

Managing security projects for critical infrastructure - Lessons Learned

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Title

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Managing a project is not usually simple thing. Add to that a security project that will need to have a sound business case, and also installation at the critical national infrastructure that will attract a lot of attention. Managing a security project at a critical national infrastructure definitely is very challenging tasks. Today I will share some lessons learned that I have got from managing five large projects at five locations with 4 of them are part of critical national infrastructure.

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To simplify the sharing, I will divide the sections into 5 sections:

1. **Introduction** will talk about the importance of security project (both physical and information security project). Having a project at critical national infrastructure usually will draw attention from government/regulatory body, local community and also internal stakeholders.
2. **Project initiation** that will talk about the initial stage of the project. One of the key steps here is to create a compelling business case. Creating a business case for a security project is always interesting, because most of us will face the High Consequence /Low probability category when talking about the Consequence/Probability criteria. Accepting project with high consequence/high probability is very easy, rejecting project with low consequence for both high and low probability is also easy, but the challenge is with a project with High consequence and Low probability.
3. **Alternative selection:** during this stage, we will talk about the options that we have on the project. The key message here is not jump into conclusion. Keep all viable options. Absorb all of the useful information during decision making
4. **Solution development:** during this stage, we will talk about the design of the solution that we propose. Holistic thinking during the design stage is very important. Consider to involve single vendor as a main contractor could be considered.
5. **Implementation:** during the implementation, we will talk about the time when we implement the solution. Communication is very important in this stage, and always remembers your key deliverables.
6. **Handover & Closeout:** in this stage, we handover the project to the operation team and close the project. Don't forget that training is very important and on time close out is good from financial perspective.

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- Always try to develop team with various functional backgrounds so that you can get various perspectives and enrich the project. Don't always hire people with the same perspective because their contribution might be less compared to the ones with different perspectives. Different perspectives attract discussions. Discussions might open possibilities unseen before.
- Strong support from senior management is a big part of the project success. Without their buy in, your project could be dead on arrival.
- The challenge with security project is we still need to have the strong business case for having the project, although from the tangible benefits point of view, our project may not contribute directly to the bottom line. However the good thing is, without security business can't be performed. So that security is essential part of conducting a business. In this sense, security could be considered as part of compliance. If we have strong corporate security function, the direction from them could be very useful in this stage.

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- Open your mind. Open to any opportunities and possibilities. In this stage, it is better to have your mind as open as possible so that you can absorb all of the information that is useful for the projects.
- Don't jump into conclusion. People tend to jump into conclusion because they already have an idea that they will try to realize. Don't try to do reverse-engineering in this stage. Please consider all of the options available. Weigh all of their benefits and weaknesses.
- Although your vendor might try to do this, don't get trapped into their game. This is your project and not your vendor's project. You need to bear your organization's best interest in mind.
- Security system will work best if they are integrated. Try to integrate your security system to get highest benefits of your system. For example, access control will offer better value if they are complemented with CCTV system in one integrated view. This will enable operators to react quicker in case there is incident.
- It is better to opt for industrial standard solution compared to the proprietary solution. Using a proprietary solution could be cheap in advance but may drive to higher cost in the long run because our organization will be tied to a single organization.

Slide 6: Solution Development

- We need to think holistically because our projects might comprise of various components. If we only focus on one component, one thing in one component that we change, might impact negatively to the other components.
- Consider constructability of the solution. Be realistic. Some of our ideas might not be viable. If they are, then better stop pursuing them.
- Consider interface(s) between modules. Ensure that the interface could really bridge the modules well. If possible, do the laboratory testing in advanced, just to check if the interfacing really works well.

- Consider using one qualified vendor to do the integration (could be a challenge finding one) vs to use multiple vendors (could be administrative nightmare). Finding a qualified security vendor might be a challenge in your country. Try to talk to your colleagues to get their opinions on the vendors.
- Maintain good communication with users. We need to ensure that the solution being developed will really address the problem that users are facing, and will not create another problem for them.
- Develop the construction team (could be different with the project team). Before entering the implementation stage, it is better to consider the construction team. Recruit the people with strong execution skills.

Slide 7: Implementation

- Maintain communication with all the stakeholders and update progress to the key stakeholders. Our stakeholders need to the progress of the project.
- Issues will always arise. Early communication is key. Although we plan very carefully, in every implementation stage of any project, issues will always arise. Don't panic. Consider everything and think about the solution.
- If we need to compromise, always remember the key deliverables that we need to deliver to stakeholders. Do not lose them! Sometimes during implementation stage, we may find out that some of the parts will not be executable. Don't forget to update the key stakeholders about this.

Slide 8: Handover & Closeout

- Communicate with the stakeholders that the project has been completed. Inform them all of the important metrics of the project (e.g. safety, cost, timeline)
- Proper documentation is very important. In every project, documentation is important. In case there is an inquiry or audit in future, we can always refer to the documentation.
- Training must be performed well to minimize future problems. The key to avoid future helpdesk call or even configuration problem, we need to ensure that the training is performed well and all of the participants go home with good understanding of our system.
- Once the project is done, complete the closeout as soon as possible to start the depreciation. To ensure that the project

Slide 9: Key Takeaways

- Good communication is the key in good project management. By maintaining good communication, we can ensure that the project can be executed more or less as planned. This is because we could secure supports from stakeholders. And even though we can't get the support, we still can prepare mitigations.

- Consider to become multi-facet security professional. As you can see here, being a security professional actually requires a lot of skillsets e.g. project management, finance, HR, IT, legal, etc.
- Financial knowledge could be very useful especially during business case development and communication with senior management. If I can recommend one skillset that you need to have, I will recommend financial knowledge. This is because with the understanding of the financial aspects, we will better understand how the organization runs, and in turns will benefit our own career as a security professional.
- Consider to take security certifications AND project management certifications. It is always good to test yourself against certain benchmark. And the benchmark in the industry is certification. You could consider to take the security certifications for enhancing/proving your security skillsets, and also project management for enhancing/proving your project management skillsets.