What Helps Us Come This Far?

Peerasit Patanakul

Sally Stonewell arrives at a meeting early. Today is the day that Flight 23 will be launched. It has been a while since Flight 23 was shipped to Cape Canaveral. There have been a series of launch system issues that the teams have been working very hard to address anticipation of a near-term launch. As a program manager, Sally is always appreciative of the dedication of her team. In the back of her mind, she always wonders what she did right to have her team's dedication so high. Or, is it pure luck? On the back of her ID badge, there is a list of six corporate values. The first on the list is product quality, followed by customer satisfaction. Could these values have something to do with her team's success?

OUR BUSINESS ENHANCES OUR NATION'S SAFETY!

DeTech is a global defense and technology company. It provides innovative systems, products, and solutions in information and services, electronics, aerospace, and shipbuilding to government and commercial customers around the world. The company is organized by several business sectors, for example, Information Technology (DIT), Space Technology (DST), Technical Services (DTS), Electronic Systems (DES), and Shipbuilding (DSB).

In the Space Technology sector, DeTech is considered as a leading producer of space systems including satellites, payloads, and ground segments. The company has an unparalleled portfolio of advanced technologies. Defense Support Program (DSP) is among the major programs of DeTech's DST sector. Since it won the first government contract in the 1960s, 23 satellites have been built and 22 of them have been launched under the program. Flight 23 is its recent satellite. Similar to the satellites previously built, its major mission is to detect and report all missile attacks in near-real time. The secondary mission includes detecting space launches, nuclear events, and tactical missile launches.

Flight 23 will be a new addition of the Integrated Tactical Warning and Attack Assessment System, consisting of a geosynchronous constellation of infrared sensing satellites, associated ground stations, and relays. Integrated by DST, each satellite includes a spacecraft, built by DST; a primary infrared

payload, built by DeTech's Electronic Systems (DES); and secondary payloads, built by the subcontracted laboratories. After Flight 23 is launched, the program team expects to support the operational sustainment of Flight 23 and previously launched satellites for more than 15 years.

MISSION SUCCESS AND STRONG PARTNERSHIP ARE THE KEYS

During the previous stages of the program, depending on the key deliverables of Flight 23, several Integrated Product Teams (IPTs) were formed. The teams generally consist of the contractors and government teammates. This helps enhance mutually supportive government-industry partnership, leading to the high level of customer satisfaction. It is typical that the teams meet everyday, at their respective locations. Today, the prelaunch meeting is held at Cape Canaveral Air Force Station's launch complexes and processing facility.

Sally: Today is the day that we will finally launch Flight 23. I got a report from the launch pad last night that everything is set up for the 2 PM launch time.

Tom: That sounds great. We have a couple of hours this morning to do the final walk-through.

Lt. Col. Tom McFee is the DSP program manager from the Air Force Space and Missile Center. Throughout the program, the Air Force personnel have been assigned to work alongside the DSP contractors at several Air Force Bases/Stations and DeTech locations in Florida, Colorado, and California. The partnership is bound with the common imperative for mission success and it has produced a truly integrated team with technical and management excellence.

Sally: It is early to celebrate our success but I have a good feeling about it.

Tom: It is fair to say that Sally. We have worked so hard on every aspect of the program. We put our best effort out there at all times. So, to me, we could not have done any better.

Sally: I'm glad you brought that up. From your perspective, what encouraged all of us to do that?

Tom: Good question. I think as government personnel, we value mission success. We know that if this program is successful, our country and our people will benefit from it. We are talking about the security of our nation and also the world. We are talking about saving the lives of our friends in the frontlines, saving lives of our families and friends from the attack of our enemies, and so forth. I think this is the bottom line. We all are proud to be a part of this significant program.

Sally: You are right. This is the bottom line. And this applies to us, the contractors and co-contractors, too. Working in the defense industries, besides the job challenges, we all know that the mission success is so important, especially the national missions. We are also doing this for future generations, too.

Tom: We also appreciate partnership. We all do. And I think this is a great thing.

Sally: Thank you for recognizing this. At DeTech, one of our corporate goals is to become the trusted supplier of systems and products while, of course, achieving significant, profitable, and sustainable growth. To become the trusted supplier, we value strong partnership with our customers and co-contractors. Thanks to you, also, Tom, for being a strong supporter of this concept. It is great that we have the luxury of having DeTech and government personnel work on collocated IPTs at the Air Force bases and at our DeTech facilities.

Tom: You are welcome. It was difficult at first but we all benefit from it in the end. I think having such a partnership is great. It encourages effective communication at all levels. You and I, we talk a lot since we are the program managers, no doubt about that. But having collocated teams helps the information flow at all levels. We can reinforce our needs and the significance of the mission to you guys, on a daily basis. You respond to our needs and let us know what is going on. We identify and solve problems together. I think all of us appreciate such a working environment that enhances full disclosure and mutual trust.

Sally: You are right. We have nothing to hide. If we have any problems, you know. If you have any concerns, we know. Can I go so far as to call it an open and complete communication process across all program participants?

Tom: You name it.

Sally: One more thing. I can speak on behalf of all of us, the contractors, that having a strong partnership with you is a major source of inspiration. We know firsthand that our actions to assure mission success are critical. Working side-by-side with you guys, who could get deployed to the dangerous areas that our satellites watch, gives compelling motivation to us to get it right. This becomes very personal.

PROGRAM MANAGEMENT PROCESSES

Key to DSP's joint management team process is open, effective communication at all levels through truly integrated IPTs. The IPTs operate as inclusive teams where all disciplines partner across organizational and company lines. The teams are vested with applying knowledge, discovering, and implementing best practices, and capturing lessons learned. DSP uses web-based central repository for process descriptions. Each process has a process owner who is in charge of documenting and sharing best practices and lessons across the program.

Since the mission success is extremely crucial, DSP develops a proactive risk management mentality. Both technical and program management risks are identified and assessed in the technical, cost, and schedule dimensions. Root cause analysis is used rigorously as part of developing risk response plans.

In terms of monitoring and control, DSP uses metric-based, forward-looking predictive techniques throughout all program phases. These methods are part of the established program management process. Key technical, schedule, and cost indicators are monitored and analyzed. Future trends are studied. Proactive course corrections are made to avoid much more costly down-stream discoveries.

Key metrics from program management processes are reported both to corporate management (monthly program reviews) and customer leadership (program management reviews). Key parameters that are tracked and reported as dashboard include technical performance metrics (TPMs), cost metrics, and schedule metrics.

- TPMs are used in the development stage to assess reserves in technical parameters such as weight, electrical power, and software size.
- Cost metrics, e.g., Cost Performance Index, and variance metrics are used regularly to monitor program spending status against the plan. Cost savings resulting from, say, Six Sigma activities are also tracked and reported.
- Schedule metrics, e.g., the number of tasks that do not start or complete on time, are used to avoid schedule delay. Schedule slack of key events is also monitored since it is an early indicator of an overall schedule issue. These early warning metrics allow the management team to institute cost-effective, early corrective actions. Key program milestones and slack to these milestones are addressed in reviews through the company president level.

TEAM RECOGNITION IS IMPORTANT

Tom: So, Sally, what will you award the teams with after we successfully launch Flight 23?

Sally: Me? Are you kidding? This should be a question to our president! Our company's standard motivational practices include success and profit sharing, annual salary adjustment, etcetera. I hope we will get a big raise.

Tom: Congratulations in advance.

Sally: Specifically to DSP, we typically get performance bonuses. This is beyond my control. But what I did along the way as additional retention and morale-building activities are some award recognition activities, bi-annual off-sites, celebrations on major events, picnics, pool tournaments, commemorative pins, patches, outstanding performer awards, a drawing for a trip to a launch, and so forth. You know all of that and you are part of them.

Tom: I know. I just wanted to tease you.

Sally: Thanks. By the way, thanks for pitching in the cash benefits for our key staff who monitored DSP through critical events. I think the Employee Critical Skills Retention Program that we jointly developed is great. We should recognize the need to motivate and reward people.

Tom: You are welcome. It is a win-win, Sally. We want to keep those skilled people who work well with us. The program is not ended after Flight 23 is launched. We still have to work together on the operational sustainment phase of the program for many years. By the way, I heard that Steve will move on to join other programs, is it true?

Sally: Yes. It is a good career move for him. He will be one of those leaders across DeTech who are DSP alumni. Over the past 40 years, DSP is a source of senior leadership across DeTech.

Tom: So, who will take his place?

Sally: Luke. We always promote from within. Employee development is our corporate mandate. Other functional supervisors and I jointly monitor performance and develop goals with each employee that address both program objective and employee development. For the past several years, we are working hard on renewing the program organization. While we want to maintain our skilled employees, we also want to bring in someone new to refresh our knowledge and skills. We have to do this carefully because we do not want to jeopardize the DSP's legacy and culture. Luckily, we have a strong core of DSP-assigned staff who maintain our legacy and culture and also orchestrate education and transition of new team members.

Tom: Promotion is always a good way to recognize the members. But I can also see the difficulty of maintaining program culture. It is good that you find a way to integrate new team members to the program, by education and training.

Sally: Yes. Talking about recognition and motivation, we also have a mentorship program, education options, and career planning for the teams. DST also has a daycare facility onsite at our head office.

Tom: Didn't we answer your question—what encourages the team to be so dedicated to DSP?

FLIGHT 23 ON ORBIT

Flight 23 thundered into the clear afternoon sky around 2:10 PM. It successfully separated from the Alpha III heavy launch vehicle 6 hours and 20 minutes later. The launch marks the beginning of Flight 23's operational service, extending the services of a satellite constellation that has been the United States' eyes in the sky

for nearly four decades. The launch was broadcasted throughout DeTech, drawing more than 400 DeTech and Air Force Personnel and their families to the festivity.

Lt. Col. Tom McFee commented at the press conference: "Thanks to the thousands of people who have worked so hard on this program, Flight 23 was successfully launched today. Thanks to the entire team for getting us to mission success."

Discussion items

1. What are the key program cultures ingrained in the Defense Support Program?
2. Does the company culture have an influence on the program culture Provide some examples from the case?
3. Would projects or programs in other industries benefit from having a project or program culture? Discuss specific project or program cultures in specific industries, e.g., IT, pharmaceutical, and telecommunication.
4. Suggest a process to develop the project or program culture.