



Best Practices in

Modernizing Planning Solutions *for* **Science & Technology**



Introduction

The Science and Technology (S&T) community is continuously innovating and modernizing. Warfighters need the latest technologies to meet evolving threats; farmers need new technologies to stop the spread of pests that endanger food supply; and doctors need cures to ever-evolving diseases.

As an S&T professional, your job is to help develop modern, effective solutions, but are your antiquated prioritizing and investment processes resulting in delays and costly redundancies?

Planners often operate within disconnected systems, making collaboration during the lifecycle difficult. Collaboration in the S&T lifecycle pertains not only to people, but also to project data. The silos and disconnection lead to inefficiencies such as risky Research & Development (R&D) dependencies, costly redundancy in studies and acquisition efforts, and delays in yielding mission critical technologies to the field.

Traditional Program Management methodologies will not work. Capabilities are needed to enable rapid communication and collaboration throughout the S&T lifecycle, across many different pockets of organizations, so that organizations can identify, assess, and evaluate incoming R&D proposals from gap conception to solution selection.

You know the challenges and see the need for change. What can you do to help your organization operate more effectively? Your organization needs to find a way to work collaboratively throughout the lifecycle to enable better communications and tracking of efforts; to more rapidly identify dependencies; and to standardize evaluations and analysis.

The following best practices will help your organization to modernize your planning processes and keep pace with your organization's need to stay globally competitive.

Standardize and Streamline the Input Process

The ingestion of various drivers (i.e., threat vectors, capability gaps, potential solutions, and acquisition vehicles) of the lifecycle are often manual processes. These manual processes frequently take place on outdated systems that do not allow for rapid, high quality submissions. Many times, planners must combine multiple data sources to create a single list of ideas. These systems also often lack the ability to require standardized inputs, leading to wide differences in the quality of submissions between groups. For example, when planners are presented with all mission critical requirements, but some are more detailed and complete than others, it can delay and obscure decision-making because there is not a complete picture of the requirement.



A Joint Department of Defense Organization uses Decision Lens to aggregate, review, and analyze testing proposals across multiple Components and Combatant Commands spread throughout the globe. The use of DL ensures that inputs are the same regardless of service or location and that users are able to access at any time from a device with internet access. Once proposals are selected, PM's and Service Leads have a full operating picture across the DoD that allows for standardized comparisons and creation of courses of action.

Standardizing inputs could reduce manual effort for planners and produce higher quality requirements that more accurately reflect identified needs. This in turn would speed up the process, and potentially yield more successful R&D, testing, or acquisition.

Additionally, it can be difficult to collect timely inputs from multiple stakeholders. Consider ways that inputs could be collected simultaneously and ideally, using a FedRAMP certified server to host these inputs electronically. There are huge advantages to utilizing an electronic platform for collaboration. Inputs can be entered remotely, removing the need for a large number of stakeholders to meet at the same place and time to share information.

Use a Central Repository for Data

Beyond initial submission, data review occurs throughout the lifecycle with a constant problem set. Systems often struggle to match the intricacy needed in terms of access and permissions. The right stakeholders need quick access to the right (specific, timely, accurate) information to minimize risk. Cost estimators need access to financials, engineers need access to testing data, and PM's need access to scheduling information, all while ensuring timely, quality-assured data.

Access and permissions issues have led to organizations using multiple systems housing multiple sets of information. Using separate systems for separate levels of user access and different types of data makes collaboration difficult, if not impossible and the larger picture of the organization's goals and strategy can easily be lost.

Developing a central repository or platform where each actor can access and edit the information specific to their role can help leadership to have a single operating picture of the lifecycle. Having accurate information in a single repository results in earlier identification of risks, (schedule, cost, performance) specifically dependencies and redundancies between different and stakeholders' parts of the lifecycle. Keeping all information on one platform also eases the collection of information for subsequent reports and briefings.

Measure Ideas Against Organizational Priorities

The complex nature of the problems S&T planners aim to solve requires many entities to arrive at a solution. Standardizing the evaluation of ideas across a broad set of stakeholders can be difficult, if not impossible. For example, solutions for cyber security threats require a multi-disciplinary team of experts in policy, law, hardware, software, project management, and deployment. The symbiosis of multiple viewpoints can be difficult to achieve but is vital for success. An excellent course of action for a cyber security solution will ultimately fail if it is not legally feasible.

With the future of work becoming more virtual, capabilities are needed via a common platform to develop, align, and evaluate ideas across multiple stakeholders and against organizational priorities. The ability to prioritize seemingly



At a Federal Civilian S&T Directorate, Decision Lens was used to evaluate COTS (Commercial Off the Shelf) solutions to meet requirements and close gaps for Wildfire Urban Interfaces. The evaluation was hosted immediately after the 2018 Wildfire Season, when multiple federal and state stakeholders were tasked to urgently identify and acquire technologies to save lives. Decision Lens was used to evaluate hundreds of solutions against the WUI strategy, providing alignment between multiple products and emphasizing capabilities most important for lifesaving, ultimately enabling stakeholders to compare multiple courses of action.

disparate inputs from multiple sources is nearly impossible without a tool assembling analyses and insights. There are multiple methods for prioritization ranging from the sophisticated the Analytic Hierarchy Process (AHP) to simple scorecarding. Via decision science-based prioritization methods, organizations create a clearer line of sight to strategy via their activities and ensure selections are transparently defensible against organizational priorities.

Rapidly Adapt to Changing Conditions

Once ideas are aligned and evaluated against strategy, a prioritization or a 1-N list is created. Resources must be applied against the prioritization to understand what is possible given the constraints. Often, there are not enough dollars or people to complete everything on the list. Resources must be applied to the most mission critical initiatives, that provide the largest return on investment, and do not exceed constraints.

There needs to be a way to adapt quickly around changes in organizational priorities, schedule, or costs to understand impacts to the portfolio. For example, if there is a delay in T&E for a project that has linked dependencies, how would you move forward to minimize additional risk? Additionally, what happens if organizational priorities rapidly shift overnight due to current events? How do planners quickly create scenarios that realign projects and resources to meet urgent demand? What happens if budgets cuts occur simultaneously? Or if more dollars become available?

There is an adage “Hope for the best but prepare for the worst.” Planners need to think through multiple potential scenarios in case priorities shift. Potential bottlenecks and tradeoffs need to be considered. Manual scenario building is inefficient and time consuming. Find a platform that can quickly run millions of scenarios and surface the best options based on your goals. Ideally the platform would also recommend actionable steps to make your scenario a reality and allow you to compare multiple scenarios side-by-side.

Create Visually Appealing Reports

Once courses of action are identified, planners must communicate their findings both internally as well as respond to frequent inquiries from Congress and the Government Accountability Office (GAO). If there is no system or standardization in place for these findings, then it can be difficult to rapidly create visually stimulating reports.

Organizations can benefit from using an application that helps them to rapidly develop appealing visuals for their data. Reports and dashboards should be easily exportable so that they can be given to decision makers.



A Federal Civilian Agency uses Decision Lens annually to review and analyze research proposals in support of their largest policy process. Several small teams are tasked to use the dollars allocated to their goal area to create the most value return on investment (VROI) and impact to mission. Using Decision Lens, the teams create several courses of action to select projects that maximize return given available constraints. Often, the courses of action that DL yields produce 40% more ROI than original funding strategies.

Find one platform that lets you do all of the above

As a planner, you are often very busy. You may not have the time to evaluate multiple systems that will help you to alleviate pain points in your processes. Implementing multiple new systems may modernize your capabilities, but the issues that led to a lack of collaboration and unified effort will still exist. Finding a single platform that allows you to perform your processes better means only evaluating one type of new software, only onboarding one new software, and only training and using one new software. But how do you know if the platform you select is one that will meet your S&T planning needs?

When evaluating decision-making software, you will want to consider four key elements.



Access



Communication



System History



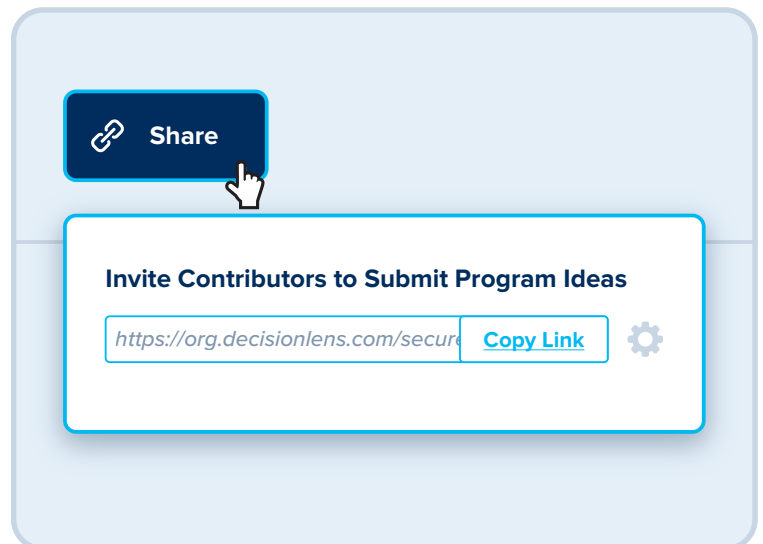
Integrations

Access

Today, many organizations struggle to connect stakeholders because of their domain and ability to access systems. The inability for collaborations results in disparate planning and general frustration. The ability for stakeholders to participate regardless of their affiliation results in better communication and savings. However, enabling technologies to help the S&T community collaborate can often be a double-edged sword. Open access to technology has innumerable benefits but can often pose a risk if systems are too easily accessible or vulnerable. Look for a platform that is hosted on a secure and authorized cloud infrastructure. The ability for the platform to operate on your system, especially if you are working in a classified environment, is crucial. Government organizations should partner with FedRAMP Authorized Cloud Service Providers (CSP) whenever possible.

Communication

Once all stakeholders are able to access a common system, communication can be more streamlined and actionable. Look for a platform that includes collaborative features like @ mentioning, so that users can communicate with each other at a project specific level regarding status updates throughout the lifecycle. Products with this collaborative element have become more in daily use as our work world becomes more virtual. Collecting all communications in one place allows



Securely and easily inviting contributors to submit ideas is one of many ways Decision Lens can help reduce frustration.

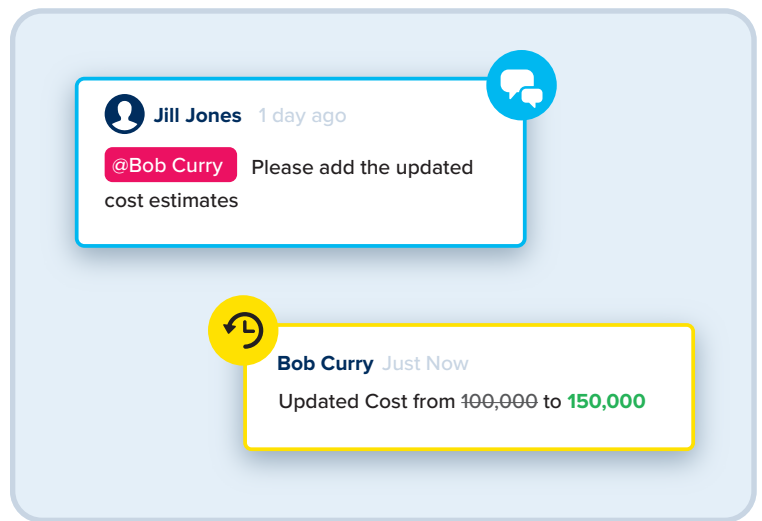
for the history of a project to be tracked. No longer do stakeholders have to search through emails, instant messages, and phone call notes to consolidate project updates. Communications using a common system allows for timelier and more targeted updates for stakeholders. If a project spans many years (like many S&T projects do) it is important that comments are centralized so regardless of the owner, transition, or hand off, there is a record of what transpired.

System History

Because of the complex and lengthy nature of the S&T lifecycle, it is crucial to understand “what” is occurring with project activities, “who” is associated, and “when” it occurs. Look for a platform where activities like handoffs and changes in project details (cost, schedule, performance) can automatically be captured to construct a timeline throughout a project’s lifecycle. Having quick and organized access to this information can easily answer RFI’s or provide brief outs on project status without having to rely on humans to aggregate multi-year inputs which can often be inaccurate or incomplete.

Integrations

You want a decision-making software solution that works with your organization’s existing software. This allows the consolidation of important portfolio information into one place-allowing stakeholders to see a single operating picture of activities across the S&T lifecycle. By consolidating all project updates (i.e., costs from budgeting systems, performance from testing databases) into one place, it seamlessly creates a common operating picture, enabling decisions to be made more rapidly with accurate information constantly collating at stakeholders’ fingertips.



Decision Lens enables communication in a common system, allowing for timelier and more targeted project updates.



Decision Lens is used at a Federal Civilian Agency to evaluate and select state research proposals for federal research dollars. State participants lacked access to a federal email address which made collaboration difficult and access to a single system impossible. The Decision Lens platform allowed Federal and State users to collaborate, evaluate, and facilitate proposal review and selection. These activities enabled both parties to achieve their research objectives by selecting projects that aligned to state needs and federal priorities, saving time accessing data and evaluations in one place and reducing the need to travel to a single place to review because of the ability for all stakeholders to access

information, resulting in cost savings. Additionally, PM’s were able to demonstrate to leadership how the selected proposals tied to organizational strategy and overall priorities.

In the instance of the above, Decision Lens eliminated a key barrier to mission success-collaboration between researchers and policy/fund holders. DL enabled all stakeholders to operate in a single system regardless of their affiliation. As S&T projects become more complex, with tighter timelines to rapidly meet emerging needs, solution access for all stakeholders is foundational to success.

You can more rapidly solve for the world's most pressing challenges

Now more than ever, S&T planners are tasked with the enormous challenge of rapidly solving for the world's most pressing challenges and threats to security, health, climate, education, and many more. Without tools and capabilities to help planners better communicate and plan throughout the lifecycle ecosystem, innovation will not be sparked or captured at the pace that the problem demands.

Decision Lens helps organizations transform from using traditional 20th century PM methodologies, to standing up processes that can match and deliver solutions to 21st century demands. DL has worked in the S&T domain across Federal and State agencies to assist the community in making decisions that are critical and far reaching. The capability is rooted in allowing diverse stakeholders to collaborate and decipher the information at hand more quickly, clearly, and concisely.



With Decision Lens you get:

- ✓ Access to a secured system from a FedRAMP Authorized Cloud Service Provider (CSP), hosted on the authorized Amazon Web Services (AWS) Infrastructure as a Service (IaaS), with an authorization to operate (ATO) from General Services Administration (GSA)
- ✓ Collaborative platform that enhances communication between a wide set of stakeholders
- ✓ Easy integration with your current process and systems
- ✓ An activity log that allows you to establish your accountability
- ✓ Easily exportable visually appealing reports and dashboards

Contact us to schedule a demo today!

Decision Lens planning software enables continuous portfolio and budget planning that boosts readiness and reduces risk.



Decision Lens is proud to work with leading
Science & Technology organizations.

