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The Project Office

Alessandro Variola, INFN Roma1

2nd Einstein Telescope Annual Meeting

Orsay, 14/11/2023

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Mandate

To Guarantee that the as-built research infrastructure fully complies with the requirements, the parameters and the technical layouts detailed in the project baseline configuration included in the TDR. This objective must be achieved without making changes that were not endorsed by the stakeholders and adhering to the final schedule and the estimated budget.

Short…but complex

General Strategy

- To fulfil its mandate three main PM processes must be available:

- 1) The Configuration (PBS, requirements, design, risks, parameters, layouts, TDR…)
- 2) The Planning (WBS, integration plan, risk register, financial plan…)
- 3) The Cost Estimate (PBS, WBS, TDR, risk register, integration plan, financial plan…)

- The risk analysis must support the configuration, the planning and the cost estimate.

The project office has these PM pillars as priorities.

Phase I

- The directors' mandate:
- *I. Set up the organization and the operations of the ETO (organization chart) below: ETO Project Organization during Phase I). This implies defining the structure of the ETO (Phase I), giving mission statements and work programs to the work units, naming staff members in the various work units, setting deadlines and quality control criteria.*
- *2. Compare the triangle geometry with the geometry of two L-shaped infrastructures in scientific potential, risk analysis and costs.*
- *3. Develop a budget plan and schedule for the Design and Preparation Phase. Control the budget and account for the funds allocated to the ETO (Phase I) by the ET Coordinators.*
- *4. Steer and oversee the studies and the production of the documentation necessary to the BGR and to the associated working groups in the ministries, for the BGR to be in a position to review, modify, update and approve the report and finally set-up the organization for the construction and operation of the gravitational wave detector.*

- *In the ET Organization framework, the Project Office is fully committed to support all the activities in charge of fulfilling the directors' mandate.*
- *We are presently supporting the Project Directorate to establish a 'project oriented' roadmap and the subsequent organization for phase I*

Who we are

Name	Institute
Alessandro Variola	INFN
Alessio Rocchi	INFN
Luca Latronico	INFN
Patrice Verdier	CNRS
Christian Olivetto	CNRS
Joseph Martino	CNRS
Ghada Mahmoud	CNRS
Remi Barbier	CNRS
Oussama El Mecherfi	CNRS
Romano Meijer	Nikhef

PO management	PO Support	Quality	Configuration	Risk	IT
• A.Variola • A.Rocchi	• L.Lilli	• L.Latronico	• C.Olivetto • R.Meijer	• J.Martino • G.Mahmoud	• P.Verdier • R.Barbier • O.El Mecherfi

Activities

- PBS
- Parameters and Layouts
- Configuration, eng platform
- Quality, nomenclature
- Risks
- IT Tools

PBS

- The triangle version for HF and LF exist
- Very important since it is the backbone for many other processes
- We have partial reviews of different systems

Next future. Need specific reviews to:

1) Check the consistency
2) Reduce the size
3) Start the 2L – proposed method to work in differential mode (differences from triangle and 2L)

Waiting for the database (not only the DB…but hiring recently completed !!!!)

ISB session, 15/11, 9.00h – Auditorium P.Lehmann and PO Session, 15/11, 16.00h Auditorium J.Curie

(A.Rocchi talk)

Parameters and Layouts

- Strategic to provide a Baseline
- PBS WG parameters and layouts established: A.Variola, A.Rocchi, P.Verdier, P.Werneke, C.Olivetto, L.Latronico, I.Harms, S.Hild, M.Marsella. Kick off.
- Discussion in a parallel session
- Template for parameters provided, with example
- Instructions for Tables loading provided
- Need a verification and validation process
- Need a reference system for layouts

(A.Rocchi talk)

Integrated Engineering Platform

- Working group established. C.Olivetto, L.Latronico, P.Werneke, M.Marsella, P.Verdier

Two solutions seem appropriate

1) 'CERN like' – A PLM platform (Aras) + ad hoc apps

2) Commercial solution -> Full integration and maintenance. 3D Experience, Teamcenter, Jama (requirements) + Hexagon (EAM)

- List of requirements oin different fields started
- Discussion with CERN team initiated. Result of the CERN POC shared, they will be very helpful.
- Jama Demonstration done. Free trial available
- End November, overview 3D platform (to be followed…)
- Final result will be shared, verified and validated

PO Session, 16/11, 9.00h Salle 101

(C.Olivetto, L.Latronico talk)

Quality

Nomenclature

- It is a quality and configuration process
- First table of nomenclature objects defined
- First meeting to set a methodology
- It is a heavy workload – we are looking for resources

Next Steps

- PAQ 0.1
- Standards survey

Risk management

- Need to define a methodology for a global risk management.
- Very complex due to different 'unknown variables'. We need to proceed in incremental steps while situations are being defined.
- The process should include ETRAC.
- We are working on the Risk Management Plan 0.1.
- Tools needed. Integrated in the PLM one?

PO Session, 15/11, 16.00h Auditorium J.Curie

(G.Mahmoud talk)

IT Tools

Three phases:

1) Present. We don't have resources, so we have to move forward with the tools available in the various institutions, trying to harmonize the problem of licensing.
2) Next future. Some budget is available, we can select professional Tools, install thanks to the national institutes with few licenses. This will provide an excellent benchmark.
3) Future. Strategy and survey for the full acquisition of the necessary licenses.

(rapid) snapshot SWOT

- Strengths

Motivation. Good collaboration with all the partners. PM culture shared. Support from the Top-Level Management

- Weakness

Missing roles. Part – time engagement. Available resources. Nonexistence of the legal, administrative organization

- Opportunities

Interest of the project. CERN collaboration. Increasing of the PM. Growing awareness of the importance of project management practices.

- Threats

Maintaining the leading roles and competences. Simultaneity with other activities and experiments, not awareness of the amount and quality of work required as of now, even if the project is located far away in time. Workflows shall be simplified.

So….

- I would like to warmly thanks all the people that participate directly or indirectly to our activities.
- We are faced with a very high mountain to climb, strong motivations but we really need professional resources and tools.
- Many of the advanced processes that we should implement can require a deep knowledge and have strong impact also on technical activities. Any volunteer?
- Thanks to the ETO management that constantly supported our activity
- Thanks to all the ET partners for the collaboration and understanding