



CMMI-DEV 2.0 ML3

Advisory, Assessment, Training and Appraisal

Proposal

Implementing a disciplined process in an organization improves control over the execution of projects and quality levels. CMMI® models can support your organization's institutionalized effective processes and ensure quality solutions delivery.

teneceTM
Technology | Managed Services | Advisory

28.10.2019

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Executive Summary

This document describes in detail our proposition aimed at streamlining continuous process improvement. We will employ a model which helps your organization encourage productive and efficient behaviors, thereby decreasing risks in software, product, and service development.

CMMI is designed to meet the challenges of the changing global business landscape. CMMI V2.0 drives business performance through building and benchmarking key capabilities.

The core of CMMI V2.0 is a proven set of global best practices organized by critical business capabilities which improve business performance. These critical capabilities address the biggest challenges common to any organization, including:

- ✓ Ensuring Quality
- ✓ Engineering & Developing Products
- ✓ Delivering & Managing Services
- ✓ Selecting & Managing Suppliers
- ✓ Planning & Managing Work
- ✓ Managing Business Resilience
- ✓ Managing the Workforce
- ✓ Supporting Implementation
- ✓ Sustaining Habit & Persistence
- ✓ Improving Performance

This approach encourages businesses to focus on quality over quantity. It establishes benchmarks for vetting vendors and suppliers, identifying and resolving process issues, minimizing risk and building a corporate culture that will support “The Ideal Model”.

The CMMI model breaks down organizational maturity into five levels with Level 3 (the “defined maturity level”) being the standard and Level 5 (the “optimizing” maturity level) being the goal.

Tenece’s need to attain Level 3 maturity will encourage a more proactive culture thereby “providing guidance across projects, programs and portfolios” using a set of “organization-wide standards”. This will enable your organization to understand her shortcomings, how to address them and the goals for improvement.

CMMI for Development (CMMI-DEV) v. 2.0 ML3

Every company desires its services and products to be delivered in the best, quickest and most cost-effective way. In order to build and maintain more complex products, an organization must be capable and mature enough to manage complex development processes.

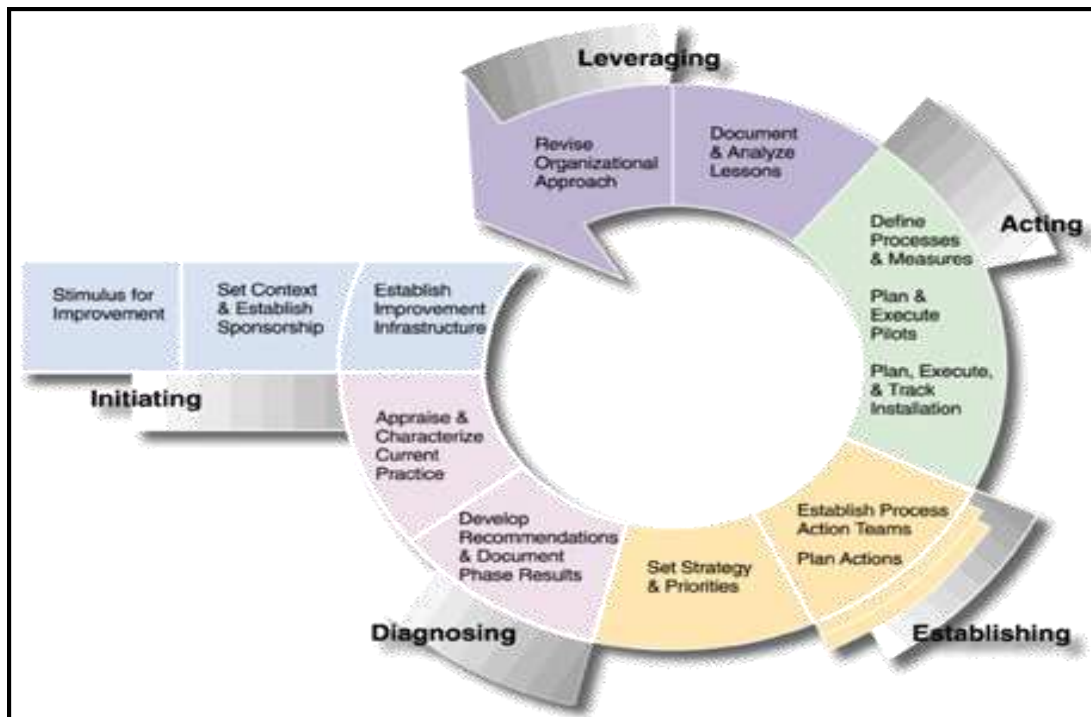
CMMI-DEV includes best practices that address the lifecycle of products and services in an organization such as:

- ✓ Project Management
- ✓ Process Management
- ✓ Systems Engineering
- ✓ Software Engineering
- ✓ Support Processes
- ✓ Software Development
- ✓ Software Support

CMMI-DEV contains 22 practice areas defined for the following Software Engineering activities:

- ✓ Requirement Development
- ✓ Technical Solution
- ✓ Product Integration
- ✓ Verification
- ✓ Validation

Phillips Consulting's proposed engagement model to Tenece conforms to the CMMI Institute's Recommended Life Cycle Model for Process Improvement - "The Ideal Model". This is a tried and tested model applied to help organizations worldwide use CMMI as their improvement model. It has been extremely successful in reducing defects, cycle time and improving productivity significantly.



Objectives

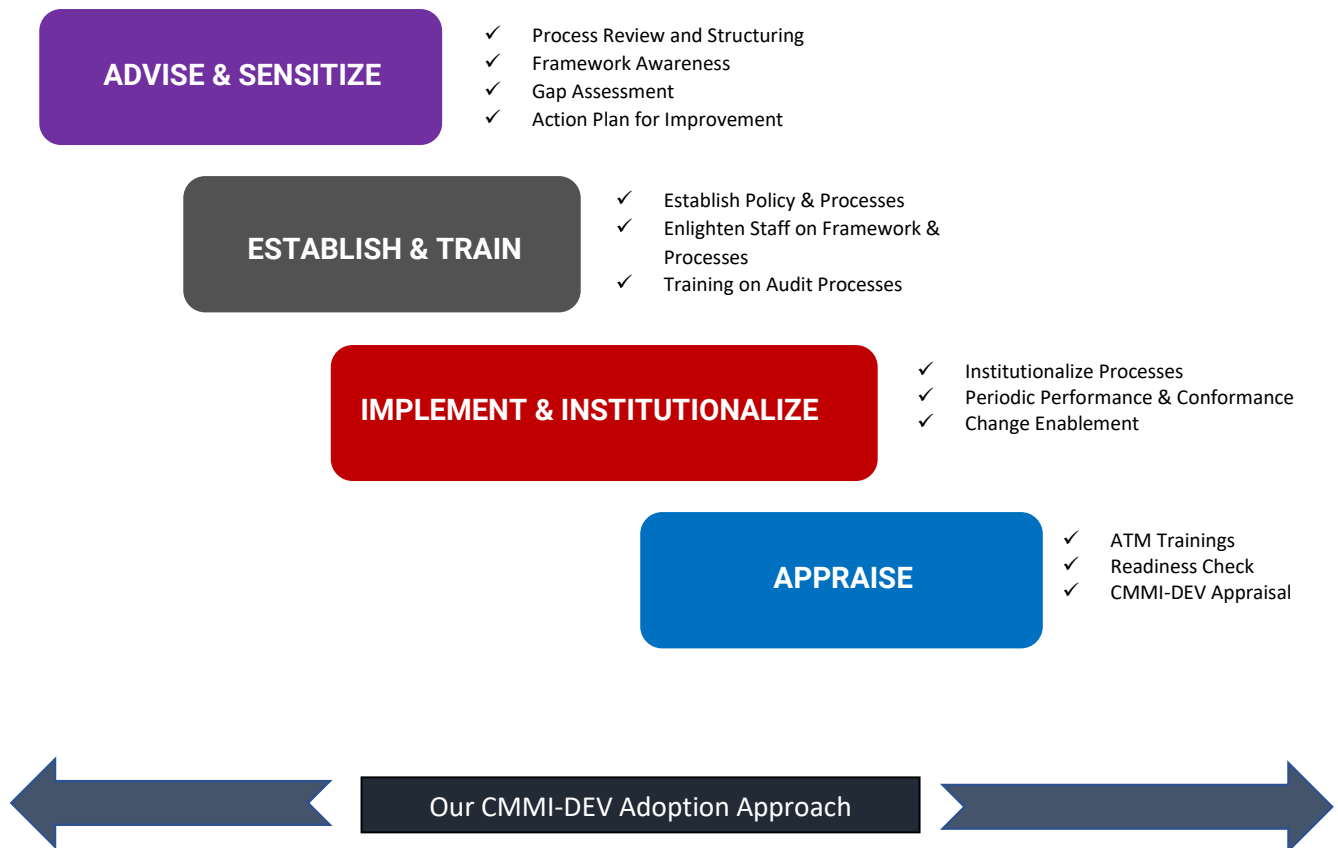
At maturity level 3, all processes are well defined and understood at the organizational level with a goal of improving over time.

The following are the objectives of attaining CMMI-DEV Maturity Level 3:

- ✓ A culture for maintaining quality in projects starts in the mind of the junior programmers to the senior programmers and project managers
- ✓ A centralized QMS for implementation in projects to ensure uniformity in the documentation. This results in a shorter learning cycle for new resources and better management of project status and health
- ✓ Incorporation of software engineering best practices in the organization as described in the CMMI Model
- ✓ Cost-saving: less effort due to fewer defects rework
- ✓ Increased productivity
- ✓ On-time deliveries
- ✓ Increased customer satisfaction
- ✓ Overall increased return on investment

- ✓ Decreased costs

Our Adoption Approach



Detailed Road Map for Tenece to CMMI-DEV Maturity Level 3

Detailed activities and efforts required for Tenece to achieve Maturity Level 3 are mentioned here. The efforts estimated here are only indicative assuming the organization have partially defined processes. Efforts and duration may vary based on the outcome of gap analysis in “Sensitize” phase.

Model adoption shall take up to 6 months.

Phase	Prerequisite	Summary of Activities	Deliverable	Duration
Sensitize	<ul style="list-style-type: none"> Identify a dedicated person to lead this initiative from Tenece Identify key process areas and staff mapped to key processes areas Identify key staff for training and gap analysis (staff involved in development work activities) 	Phillips Consulting will be deputed to: <ul style="list-style-type: none"> Conduct business process review, optimization/enhancement and implementation. Conduct CMMI overview training to elaborate CMMI practices & its benefits, explain the intent and interpretation of the framework & brief on implementation perspectives 	<ul style="list-style-type: none"> Business Re-engineering CMMI Overview Training 	<ul style="list-style-type: none"> 2 Weeks
		<ul style="list-style-type: none"> Study the documented processes (if any) and Project Process Implementation. Understand the types of projects executed, the duration & the deliverables of each project Assess the degree of implementation and institutionalization of these practices Map the same to CMMI specific practices. Identify the strengths and weaknesses Prepare a gap analysis report Work with the team to prepare a high-level action plan & process definition workload. Agreement on process documentation work standard Present findings to the Management 	<ul style="list-style-type: none"> Gap Analysis findings (presentation) Overall Action Plan Process definition (QMS) workload Process Documentation Standard 	<ul style="list-style-type: none"> 2 Weeks
Establish	<ul style="list-style-type: none"> Identify a dedicated person to lead this initiative @Tenece Identification of team members for SEPG and SQA function Agreed Process definition workload Collection of project artefacts (AS-IS) as per lifecycle (s) Agreed process documentation standard Identification of Subject Matter Experts for discussing the process requirements The availability of the concerned resources for the QMS discussion Identification of staff members for a role-based training and ensuring their availability for training Approve and Release QMS 	Phillips Consulting will be deputed to: <ul style="list-style-type: none"> Review the defined processes Review the different development lifecycles Review the workflow, procedure, templates & checklist in compliance with CMMI L3 Practices. 	<ul style="list-style-type: none"> Review Report on Documented Quality Management System – in compliance with CMMI L3 	<ul style="list-style-type: none"> 4 Weeks
		<ul style="list-style-type: none"> Establish and Provide Role-Based Process Training Review SEPG meeting discussions and process improvement activities 	<ul style="list-style-type: none"> Role-based Training 	
		<ul style="list-style-type: none"> Review of Knowledge Repository (PAL, Risk Repository, MA Repository, Lesson learned and best practices etc.) Review of QMS Release activities Review of QMS PIID 	<ul style="list-style-type: none"> Review Report on Knowledge Repository (PAL) 	

Implement & Institutionalize	<ul style="list-style-type: none"> ▪ The implementation of QMS in all projects & other functions SEPG, SQA, Training etc. 	<p>Phillips Consulting will be deputed to review the process implementation and spot check reviews as follows:</p>	<ul style="list-style-type: none"> ▪ Periodic Audit findings (2-3 cycles) 	▪ 6 Weeks
	<ul style="list-style-type: none"> ✦ Identify SQA for each project who support Project PM and review process implementation ✦ Plan & schedule periodic process review and SEPG meeting to check the status of process implementation and identify corrective actions over issues ✦ Collect Measurement data for identified measures ✦ Conduct periodic process briefing sessions with project teams. ✦ Establishment of the current project list with process implementation status. 	<ul style="list-style-type: none"> ✦ Review the status of Process Implementation activities with the coordinator ✦ Plan and conduct Process Audits for selected projects ✦ Review implementation of process tailoring as per the project's requirements in selected projects ✦ Identify non-conformances / potential improvement areas ✦ Identify corrective actions ✦ Provide help in interpreting the CMMI framework and clarify queries/issues ✦ Review implementation of process tailoring as per the project's requirements in selected projects ✦ Review process changes based on project feedback ✦ Review measurement objectives, measurement data analysis at the organizational level ✦ Review quality targets ✦ Prepare a list of projects for appraisal scoping ✦ Facilitate establishing sample project PIID ✦ Facilitate Projects in establishing PIIDs for identified projects based on Lead Consultant review comments 	<ul style="list-style-type: none"> ✦ Quality target based on measurement data analysis ✦ Project PIID Review Report 	
	<ul style="list-style-type: none"> ✦ Rigorous process implementation and institutionalization across the organization in projects and other functions ✦ Completion of 4-5 cycles of internal audits ✦ Selection of Appraisal Team Members (ATM) as per the ATM selection guidelines ✦ Availability of Appraisal Team members for all appraisal activities ✦ Availability of Sponsor for Readiness Check findings discussion ✦ Completion of Appraisal Plan ✦ Availability of Sponsor & Senior Management for Appraisal briefing and Finding Presentation 	<p>Phillips Consulting's Lead Consultant will be conducting and review the following activities,</p> <ul style="list-style-type: none"> ✦ Review of sample Project PIID and identify evidence issues and corrective actions ✦ Assist the organization in identifying people as ATM as per CMMI Institute guideline ✦ Prepare SCAMPI Appraisal input document in consultation with the organization's Coordinator and senior management ✦ Conducting a briefing session with identified ATMs ✦ Review SEPG activities and plan logistics and schedule for all Appraisal related activities 	<ul style="list-style-type: none"> ✦ Review Findings on Sample Project PIID ✦ Identified list of projects for appraisal ✦ Identified list of ATM for appraisal ✦ Draft SCAMPI Appraisal Plan 	▪ 2 Weeks
Appraise	<ul style="list-style-type: none"> ✦ Rigorous process implementation and institutionalization across 	Lead Instructor will visit for	<ul style="list-style-type: none"> ▪ CMMI Institute Authorized 	▪ 4 Weeks

	<p>the organization in projects and other functions</p> <ul style="list-style-type: none"> + Selection of Appraisal Team Members (ATM) as per the ATM selection guidelines 	<ul style="list-style-type: none"> + Conduct CMMI Institute authorized "Introduction to CMMI" training for identified ATMs + Report attendance to CMMI Institute 	<p>Introduction to CMMI Training (soft copy)</p>	
		<p>Lead Appraiser will</p> <ul style="list-style-type: none"> + Discuss with Sponsor and Site Coordinator Collect appraisal planning data + Prepare SCAMPI Appraisal Plan + Get Appraisal Plan reviewed from Sponsor 	<ul style="list-style-type: none"> ▪ SCAMPI Appraisal Plan and Schedule 	
	<ul style="list-style-type: none"> + Availability of Appraisal Team members for all appraisal activities + Establishment of PIIDs of all selected projects + Availability of Sponsor for Readiness Check findings discussion + Completion of Appraisal Plan + Availability of Sponsor & Senior Management for Appraisal briefing and Finding Presentation 	<p>Lead Appraiser & Consultant will visit for</p> <ul style="list-style-type: none"> + Conduct Appraisal team training. + Conduct Readiness Check along with ATM + Advise on any shortfalls in implementation + Discuss readiness Check findings with Sponsor + Decision for SCAMPI A 	<ul style="list-style-type: none"> + Appraisal Team Training (soft) material + PA worksheet template + Readiness Check findings + SCAMPI Appraisal Plan + SCAMPI onsite schedule 	

Note:

- Schedule months are tentative and will be discussed with the Tenece finalization and mutually re-estimated.
- Phillips Consulting assumes complete cooperation and availability of for discussion and activity review.
- At-least one readiness check is required as per SCAMPI rules. Additional required if readiness criteria are not met.
- The estimated effort for readiness checks & SCAMPI A activity is assuming appraisal team members spend approximately 10-12 hours each day completing the activity.
- However, if it is not possible, Phillips Consulting would increase the efforts for SCAMPIA appraisal based on scope.
- Softcopies of the training material will be provided.

Benefits of adopting (CMMI-DEV) v. 2.0 ML3

Phillips Consulting is confident in the following benefits:

Qualitative Benefits

Employee

- ✓ Reduced stress in meeting delivery schedules
- ✓ Improved customer relations and customer satisfaction
- ✓ Enhanced “team” working environment within the organization, where you can depend on everyone
- ✓ Improved personal performance as you have a shorter learning curve, can benefit from others’ experiences
- ✓ Enhanced professional skills, defined methods and processes, and availability of training

Client

- ✓ Confidence in you, the product/service provider
- ✓ On-time delivery of your products and services • Reduced costs of your software development activities
- ✓ Improvement in your product/service quality
- ✓ Ability to better plan their business activities due to the overall reduced risk in doing business with you

Organization

- ✓ Improved customer relations result in additional work and better communications
- ✓ Recognition of products from customers
- ✓ Satisfied employees resulting in best efforts and retention
- ✓ Better response and less business risk in meeting client needs
- ✓ Improved quality and productivity of services and products provided resulting in improved competitiveness, market share increase Increased Market Share! Increased Efficiency! Improved Profitability!

Quantitative Benefits

Software Process Improvement (SPI) has received much attention in recent years. However, it has been very difficult to translate benefits achieved in one organization to another organization. A challenge for SPI efforts is that they incur a cost of investment, so their use must be justified by a projected gain or benefit that exceeds the cost. Sometimes, they must demonstrate a greater gain and resultant ROI than other efforts in a company or organization.

Following are some statistics on implementing Software Process Improvement.

Metric	Data Points	Minimum	Maximum	Median
ROI	9	2 ratio	13.3 ration	3 ration
Productivity	12	5% increase	250% increase	39% increase
Project Cost	2	20% decrease	40% decrease	30% decrease
Cycle Time	5	15% decrease	50% decrease	38% decrease
Schedule Variance	3	35% decrease	50% decrease	40% decrease
Quality (% of defects Found)	1	98% defects found	98% defects found	98% defects found
Quality (% defect reduction)	20	0.5% defect reduction	95% defect reduction	48.5% defect reduction

Source – Data Analysis Center for Software (DACS)

Assumptions

Process reengineering activities require a lot of stakeholder's involvement throughout all the phases. We have specified estimated efforts for each of these phases, but it all depends on the timely availability of stakeholders.

The following are some of the assumptions considered for the successful definition and deployment of processes.

- Tenece will assign dedicated & capable personnel with the relevant qualifications and experience to drive this process reengineering initiatives.
- Tenece's senior management will be committed towards the definition, implementation and institutionalization of processes at organizational Level
- Tenece will ensure adequate involvement of stakeholders for all the work required.
- If for any reason an activity is delayed, the timeline for other activities and phases will also change accordingly.

Dependencies

Phillips Consulting recognizes the significance of this project for Tenece. The following are certain dependencies to Tenece for executing this assignment successfully:

- ✓ Commitment, Support and escalation resolution from Top Management
- ✓ Align Management for the set goal and expectations
- ✓ Ensure timely availability and participation of Function/Group stakeholders
- ✓ Knowledge and skills of Tenece staff on existing document processes and implemented practices
- ✓ Identification of Change agents for pilot implementation

People Involvement from Tenece

Phillips Consulting recommends the following key roles and functions to be identified and set up to make this engagement successful:

- A dedicated coordinator from Tenece for the duration of the consulting assignment. This person should be familiar with the organization structure and usage of tools and lifecycle activities. X`
- In addition to this, Tenece should establish the Software Engineering Process Group (SEPG) comprising people from various projects. This group will be responsible for defining and reviewing the processes, tailoring the processes, establishing standards, and facilitating process improvement meetings and activities etc.

The description of all roles and functions required and the activities they will be required to perform are as detailed below.

Resources Required	No of Resources	Utilization	Activity
Dedicated	2 (minimum)	100%	The Resource should be familiar with the organizational structure and processes. He/she would act as a point of contact for various process initiatives & coordinate between the organization & consultants for training & implementation
SEPG Team	4-5	8 – 10%	This group will be responsible for defining and reviewing the processes, tools customization, tailoring the processes, establishing standards and facilitating process improvement meetings and activities
Appraisal Team Members	4	15-20%	Identify resources for ATM training that would be involved completely during the appraisal. 1-2 SEPG members will be considered for the team.
SQA Team	3-4	10-12%	This group will be responsible for conducting a periodic process compliance audit, establishing audit report, process trend analysis, identifying QMS improvement changes and helping SEPG to sustain QMS effective and suitable.
Rest of the Team	-	8 – 10%	They will assist in amending & enhancing the processes
Sr. Management	1	-	Tenece should specify the names and contact details of senior management / sponsor for regular reporting & escalations if any.

Professional Fees

Phillips Consulting shall provide the services as outlined in the scope of work through experienced senior consultants.

Phase	Fees in NGN
Sensitize	4,150,000
Establish	8,700,000
Implement & Institutionalize	19,500,000
Appraise	23,200,000
Appraisal Registration to CMMI Institute fees	400,000
Training (for 5 Persons)	3,800,000
Sub Total	56,750,000
49% Discount	27,807,500
Total	28,942,500
Twenty-Eight Million, Nine Hundred and Forty-Two Thousand, Five Hundred Naira Only.	

Payment Terms

- ✓ The above-quoted price is exclusive of travel (outside Lagos)
- ✓ The professional fees are exclusive of VAT, WHT & other taxes/levies.
- ✓ Phillips Consulting requires 70% payment upfront after contract signing.
- ✓ The venue, infrastructure, lunch and refreshments, equipment hire, and incidentals shall be borne by Tenece.
- ✓ Our fee structure is based primarily on the estimated duration of the project and the proposed number of consultants that will be drafted to execute the assignment.
- ✓ The detail of our fee covers:
 - Our consultants' inputs including a full-time assignment director and a manager
 - Total cost for base course (Foundation of Capabilities) and Building Development Excellence CMMI 2.0 - **(Mandatory for all 5 ATMs)**
 - CMMI Institute royalty fees for the above course.

- The mandatory royalty fee **of USD 1900** per SCAMPI appraisal (introduced by CMMI institute and started from Jan 1st, 2016). These royalty fees need to be paid to the CMMI institute.
 - Full-time subject matter experts
 - Additional special action teams to execute specific time-bound initiatives during the assignment
-
- ✓ We require an assigned letter of engagement and/or contract agreement before the commencement of the assignment. The letter of engagement will include our terms of reference and our standard terms which, if engaged for this assignment, will form part of our contract agreement. We require a minimum of two weeks' notice from the date of formal engagement to mobilize the team.
 - ✓ Kindly note that our proposal will remain valid for a period of three months from the date of submission after which we reserve the right to revise our fees, team composition and content.

About Us

Phillips Consulting (pcl.) is a leading business and management consulting firm, serving clients across Africa through offices in Lagos and Abuja. We are a leading provider of transformation, technology and outsourcing services.

We partner with clients to provide in-depth assessments of their operations, strategic plans to help them achieve their goals, and the tools and oversight necessary to guarantee the successful execution of their strategies.

Diagnostics and discovery are integral aspects of our approach, and generally the first steps for every consulting & advisory client relationship. Detailed interviews with client process owners, internal and external benchmarking, and process performance reporting allow us to gain critical insights into the current state of operations. This information, when taken together with future goals, highlights levels of proficiency and areas in need of further attention.

We engage our clients to offer detailed guidance, assistance, and oversight throughout the implementation and execution phases. The level of support provided differs across clients. While some require full-scale project leadership and management, others may require only initial training programs and project oversight.

Our Team



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