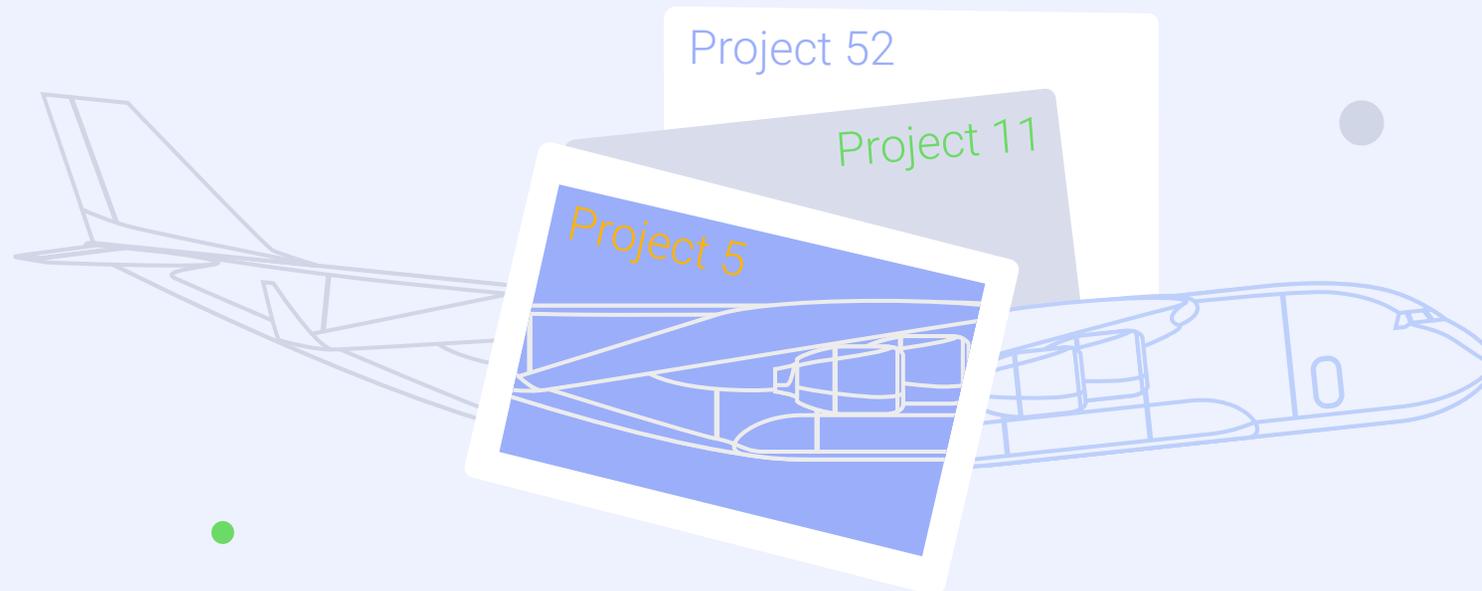


- **Main Reasons for Project Failure in Aerospace and Defense Projects and How to Prevent Them**



Driving aerospace and defense projects to successful delivery can be really tough: as a rule, these initiatives are long-term, complex, and cover considerable scope of work. If you add numerous risks and uncertainty, it'll become clear that there are more than enough hurdles on the way to A&D projects' successful delivery.

## Industry-specific challenges that affect project success

Increasing number of projects running simultaneously;

Lack of tech-savvy resources;

Implementing innovative technologies;

Delivering complex and long-term projects;

Geopolitical and economic uncertainty.



# Why do projects fail?

## Implementing immature technologies

Leveraging recent technologies in products and services is a trend in most industries, and A&D is no exception. But when companies implement immature technologies or try to apply several of them in one initiative, it may cause challenges. For example, a technology can turn out to be ineffective, which will considerably extend a project's timeline and exceed the approved budget. Or if there are several innovations being implemented in one project, it can become too complex, which will make it difficult to deliver it on time and budget.

Therefore, implementing innovations is risky, and without considering all these risks, the probability of project failure is very high.

## Intaking too many projects

Attempting to run too many projects is the second largest project management challenge, according to the [Wellington report](#) on the State of Project Management. At the same time, aerospace and defense is a dynamically-developing industry, so the number of initiatives they implement is growing every year. It may appear that organizations intake more projects than their resources can handle, or their project and resource management efforts are not effective enough to cope with the growing number of initiatives. This can be the cause for serious problems including failure to deliver the expected scope of work.

Project 1

Project 5

Project 11

Add Project +



## Poor risk management

Aerospace and defense projects are vulnerable to risks: most of the initiatives are long-term and costly, and therefore more seriously impacted by unfavorable events. According to the research by [EY Global](#), the main risks of the aerospace and defense industry that affect its project management process are as follows:

- volatility in the geopolitical and economic environment;
- dependence on supply chain challenges;
- talent challenges;
- compliance with a wide range of regulations and restrictions;
- foreign currency fluctuations.

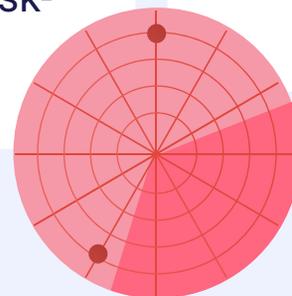
These factors can lead to delivery delay and budget overrun, and even inability to deliver the planned scope of work. If a project team isn't prepared for potential risks, the negative consequences of risk-bearing events can completely derail a project.

## Lack of change control

Poor change management is one of the leading reasons for project failure. When there's no control over change requests and no change control process, there's a high possibility of scope creep – uncontrolled expansion to product or project scope without adjustments to time, cost, and resources. In other words, the project team is expected to deliver much more with the same resources and timeline. The consequences will be disappointing:

- delays and failure to deliver milestones;
- exceeding the budget;
- lack of control over the project;
- decreased quality of the final outcome.

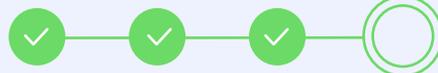
For multi-project companies like those in aerospace and defense, it can become a disaster for the whole project environment.



## Inappropriate project management methodology

There's no one-size-fits-all solution that would work perfectly for every A&D project. However, choosing an inappropriate methodology can in some cases not only be ineffective, but become the reason for project failure. For example, Waterfall won't be the right solution for a long-term product development project.

- 1 First, it's too risky in the present-day world full of disruption – you can't plan everything properly for years ahead.
- 2 Second, if a project lasts for several years or even a decade, the requirements may change along with prices, employees, or some external factors. As a result, the product will be developed much later, the budget will be exceeded, and in the worst-case scenario, the project will fail.



## Poor resource capacity planning

Resource capacity planning is the key to coping with the increasing number of projects when resources are limited. It involves making sure that all the current and upcoming projects are staffed with necessary people. If people's capacity is not planned properly in advance, it may turn out that the resource demand exceeds the available supply, which will lead to the following problems:

- exceeding the budget: unexpected resource shortages will result in additional expenses;
- overworked employees: an alternative to hiring new people is increasing the workload of the available team members;
- delivery delays: either hiring new people or waiting for critical employees to become available will increase a project's timeline.

So, if there aren't enough people to deliver the required scope of work, and it's impossible to hire them quickly enough, it can result in a project failure.

## Improper resource allocation

Resource allocation, especially in a multi-project companies like those in aerospace and defense industry, is always accompanied by a number of difficulties:

- resource conflicts, when employees are required by several projects at the same time;
- uneven workload distribution, when some team members are overloaded, while others are idle;
- lack of resources with necessary skills to complete project tasks, and more.

At the same time, proper resource allocation is the basis for fruitful project work. If resources are improperly allocated, it will result in the following problems:

- inappropriate workload distribution between team members (overloaded or idle team members);
- reduced productivity as a result of improper workload distribution;
- regular mistakes as a result of overload or working on tasks that don't correspond to an employee's competence level;
- missing due dates as a result of all the above-mentioned reasons.

When unmanaged, these problems snowball and can lead to project failure.

## Focusing on projects' instead of resources' progress

Whatever surprising it may seem, one of the typical mistakes in work on multiple projects is monitoring the projects' progress. Though it's also important, when running concurrent projects with a shared pool of resources, the main focus should be shifted to monitoring employees' performance: do they cope well with their workload? Do they work at their full capacity? Do they need upskilling to improve the quality of their work?

Keeping track of resources' performance is so important because in a multi-project context, even one inefficient team member can become a bottleneck that will hamper the whole workflow. In turn, this can lead to delays, cost overrun, and/or inability to deliver the planned scope of work.

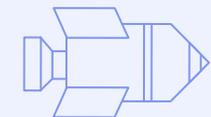


01

02

03

04



Add Task +

## How the right resource management solution prevents projects from failure: Essential functions

Automatic prioritization of projects and tasks based on existing constraints and reprioritization in response to changes in the system.

Giving insight into the state of all projects running in a company.

Providing information on each employee's competences and their levels.

Suggesting options for maximum efficient resource allocation based on employees' skills, availability, and capacity.

Facilitating collaboration between siloed and distributed teams.

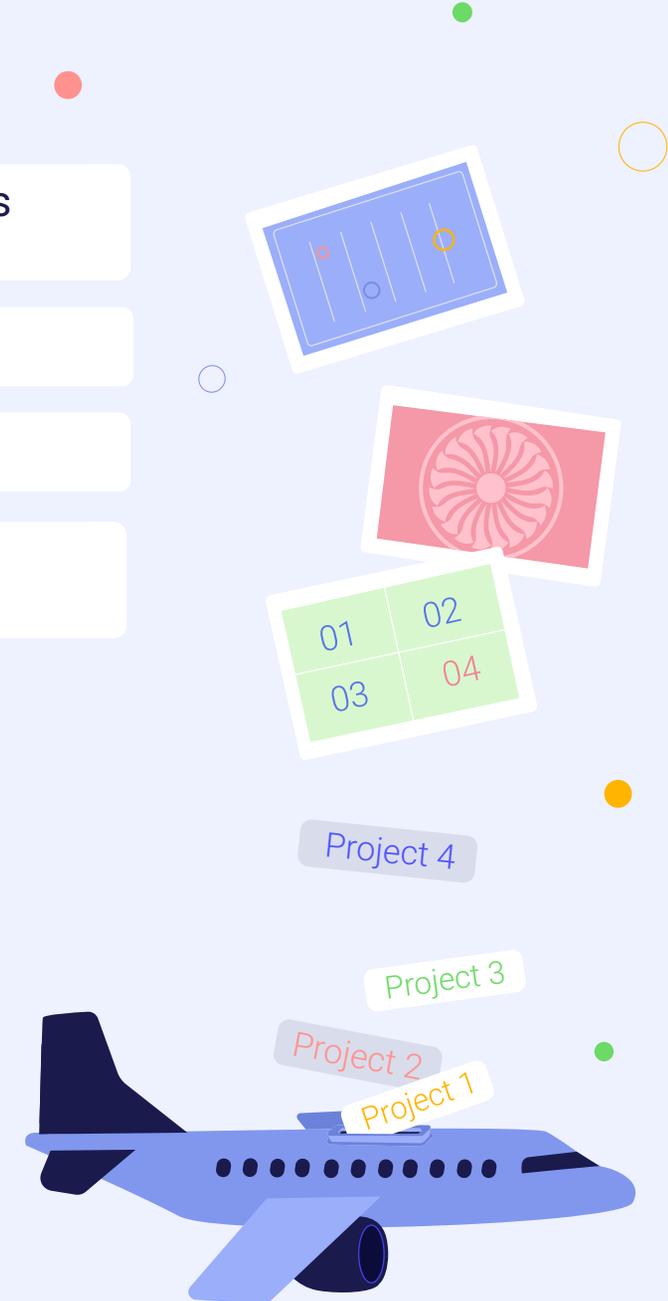
Providing access to real-time and historical data to track progress and overall performance.

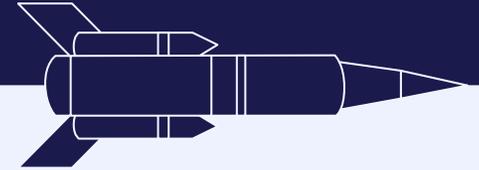
Forecasting resource bottlenecks based on historical and real-time data.

Conducting scenario analysis for informed decision-making.

Keeping information on material resources used in projects.

Optimization of employees' workload.





You're welcome to contact us by

**[epicflow@epicflow.com](mailto:epicflow@epicflow.com)**