Pianificazione, Esecuzione e Monitoraggio delle attività di DUNE-ITALIA

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Project Management

Questa sessione non vuole affrontare i principi generali del PM

L'INFN ha un Comitato Nazionale per il Project Management https://web.infn.it/cnpm/index.php/it/ che periodicamente propone **corsi di formazioni** mirati a disseminare i principi di PM declinati nel nostro ambito e che tengono conto delle prassi e del nostro contesto lavorativo.

Questa sessione vuole aprire la discussione sulle **metodologie** e gli **strumenti** necessari per raggiungere **obiettivi** di progetto, utilizzando al meglio le risorse umane, tecnologiche, di tempo ed **economiche**.

Spending Profile condiviso con la CSN1 (core cost)

INFN Core Cost Spending Profile

			2021	2022	2023	2024	2025	2026	2027	Total
SAND										
MAGNET	Yoke									
		Yoke disassembly, packaging, storage at LNF				300				300
		Yoke Integration/Installation							200	200
	Superconducting solenoid refurbishment				100	540				640
	Transport to FNAL (includes EMC)						1300			1300
EMC	EMC test, disassembly, renovation		340	149	300	565	750			2104
GRAIN	LAr design, assembly, integration			40	315	680	940	880		2855
	Spares, small components and transport to FNAL							200		200
STT	Design and Prototype				65	150				215
	Contribution to the construction of STT						1700	1700	1700	5100
TRIGGER	Trigger design, realization						200			200
FD1										
FD1	SiPM			1583						1583
	electronics					310	190			500
	module (mass test of supercell)								50	50
FD2	WLS bars from Glass-to-Power			33	155	0	360	0	0	548
	Dichroic filter					550				550
	SiPMs			5		1320	75			1400
ND Integration, Contingency										
ND Integration, Contingency			20				2000	1500	700	4220
		Core Cost Total	360	1809	935	4415	7515	4280	2650	21964

Questo SPENDING PROFILE è un prodotto della documentazione di gestione richiesta dalla CSN2 per l'implementazione del Piano Assicurazione Qualità.

Dal 2024 saremo in CSN1, ma è necessario **mantenere e consolidare** alcune buone pratiche di pianificazione e monitoraggio

Una gestione ordinata e efficiente non solo ci aiuta a raggiungere gli obiettivi del Progetto ma dobbiamo ricordare che è necessario:

- stare nel budget concordato con CSN1 e GE

- prepare il TDR di SAND

- tracciare i core cost

- integrarci con la parte americana

Cosa dovremmo fare (1)

Riguardare e poi approvare:

- Deliverables
- WBS
- Project Plan e Milestones
- Profilo di Spesa

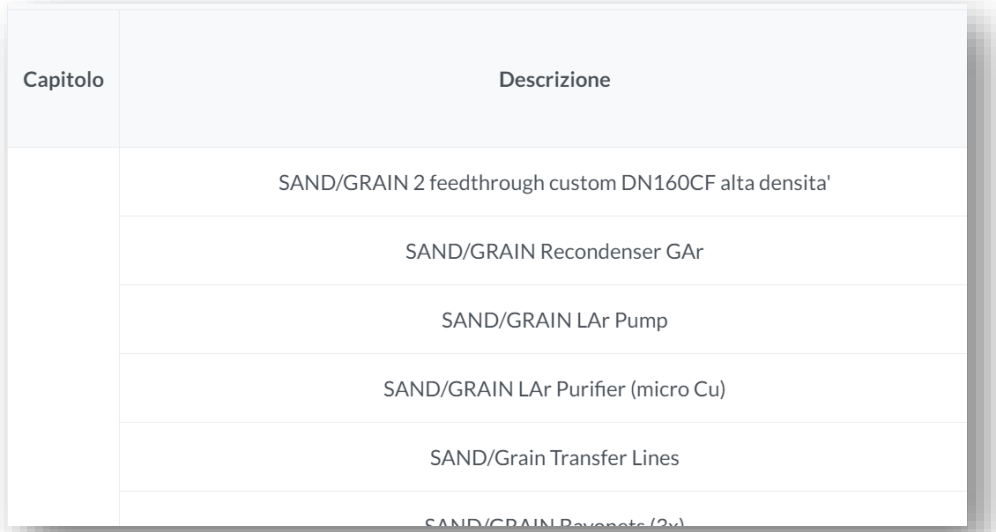
Identificare le spese che contribuiscono ai Core Cost.

Revisionare periodicamente il Profilo di Spesa
(secondo il principio «modifiche a budget costante»)

Cosa dovremmo fare (2)

Applicare metodologie per monitorare la spesa nel contesto delle prassi amministrative INFN:

in fase di **preventivi** annuali e **richieste** di **integrazione** in corso d'anno è necessario **identificare un WP** e la natura del finanziamento (CORE COST o altro)



Capitolo	Descrizione
	SAND/GRAIN 2 feedthrough custom DN160CF alta densita'
	SAND/GRAIN Recondenser GAr
	SAND/GRAIN LAr Pump
	SAND/GRAIN LAr Purifier (micro Cu)
	SAND/Grain Transfer Lines
	SAND/GRAIN Bayonets (3x)

La spesa va aggiornata in fase di verifica dell'avanzamento (annualmente).

Richiede collaborazione fra RN, RL, e responsabili dei WP.

e un Project Office !

BACKUP

Row Labels	2021	2022	2023	2024	2025	2026	2027	Total
⊟PDS								
⊞FD1		1582.5	0	312	192		50	2136.5
⊞FD2		38	155.5	1869	434			2496.5
⊟SAND								
⊞Analysis								0
⊞Assembly/Integration								0
⊞EMC	340	148.5	300	564	750			2102.5
⊞GRAIN		40	315	682.5	942	1075		3054.5
⊞MAGNET			100	840	1300		200	2440
⊞STT			63	150	1700	1700	1700	5313
⊞Trigger					200			200
Grand Total	**340**	**1809**	**933.5**	**4417.5**	**5518**	**2775**	**1950**	**17743**

Row Labels	2021	2022	2023	2024	2025	2026	2027	Total
PDS								
FD1								
analysis								
Analysis of ProtoDUNE-SP Run II								0
Data analysis during commissioning								0
Data analysis on double calorimetry for beam events and low energy events								0
Development of double calorimetry simulation in DUNE								0
Simulation framework for low energy events								0
electronics								
Aging test of the amplifier								0
Full test of the electronic chain								0
Optimization of the cold amplifier								0
Production and mass test of the amplifier				180				180
Production of the signal lead boards				132				132
Production of the SiPM mounting boards					192			192
Warm-cold electronics interface								0
module								
Assembly of the modules								0
contingency and partial parallelization								0
Installation and Q&A at SURF								0
Mass test of the supercell							50	50
Validation of the supercell								0
SiPM								
Definition of the tender and specs		0	0					0
Measurement of absolute PDF at 77 K								0
SiPM procurement		1510						1510
Test of samples (correlated noise, S/N, etc.)								0
Tests of I-V curves at 77 K and DCR		72.5						72.5

Row Labels	2021	2022	2023	2024	2025	2026	2027	Total
PDS								
FD1		1582.5	0	312	192		50	2136.5
FD2								
Dichroic filter								
Prima tranche produzione di massa filtri dicroici FD2-HD				550				550
SiPMs								
Constribution to installation								0
Contribution to mass tests								0
Procurement of SiPMs		5		818	74			897
Procurement of SiPMs (return of funds to Spain)				501	0			501
SiPM coupling in standarlone mode								0
Test of megacell readout								0
WLS bars from Glass-to-Power								
Contribution to installation								0
procurement and Q&A					360			360
pTp deposition		33	155.5					188.5
Test in a megacell								0
Test of optical and cryogenic properties					0			0
Grand Total		**1620.5**	**155.5**	**2181**	**626**		**50**	**4633**

Row Labels	2021	2022	2023	2024	2025	2026	2027	Total
SAND								
Analysis								
Full SAND simulation and physics analysis package								
(blank)								0
Assembly/Integration								
Cabling, power, cooling, gas and cryogenics connections								0
Magnet full field test								0
EMC								
EMC test, disassembly, renovation								
Cosmic ray test of the EMC at LNF								0
Disassembly and storage at LNF	40	112.5	300					452.5
Procurement of spare PMTs	300							300
Renovation of FE electronics					750			750
Renovation of the HV system		36		564				600
Integrity test at FNAL								0
Packaging and delivery to FNAL								0
GRAIN		40	315	682.5	942	1075		3054.5
MAGNET			100	840	1300		200	2440
STT			63	150	1700	1700	1700	5313
Trigger					200			200
Grand Total	**340**	**188.5**	**778**	**2236.5**	**4892**	**2775**	**1900**	**13110**

Row Labels	2021	2022	2023	2024	2025	2026	2027	Total
⊟SAND								
⊞Analysis								0
⊞Assembly/Integration								0
⊞EMC	340	149	300	564	750			2103
⊟GRAIN								
⊞Installation in SAND								0
⊟LAr design, assembly, integration								
Cryostat		40	315	20	500			875
Engineering design								0
GRAIN assembly and testing								0
LAr circulation and purification system, mechanical support (supporting also STT) , signal processing, control systems.				662.5	192			854.5
Optical Readout				0	250	875		1125
Prototyping								0
⊞Spares, small components and transport to FNAL						200		200
⊟MAGNET								
⊟Superconducting solenoid								
Coil Installation								0
Packaging and Transport to FNAL (costs in Q10)								0
Refurbishment			100	540				640
⊟Yoke								
Transport to FNAL					1300			1300
Yoke 3D Model								0
Yoke disassembly, packaging, storage at LNF				300				300
Yoke Integration/Installation							200	200
⊟STT								
⊞Contribution to the construction of STT					1700	1700	1700	5100
⊟Design and Prototype								
Construction and test of full size STT prototype			63	150				213
STT Design								0
⊟Trigger								
⊞Trigger design, realization					200			200
Grand Total	**340**	**188.5**	**778**	**2236.5**	**4892**	**2775**	**1900**	**13110**

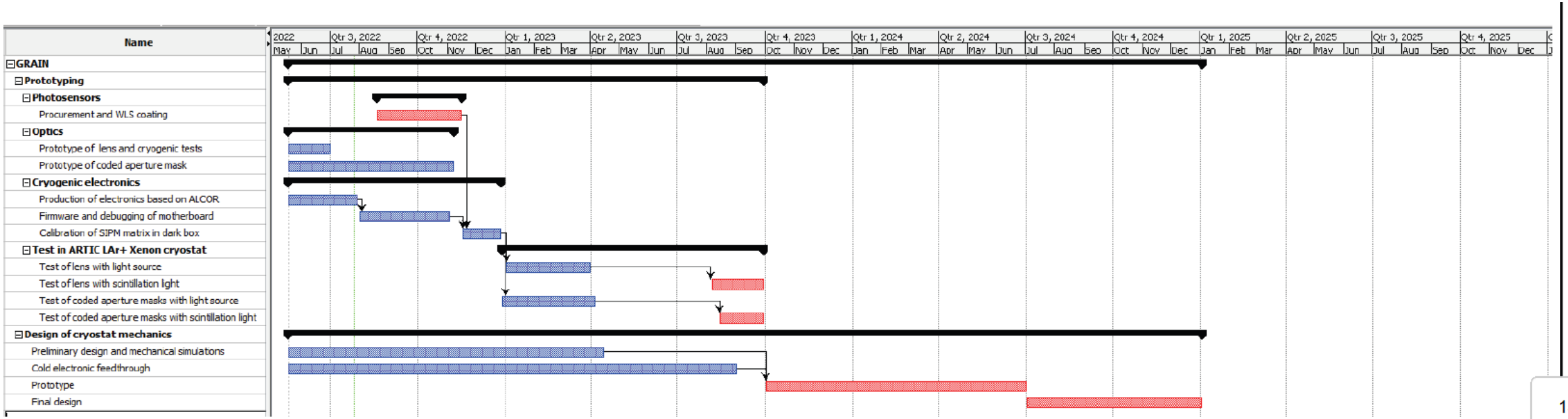


Figure 10 Schedule for the finalization GRAIN design

Dal DUNE progress report 2022

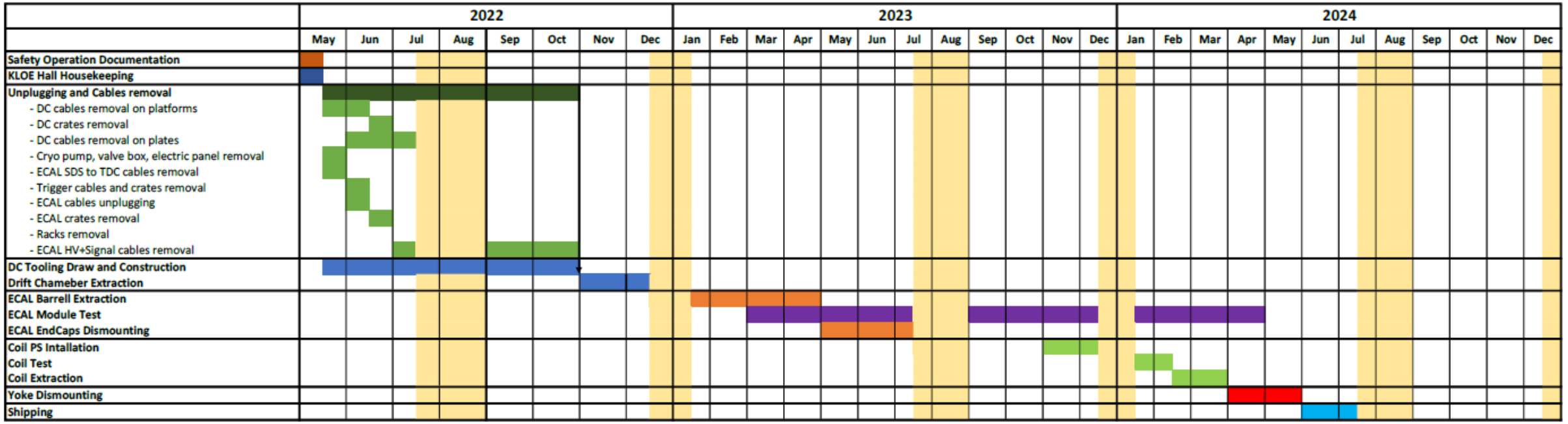


Figure 5 Schedule of KLOE ECAL and Magnet dismounting

Dal DUNE progress report 2022