

GUIDE TO GRANTS: MILESTONE & BENCHMARK SETTING

Office of Grants Administration

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ARES Private

MILESTONE SETTING

When preparing your full proposal/project plan, it is important that you set clear milestones to enable efficient tracking of the project progress.

Note that milestones track key developments. If you over-specify the milestones, you will end up monitoring countless small tasks, defeating the whole purpose of setting the milestones.

Tasks are **actions** that your team needs to execute to complete the project.

The start and finish dates of a task indicate the duration/total time needed to complete the task.

VS

Milestones are **checkpoints** which signify the time by which key progress points are achieved/completed. As such, milestone has zero duration.

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MILESTONE SETTING: PRO-TIPS

- While milestones mark key stages in a project, **deliverables** are measurable, tangible, verifiable outcomes of a project – which can be concrete products or services e.g., sensors, ML algorithms
- Successful development of Deliverable X can be reported as a project milestone
- PIs are encouraged to list **2-3 milestones per project year** (not calendar year)
- If a project is broken down into work packages, PIs can list **1-3 milestones per work package per project year**

Example: “Purchase of equipment” is NOT a milestone. On the other hand, “Equipment fully set up and validated” can be considered as a milestone. However, is it a significant stage in the project execution when compared to other progress points? Only PI has the right knowledge to determine this.

MILESTONE SETTING:

DO'S

- ✓ Define milestones properly. Each milestone must signify a change/progress towards achieving the final outcome.
- ✓ Monitor progress closely and identify warning signs/risks.
- ✓ Check with Grantor before raising any variation requests.
- ✓ Follow guidelines and recommendations provided by Grantor.

DON'TS

- ✗ Confuse milestones with tasks and as a result, create too many milestones.
- ✗ Underestimate potential bottlenecks.
- ✗ Deviate from original project plan, unless changes are necessary for project progress and approved by Grantor.
- ✗ Make last minute requests. With good project planning and monitoring, such requests are easily avoidable.

MILESTONE SETTING: EXAMPLES

GOOD MILESTONES

- ✓ *"Complete the development of new Machine Learning Interaction Potentials (MLIPs) using anharmonicity"*
- ✓ *"Successful demonstration of the sensor's PPB sensitivity level"*
- ✓ *"Launch of BCI-based stroke rehab APP"*
- ✓ *"Complete software development and process parameter refinement"*
- ✓ *"Complete alpha testing and validation of Radar-Camera"*
- ✓ *"Complete the analysis of half-of -life data and safety profiles"*

NOT MILESTONES (please avoid)

- χ *"Research Fellow recruitment and purchase of project consumables"*
- χ *"To study the influences of the surface states on electron transport across the contact surfaces"*
- χ *"Annual networking meeting"*
- χ *"Analysis of results and manuscript writing"*
- χ *"Set up and maintain core machine learning team"*
- χ *"Selective functionalization/protection of secondary alcohols"*
- χ *"Explore new colloidal super crystals"*

MILESTONE SETTING: EXAMPLES

Research Milestones / Deliverables	Year 1				Year 2				Year 3			
	1	2	3	4	1	2	3	4	1	2	3	4
Study the influences of the surface states on electron transport across the contact surfaces												
Complete software development and process parameter refinement												



BENCHMARKING (LANDSCAPE REVIEW)

Benchmarking is a continuous improvement practice that helps project team and their stakeholders assess whether the project is/will remain **competitive and generate values** based on internal results, competitors' performance or industry standards. External criteria from competitors or market trends can help the team to set appropriately ambitious performance goals for the project.

Key goal in benchmarking: to **identify gaps** in performance and **uncover opportunities** to improve (processes, products, services, etc.). Project team should:

- Determine how and where competitors are achieving the highest performance levels
- Use the information/data gathered to plan and devise better solutions
- Give best effort to future-proof the benchmark by considering and comparing the proposed target with what is to come

BENCHMARKING: EXAMPLE

When compared against various sub-6 GHz, < 0.5 W linear PAs in the market, the proposed target is clearly more superior across all considered parameters:

	Company A Target in T+3-5yr	Company B Target in T+3-5yr	Company C Target in T+3yr	Proposed Target (in T+3yr)
Frequency	5.15-5.85 GHz	4.9-5.9 GHz	3.75 GHz (5G NR)	6 GHz
Max P _{out}	-	32.5 dBm	-	33 dBm
P _{out}	25 dBm	25 dBm	26 dBm	27 dBm
Efficiency	11.4%	9.4%	13.3%	25%
Integration	16 mm ² (package)	35 mm ² (package)	6.9 mm ² (SM-only)	1 mm ² (MMIC)





THANK YOU

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