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R&D Capability Assessment

Solution-based service offering

Service Overview

- ***Assess your entire engineering department's capability and maturity in areas such as requirements specification, customer interaction, engineering (systems, safety, reliability, quality assurance, software, electronics, and mechanical), integration, and verification***
- ***Create a Gap Analysis that analyzes the difference between your current and your desired capabilities***
- ***Identify recommendations for capability improvement, including organization, planning, process, tooling, and governance***
- ***Provide a phased improvement plan with goal-based success metrics to achieve your goal engineering capabilities***

Engineering modern devices is a complex activity requiring not only that each of several disciplines – such as systems, software, electronic, and mechanical – efficiently produce quality system components, but that the planning of such activities is predictably correct, the engineering disciplines integrate well, and the projects are well-governed. Most engineering organizations suffer with problems of burgeoning complexity, too many projects, ever shortening project lifecycles, and increasing needs for quality and regulatory standard compliance. Your competitors aren't standing still but are struggling to out-compete you and it is imperative that your engineering capabilities can meet this challenge.

Dr. Douglass provides the leadership, expertise, best practices and tools to guide you from the start in the journey to transform your organization, one development team at a time. The first crucial step is to understand where your organization is strong, where it is weak, and what changes can maximize your engineering capabilities. The R&D Capability Assessment works with your entire engineering department to identify the things that work well, the parts of the engineering process that are failing, and how to improve your engineering capability.

This is done by gathering three distinct kinds of evidence:

- Interviews with your department staff to hear their experiences; this includes engineering, quality assurance, verification, management personnel
- Review organizational plans and standards, such as your Systems Development Process, configuration management plans, quality assurance plans, requirements standards, design standards, and coding standards
- Review project outcomes, including project schedules (both planned and actual), defect reports, captured metrics, quality assurance records, test plans and results and requirements, design, code, and testing data

This data is analyzed to determine the significant gaps between your engineering organization's current and your goal capabilities, identify recommendations for improvement, and – most important of all – an achievable, phased improvement plan to transform your engineering organization in a controlled, iterative fashion.

Agenda		
Week 1	**Week 2**	**Week 3**
Initial Meetings and Interviews (1-3 weeks)	**Gap Analysis 1 week**	**Deliver Report ½ day**
Kickoff project Establish vision and goals for the department Establish scope of the assessment Plan and execute interviews with relevant staff Gather documents and project data for ex post facto analysis	Identify issues and trends in interview results Review organizational process, standards and templates Review project data: requirements, design, schedule (plans and actuals), defect reports, metrics, designs, code, test procedures, plans, and results Identify areas of strength and weakness Specify recommendations for improvement including benefit, criticality, urgency, effort and time required Create phased improvement plan Write assessment report, including all analyses and results	Deliver report Discuss recommendations and alternative solutions

Assumptions

- Single site assessment usually requires one week on site. Multiple sites require a week per site
- It is common for Dr. Douglass to reengage a few weeks after the assessment report is delivered to work out the details for executing the phased improvement plan