

# Aerospace Case Study on Deliverables Based Planning<sup>sm</sup>



## Project Mission and Background

Our client, a large aerospace and defense contractor, was awarded a significant portion of a major space program. The original awarded sub-contract was for 450 million dollars of space qualified hardware and software to be delivered over multiple years. The cutting edge nature of the technology and operational requirements introduced a high level of complexity, uncertainty, and risk for this program.

## Challenges

The prime contractor’s delivery dates for hardware and software components were established in advance of stable requirements and system design. Our client found that managing and delivering to the program’s tight deadlines was difficult without a functional program, planning, and controls (PP&C) process. As a result, they were unable to forecast the program’s progress early enough to make actionable decisions to keep the program on cost and on schedule.

## Our Approach

Lewis & Fowler applied its Deliverables Based Planning<sup>sm</sup> method to schedule decomposition, governance, risk management, and EVMS (Earned Value Management System) compliance to integrate cost, schedule, and technical performance measures. This method leveraged the discovery, control, and improved visibility of discreet tasks against predefined performance reporting metrics. Using the Deliverables Based Planning<sup>sm</sup> method, the team identified program problem areas where functional and technical requirements needed clarification. With these corrections, an executable Performance Measurement Baseline (PMB) was established using Earned Value (EV) and Programmatic and Technical Risk management techniques. By integrating the assessment of the Technical Performance Measures (TPM) into the Integrated Master Schedule (IMS) this method assured the measures of progress included the quality of the deliverables.

## Direct Benefits

With a credible IMS, the client captured the discreet work activities for each deliverable. As a result, each deliverable was traceable - both vertically and horizontally - ensuring all efforts in the schedule supported the deliveries. Monte Carlo simulations determined the probability of delivering by the contracted dates. Lewis & Fowler’s Deliverables Based Planning<sup>sm</sup> improved the development of IMS through the integration of each teams’ work intra-dependencies and the “baselining” efforts for each period of performance. This approach assured each Program Event contained the work needed to successfully move the program forward.

Activity	Outcome	Benefit
<ul style="list-style-type: none"> <li>▪ Create critical paths.</li> <li>▪ Implement a model for dependency traceability.</li> <li>▪ Analyze schedule risk.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Demonstrated functional project team intra-dependencies.</li> <li>▪ Tracked schedule behavior against deliverable delays.</li> </ul>	<ul style="list-style-type: none"> <li>▪ A credible Integrated Master Schedule (IMS), with defensible logic, delivery date simulations with repeatable outcomes, and schedules that are used to support prime contractor audits and cost negotiations.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Create dynamic metric charts that integrate delivery cost to schedule performance.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide client management visibility to team delivery performance against allocated budget, allowing confident, consistent, and accurate reporting for DCMA and prime contractor auditors.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Increased management visibility into functional schedules, providing staff planning and risk area identification.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Restructure tasks to support the discrete deliverables.</li> <li>▪ Redefine the measurements of success.</li> <li>▪ Describe what “done” looks like.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provide client with a schedule and performance measures to reduce risk.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Compliant DCMA formatted (CPR and 533M) reports of the value received from the work efforts.</li> </ul>

## Summary

Using our Deliverables Based Planning<sup>sm</sup> method, the client was able to identify the probabilistic confidence of each contractual deliverable, without the need to re-create an Integrated Master Plan (IMP). This process provided visibility into the underlying performance of the program.