The Successful Project Team – Key Roles and Responsibilities

Presented to the

PI Team Masters Forum-3 (Discovery Missions & Mars 2016 TGO US Instruments)

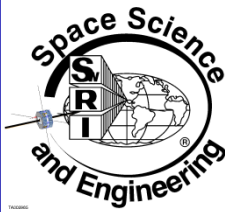**Marriott Waterfront Hotel, Annapolis Maryland**

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Presented by

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Presentation Topics

- Congratulations – The good news and the bad.
- PM's Role and Responsibilities
- Project Infrastructure
- Key Positions
- Performance Metrics
- Summary and Conclusions
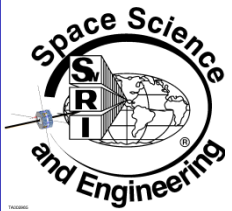
Congratulations!

- Your team has been selected over many other proposals to perform a Phase A study.
- The good news;
  - Your hard work, the long hours, the unending stress of getting the proposal out have been rewarded.
  - Your team is enthusiastic, rested and ready to go.
- The bad news;
  - Now you get to do it all over again with the CSR.
  - It only gets harder from here on.
  - For the PI's and PM's, life as you have known it up to now is about to change significantly.
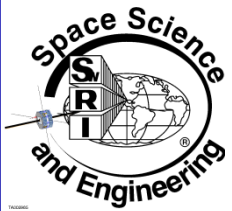
PM Roles and Responsibilities

Role	Responsibilities
EVM Team Lead	❑ Ensure than an ANSI-748 compliant EVM system is in place ❑ Ensure Government validation of EVM system is in place or in development for validation prior to Phase C. ❑ Select EVM implementation lead. ❑ Select Cost Account Managers (CAMs) ❑ Oversee the CAM training process. ❑ Establish project performance metrics. ❑ Monitor the EVM process; react to negative variances. ❑ Implement Baseline Change Request (IBR) process.
Cost Lead	❑ Allocate initial CAM budgets. ❑ Track cost performance; react to negative variances. ❑ With PI approval, allocate funding reserve as needed.
Schedule Lead	❑ Establish scheduling process. Select Planner/Scheduler. ❑ Track schedule performance using EVM metrics; react to negative schedule variances.

Roles and Responsibilities (con.t)

Role	Responsibilities
Risk Management Lead	❑ Establish risk management process and select risk tools. ❑ Identify initial risks. ❑ Establish mitigation plans for active risks. ❑ Link mitigation plans to resource Liens and Threats process. ❑ Track and report risks status regularly.
Liens, Threats & Opportunities	❑ Establish a resource Liens, Threats & Opportunities process. ❑ Link to the risk management process. ❑ Track and report regularly.
Reporting Lead	❑ Establish a reporting process. ❑ Ensure team members can meet reporting requirements. ❑ Includes technical, cost, schedule, resources and trends with liens and threats, and risk status.
Contract Compliance	❑ Ensure team is meeting contract requirements for deliverables, cost, and schedule, and reporting. ❑ Track "puts and takes" on contract cost.

| Role	Responsibilities
Resource Management	❑ Work with MSE to establish initial CBE, contingency and margins. ❑ Develop a process for tracking resource usage. ❑ Develop a process for the controlled release of resources to mitigate risk. ❑ Link Liens and Threats process into resource management process. ❑ Link resource management process to descope process if all else fails.

First Things First

- **Building your team's infrastructure is the most important thing a PM can do in the early days.**

  - No matter how hard you work as PM's, you can't do it all by yourself.

  - Key technical and science roles were filled during the proposal, but likely many key support role have not.

  - Remember, you will soon be operating under a formal EVM system and your support staff will make all the difference in your success.

    - EVM Lead
    - Planner/scheduler
    - Cost Account Managers (CAMs)
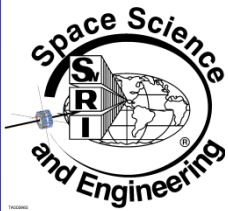
- **As a Discovery Mission PM, you are effectively the Chief Operating Officer of a $425M (FY2010) enterprise.**
  - You have the same issues to deal with as other "Captains of Industry".
  - Keeping the Customer and the Stakeholders happy.
  - Meeting the payroll.
  - Delivering a quality product on time and on budget.
  - Supporting your Chief Executive Officer, the PI, through thick and thin.
- **Starting thinking like a COO and not like an engineer or even a PM of small projects!**
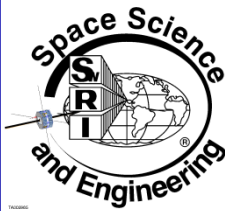
Key Support Positions

Position	Skills Needed
EVM Lead	❑Thorough understanding of ANSI-STD-748 reporting. ❑Strong background in planning and scheduling. ❑Good understanding of tools used in EVM. ❑People skills needed to train Cost Account Managers (CAM)
Planner/ Scheduler	❑ Good understanding of the work being planned, not just the tools used for planning. ❑ People skills to work effectively with CAMs. ❑ Highly proficient with scheduling tools and links to EV tools.
ITAR Lead	❑Thorough understanding of 22 CFR 120-130. Compliance with the International Traffic in Arms Regulations (ITAR) concerning equipment identified in the U.S. Munitions List (USML) 22 CFR 121.1 ❑People skills to train all team members in ITAR compliance. ❑Knowledge of import/export rules and regulations.

Infrastructure Considerations

- **Work Breakdown Structure (WBS)**
  - Built to comply with NPR 7120 to L2-3 for proposal.
  - Is your proposed WBS reflective of the way work will get done and costs incurred?
  - Can you build your scheduling and EVM processes around your WBS?
- **Organization Breakdown Structure**
  - Was the org chart designed to sell or to live with and build on?
  - Are the lines of reporting simple and clean?
    - Do you have subs reporting to other subs?
    - Do your international partners have clear lines of reporting and accountability?

- **Product Breakdown Structure (PBS)**
  - Do you really know where all the parts are coming from?
  - Are your subcontractors planning to subcontract?
  - Do all your suppliers know what is expected from them by way of quality, schedule, reporting?
  - Are any of your subcontracts large enough to require special EVM reporting?
    - If so, do the subs have a clue what EVM reporting is all about?
    - Do you need to train CAMs within your subs organization?

The "Road Show"

- **Pack your project leadership and hit the road to visit your team members and key suppliers ASAP.**
  - Let them know what is expected of them in all areas of reporting and communications, scheduling, deliverables, mission assurance, EVM.
  - Listen to their problems and suggestions.
  - Perform informal reviews of your team member's infrastructure – offer to help where needed.
  - Team has to trust the PI and PM to operate openly and honestly and to have their best interests in mind.

EVM Metrics

- EVM metrics are generally produced through a process that involves multiple tools and perhaps some manual intervention.
  - Scheduling tool such as MS Project, Primavera P7.
  - Cost analysis tools include Cobra and Winsight.
  - Some manual intervention may be necessary to pass information between the tools.
  - Input data may only be an approximation.
- The EVM process is imperfect and may produce confusing or even incorrect results.
 - Sanity checking of results common sense.

EVM Considerations

- Determine best Switch Settings work for your project.
  - How do you want to determine "earnings"?
  - How do you want to calculate ETC and EAC?
  - What is your threshold for variance reporting?
- Major complications and "noise" sources.
  - Do all of your team members have an EV system in place?
  - How will you determine earnings on subcontracts and purchased parts?
  - How do you manage invoicing?

Other Useful Metrics

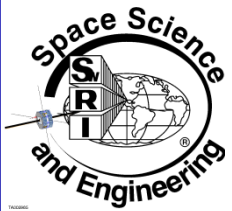| Metric	Tools	Trends to Monitor
	Scheduling tool.	Changes in date over time. Can provide effective warning.
	Excel	Increase or decrease in technical resources CBE.
	Excel	Rate of release of reserves.
	PIMS or equiv.	Number of open risk over time
	DOORS	Time based record of planned vs. actual verification closure.
	PIMS or equiv.	Rate of increase or decrease of NCRs.
	PIMS or equiv.	Time rate of RFA closure.
	CM tool	Time rate of percent of needed drawings released.

Summary

- Congratulations on your selection!

- To the PMs, think like a COO and not like an engineer.

- Build a strong support staff immediately.

- Identify performance parameters that you understand, trust, and that can point you to problem areas.

- Hit the road – visit key team members and suppliers!

- Let the team know what is expected of them!
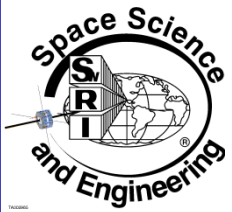
Acronyms

Acronym	Definition
ATLO	Assembly, Test Launch and Operations
CAM	Cost Account Manager
CM	Configuration Management
COO	Chief Operations Officer
CPI	Cost Performance index
CV	Cost Variance
EAC	Estimate at Completion
ETC	Estimate to Complete
EVM	Earned Value Management
ITAR	International Traffic in Arms Regulation
MA	Mission Assurance
MOC	Mission Operations Center
MOO	Missions of Opportunity
PBS	Product Breakdown Structure

Acronym	Definition
PI	Principal Investigator
PIMS	Project Information Management System
PM	Project Manager
RFA	Requests for Action
SOC	Science Operations Center
SPI	Schedule Performance index
USML	United States Munitions List
VAC	Variance at Completion
VAC	Variance at Completion
WBS	Work Breakdown Structure
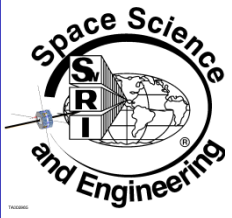
Acronyms (3)

Acronym	Definition
XCVR	Transceiver
XRFM	X-ray Flash Monitor