-4 QAP

### Organization

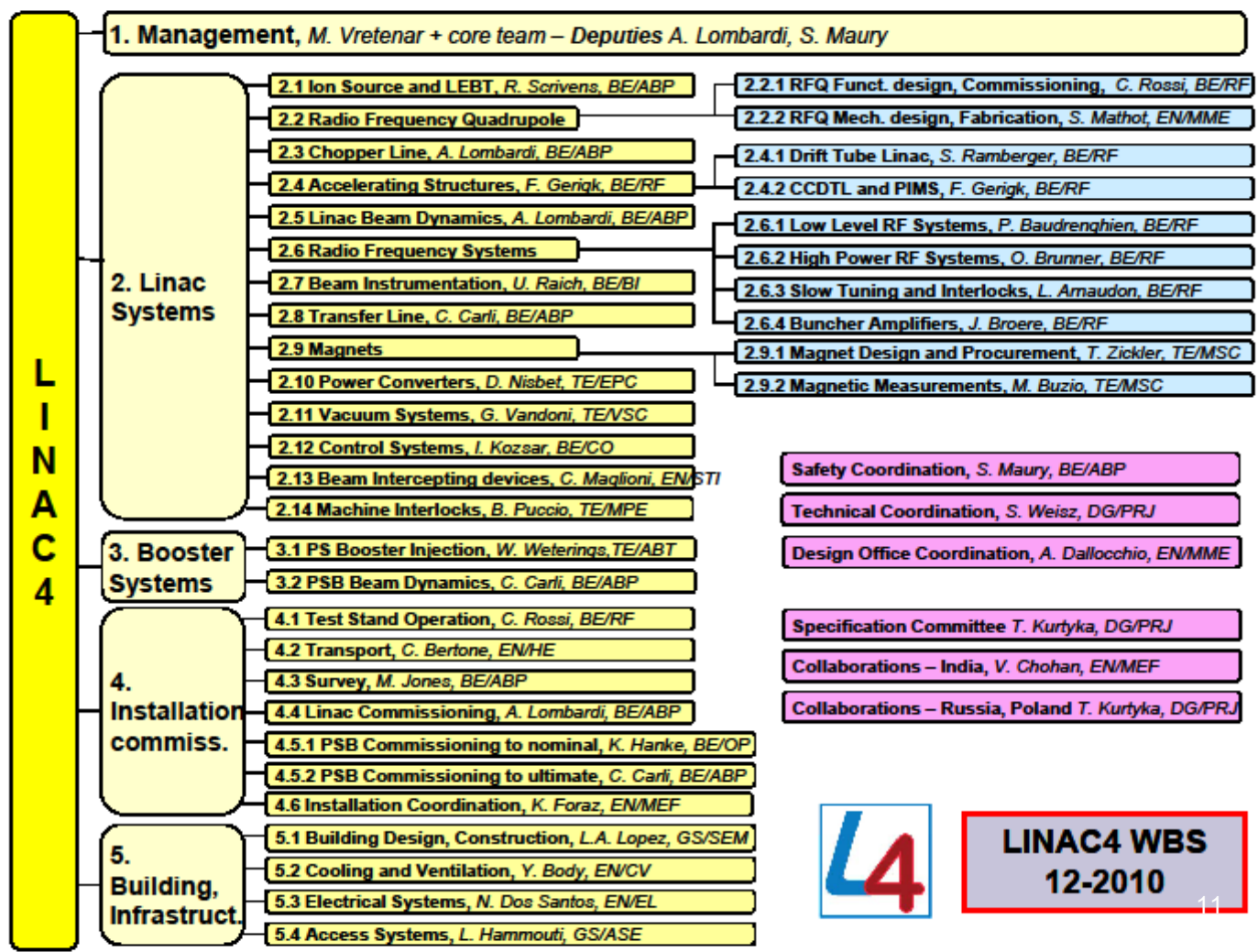
- Work Breakdown Structure
- Management and Communication Structure
- Quality Management Structure

### Documetation

### Product Realization

- Design and Development
- Purchasing and Contracting
- Fabrication and Testing

### Safety





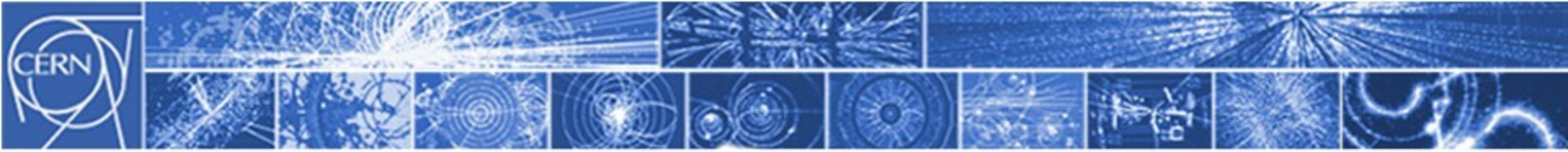
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## WP 2 Remaining Deliverables

No.	Title	Due	Status
2.1.2	Financial Management System	M30	Finished, report missing
2.1.2	Quality Assurance Plan	M30	Late, in progress
2.1.3	Earned-value management	M36	On track





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## Conclusion

The initial idea of WP 2 was useful -international collaboration will become more important in all future accelerator projects

The change of accelerator strategy at CERN did not influence the core topic of WP 2 – however, the immediate “target” had vanished during year 2 of the contract and participants adjusted their priorities accordingly

### **The most useful outcomes of WP 2:**

- streamlined purchasing templates (QA Working Group)
- Integration of EVM in APT (GS-AIS applied informatics group)