

发起人高层会议总结报告

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一、总体发现

本次基于 CMMI V3.0 开发领域开展的五级基准评估，聚焦保险产品研发场景，通过文档审查、人员访谈与 SPRUM 量化评审方法，全面审视了公司研发过程、量化管理、质量管控、过程治理及全生命周期工程实践，精准识别出组织在数据建模、数据质量、人员胜任力、过程变更、需求管理、测试验证、代码工程及配置管理等方面的关键问题与改进空间，形成了贴合保险产品领域特性、兼具专业性与可操作性的改进指引。在与您的深入交流中，我们获得了高成熟度落地的关键指导，为组织适配保险产品持续扩展需求、提升过程成熟度奠定了坚实基础。公司管理层、EPG、项目经理及质量、配置管理、业务分析等核心团队对评估发现充分研讨并达成共识，一致认可本次评估结果客观务实、针对性强，对推广量化管理、优化过程体系、提升保险产品交付质量与可扩展性具有重要价值。我们将以本次评估为契机，系统吸收评估成果，制定可落地的改进计划，全面推进过程规范化、量化管控与持续改进，稳步提升组织成熟度，更好适配保险产品领域的业务需求与发展节奏。

二、经验教训

本次评估从工程实践、项目管理、支持保障、过程治理四个维度形成系统性经验总结，结合保险产品领域特性，梳理出当前过程体系中存在的核心短板与改进方向。在量化建模与数据质量管控方面，用于过程参数建模的样本数据量虽达到 15 个，但经回归线分析显示，多数数据点为异常值，有效样本数量极少，反映出当前针对过程监控与控制的改进措施尚不明确，未能形成有效的数据筛选与管控机制，直接影响量化模型的准确性与可用性。同时，收集的度量指标在用于定量管理之前，未通过项目质量保证（PQA）完成数据质量评估，目前仍不清楚 PQA 在组织及项目目标设定与跟踪范围内，对数据收集、存储、分析和使用各环节的审核覆盖程度，数据质量无法得到有效保障，进而影响量化管理的落地效果。在已建立的回归模型中，虽能识别缺陷逃逸率与生产率的关联，但未能聚焦模型中细微且可控的关键参数，如将返工工作量/成本简单归入需求或代码评审缺陷密度，未作为独立参数进行管控，不利于精准控制资源浪费与深化过程理解，也无法实现回归模型整体性能的优化。

在组织能力与人才发展层面，过程管理量化相关培训未实现全面覆盖，仅局限于核心研发与管理岗位，未扩展至质量保证等关键支持职能部门，也未纳入参与过程测量的设计人员，缺乏 holistic 的胜任力发展方法，导致组织既定的“学习能力”目标难以落地，无法形成全员参与、全员掌握的量化管理氛围。在过程变更管理方面，将过程变更管理实践应用于提升测量效能的意识不足，未明确这是所有利益相关者的共同责任，对过程变更管理的重视程度不够，导致提升过程成熟度与过程能力的努力收效有限，难以实现过程效能的持续优化。

在需求管理与测试验证环节，结合保险产品领域高度依赖最终用户视角的特性，当前需求获取主要由项目经理主导，而项目经理难以完全掌握保险产品的终端用户需求与场景，未建立业务部门与项目内部成员的协同业务分析机制，缺乏业务部门的深度参与，导致迭代过程中出现不必要的需求变更（Churn），影响项目推进效率与产品适配性。同时，对项目性能的有效验证依赖于对最终用户视角的充分理解，当前系统测试能力的构建未能平衡产品特性与功能之间的权衡，缺乏全面的端到端视角，无法充分满足保险产品的验证需求，难以保障产品质量与用户体验。

在代码工程与配置管理方面，存在死代码遗留问题，如 PolicyBase 模块，此类死代码若被意外取消注释，会导致代码运行异常，且逻辑错误排查难度极大，当前代码实现未严格遵循定义的底层设计（LLD），未及时移除不需要的功能模块，也未将其纳入配置管理与版本控制，存在潜在的代码风险。此外，尽管代码结构定义明确，但未在代码块中通过注释引用对应的底层设计（LLD）及需求目标，结合保险产品持续扩展的特性，这种缺乏追溯性的代码设计，不利于代码的可维护性、可追溯性、可测试性和可升级性，也未能充分适配保险产品长期迭代扩展的需求。

三、现实意义

本次 CMMI 5 高成熟度评估与改进，对组织适配保险产品领域需求、实现高质量发展具有关键支撑作用，结合保险产品的特殊性与持续扩展性，其现实意义尤为突出。通过优化过程参数建模机制，筛选有效样本、管控数据异常值，同时强化 PQA 对数据质量的全流程审核，可提升量化模型的准确性与可靠性，为量化管理落地提供坚实的数据支撑，实现过程管控的精准化。优化回归模型设计，将返工工作量/成本等可控参数独立管控，能够精准识别资源浪费点，深化过程理解，提升资源利用效率与过程优化的针对性。

通过构建全面的胜任力发展体系，将过程管理量化培训扩展至全角色，尤其是支持职能部门与设计人员，可推动全员量化思维的建立，助力“学习能力”目标落地，形成组织级的量化执行文化。强化过程变更管理意识，明确所有利益相关者的共同责任，能够充分释过程变更的价值，推动过程成熟度与过程能力持续提升，实现过程效能的迭代优化。

完善需求管理机制，建立业务部门与项目团队的协同业务分析模式，充分融入最终用户视角，可减少不必要的需求变更，提升需求适配性，更好满足保险产品领域的多元化用户需求。优化系统测试能力，构建全面的端到端验证视角，平衡产品特性与功能权衡，能够提升产品质量，保障用户体验，适配保险产品的核心业务需求。

规范代码工程与配置管理，移除死代码并纳入版本管控，同时完善代码注释与追溯机制，可降低代码运行风险，提升代码的可维护性与可扩展性，完美适配保险产品持续迭代扩展的特性，为产品长期发展奠定坚实的技术基础。整体而言，本次改进将推动组织过程体系与保险产品领域需求深度适配，提升过程成熟度与交付能力，增强组织的市场竞争力与长期发展潜力。

四、改进措施

评估结束后，EPG 将联合各业务团队、研发团队、质量团队及配置管理团队，结合保险产品领域特性开展全面的差距分析，形成系统化改进方案与详细实施计划，明确各环节改进节点、责任分工与量化目标，由公司高层提供充足的人、财、物及工具资源保障，确保各项改进措施落地见效。

我们将重点优化量化建模与数据质量管控体系，重新梳理过程参数建模的样本筛选机制，识别并剔除异常数据，增加有效样本数量，明确过程监控与控制的具体改进措施，提升模型的准确性与可用性；同时建立 PQA 对数据质量的全流程审核机制，明确 PQA 在数据收集、存储、分析、使用各环节的审核范围与标准，确保用于量化管理的度量指标质量可控。针对回归模型优化，将返工工作量/成本作为独立参数进行管控，剥离其与需求、代码评审缺陷密度的混淆关联，精准识别各类可控关键参数，优化模型结构，提升模型对过程的管控与指导价值。

在组织能力建设方面，重构过程管理量化培训体系，将培训范围扩展至质量保证等关键支持职能部门，以及参与过程测量的设计人员，构建全角色覆盖的胜任力发展方案，推动量化思维下沉至执行层，确保组织“学习能力”目标落地，形成全员参与

的量化管理文化。强化过程变更管理意识，明确所有利益相关者在过程变更管理中的职责，推动过程变更管理实践与测量效能提升深度结合，充分释放过程变更的价值，推动过程成熟度与过程能力持续优化。

针对需求管理与测试验证，结合保险产品领域特性，建立业务部门与项目内部成员的协同业务分析机制，推动业务部门深度参与需求获取与分析，充分还原最终用户视角，减少迭代过程中的不必要需求变更，提升需求适配性；同时优化系统测试能力，构建全面的端到端验证视角，平衡产品特性与功能之间的权衡，完善测试体系，确保项目性能验证贴合最终用户需求与保险产品业务场景。

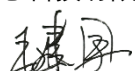
在代码工程与配置管理方面，全面排查并移除死代码（如 PolicyBase 模块），严格要求代码实现遵循底层设计（LLD），将所有功能模块纳入配置管理与版本控制，建立死代码管控机制，降低代码运行风险；同时规范代码注释标准，要求在代码块中通过注释引用对应的底层设计（LLD）及需求目标，打造具有良好追溯性的自文档化代码，提升代码的可维护性、可追溯性、可测试性和可升级性，适配保险产品持续扩展的特性。

EPG 将全程跟踪各项改进措施的执行进度，选取保险产品相关试点项目验证改进成效，通过量化分析确认改进效果后，在组织内全面推广，持续沉淀改进成果为组织资产，形成闭环改进机制。我们将以本次评估为契机，持续优化过程体系，提升研发管理与产品交付水平，更好适配保险产品领域的业务需求，为客户创造更高价值，实现组织长期稳健发展。

我们衷心感谢评估团队的专业指导与辛勤付出，后续将以坚定的决心推进各项改进工作，切实将评估成果转化为组织能力，持续提升过程成熟度与核心竞争力。

我在此授权并同意您本人和 SITARA Technologies 在 SITARA 的出版渠道上分享我们的评估成果，在 SITARA Technologies 认为合适的情况下宣传我们的评估成果。

上海裕宁信息科技有限公司

发起人： 

2026 年 4 月 18 日

EXECUTIVE SESSION BRIEFING: SPONSOR FEEDBACK

Overall findings

This benchmark appraisal at CMMI V3.0 Level 5 in the Development domain focused on insurance product R&D scenarios. Through document reviews, stakeholder interviews, and SPRUM-based quantitative evaluation methods, we conducted a comprehensive assessment of the company's engineering practices,

covering R&D processes, quantitative management, quality control, process governance, and full lifecycle engineering activities. The assessment precisely identified key issues and improvement opportunities across several critical areas, including data modeling, data quality, workforce competency, process change management, requirements management, testing and verification, software engineering practices, and configuration management. Based on these findings, we developed a set of improvement recommendations that are both domain-specific to insurance products and practical, actionable, and professionally grounded. During in-depth discussions with Raghav and his team, we also gained valuable insights into how high-maturity practices can be effectively operationalized. These insights have laid a solid foundation for the organization to better support the evolving and expanding demands of insurance products while continuously improving process maturity.

The management team, EPG, project managers, as well as core teams from quality assurance, configuration management, and business analysis jointly reviewed the findings. They reached a shared consensus that the appraisal results are objective, pragmatic, and highly targeted. The results are considered highly valuable for promoting quantitative management, optimizing the process system, and improving the delivery quality and scalability of insurance products.

Taking this appraisal as a starting point, the organization will systematically absorb the findings, establish actionable improvement plans, and comprehensively advance process standardization, quantitative governance, and continuous improvement. This will steadily enhance organizational maturity and better align capabilities with the business needs and growth pace of the insurance product domain.

Lessons Learned

This appraisal has produced a structured set of insights across four dimensions—engineering practices, project management, support and enabling functions, and process governance—while taking into account the specific characteristics of insurance product development. It has helped identify key gaps in the current process system as well as clear directions for improvement.

In the area of quantitative modeling and data quality management, although 15 sample data points were collected for process parameter modeling, regression analysis shows that most of them are outliers, leaving only a very limited number of valid samples. This indicates that current improvement actions for process monitoring and control are not clearly defined, and no effective mechanism has been established for data filtering and governance. As a result, the accuracy and usability of the quantitative models are significantly compromised.

In addition, the measurement indicators collected have not yet undergone data quality evaluation by the Project Quality Assurance (PQA) function before being used for quantitative management. At present, it remains unclear to what extent PQA activities cover the review of data collection, storage, analysis, and usage within the scope of organizational and project objectives. Without such validation, data quality cannot be effectively ensured, which in turn weakens the implementation effectiveness of quantitative management.

Within the existing regression models, although correlations such as defect leakage rate and productivity

can be identified, the models do not sufficiently focus on fine-grained and controllable parameters. For example, rework effort or cost is simply embedded into requirements or code review defect density rather than being treated as an independent variable for governance. This limits the ability to precisely control resource waste, reduces the depth of process understanding, and prevents further optimization of overall model performance.

From the perspective of organizational capability and talent development, training related to quantitative process management has not achieved full coverage. It remains limited to core R&D and management roles and has not been extended to key support functions such as quality assurance, nor to designers involved in measurement activities. A holistic competency development approach has not yet been established, making it difficult to achieve the intended “learning capability” objectives and preventing the formation of an organization-wide culture of quantitative management.

In terms of process change management, awareness of using process change practices to improve measurement effectiveness is still insufficient. It has not been clearly recognized as a shared responsibility among all stakeholders. The lack of emphasis on process change management has limited progress in improving process maturity and capability, making it difficult to achieve continuous optimization of process performance.

In requirements management and testing and validation, given the insurance domain’s strong reliance on end-user perspectives, current requirements elicitation is primarily led by project managers. However, project managers alone cannot fully capture end-user needs and scenarios. A collaborative business analysis mechanism between business departments and internal project teams has not yet been established, and the lack of deep business involvement has led to unnecessary requirement churn during iterations, reducing delivery efficiency and product alignment.

At the same time, effective validation of project performance depends heavily on a clear understanding of the end-user perspective. The current system testing capability does not adequately balance product characteristics and functional considerations. A full end-to-end perspective is still missing, making it difficult to fully meet the validation needs of insurance products and to ensure product quality and user experience.

In the area of code engineering and configuration management, legacy dead code issues still exist, such as in the PolicyBase module. If such commented-out code is accidentally reactivated, it may cause system runtime anomalies, and debugging such logical errors becomes extremely difficult. The current implementation does not strictly follow the defined low-level design (LLD), nor are unnecessary modules timely removed or properly managed under configuration and version control, creating latent technical risks.

Furthermore, although the code structure is clearly defined, it does not reference the corresponding LLD and requirement objectives through inline comments. Considering the continuous expansion nature of insurance products, this lack of traceability in code design negatively impacts maintainability, traceability, testability, and upgradeability, and also limits the system’s ability to support long-term iterative evolution in the insurance domain.

Relevance

The CMMI 5 high maturity appraisal and improvement play a key supporting role in adapting to the needs of the insurance product field and achieving high-quality development for organizations. Combined with the particularity and continuous scalability of insurance products, its practical significance is particularly prominent. By optimizing the process parameter modeling mechanism, screening effective samples, controlling data outliers, and strengthening PQA's full process review of data quality, the accuracy and reliability of quantitative models can be improved, providing solid data support for the implementation of quantitative management and achieving precision in process control. Optimize regression model design, independently control controllable parameters such as rework workload/cost, accurately identify resource waste points, deepen process understanding, and improve resource utilization efficiency and targeted process optimization.

By building a comprehensive competency development system and extending process management quantitative training to all roles, especially supporting functional departments and designers, it can promote the establishment of quantitative thinking among all employees, help achieve the goal of "learning ability", and form an organizational level quantitative execution culture. Strengthening the awareness of process change management, clarifying the shared responsibilities of all stakeholders, can fully unleash the value of process change, promote continuous improvement of process maturity and capability, and achieve iterative optimization of process efficiency.

Improving the demand management mechanism, establishing a collaborative business analysis model between business departments and project teams, fully integrating the perspective of end-users, can reduce unnecessary demand changes, enhance demand adaptability, and better meet the diverse user needs in the insurance product field. Optimizing system testing capabilities, building a comprehensive end-to-end verification perspective, balancing product features and functionality, can improve product quality, ensure user experience, and adapt to the core business needs of insurance products.

Standardizing code engineering and configuration management, removing dead code and incorporating it into version control, while improving code annotation and traceability mechanisms, can reduce code running risks, enhance code maintainability and scalability, perfectly adapt to the continuous iteration and expansion characteristics of insurance products, and lay a solid technical foundation for long-term product development. Overall, this improvement will promote the deep adaptation of organizational process systems to the needs of the insurance product field, enhance process maturity and delivery capabilities, and strengthen the organization's market competitiveness and long-term development potential.

Improvement measures

After the evaluation is completed, EPG will collaborate with various business teams, R&D teams, quality teams, and configuration management teams to conduct a comprehensive gap analysis based on the characteristics of the insurance product field. A systematic improvement plan and detailed implementation plan will be formed, clarifying the improvement nodes, responsibilities, and quantitative goals of each link. The company's senior management will provide sufficient human, financial, material, and tool resources to ensure that all improvement measures are implemented effectively.

We will focus on optimizing the quantitative modeling and data quality control system, reorganize the sample screening mechanism for process parameter modeling, identify and eliminate abnormal data, increase the number of effective samples, clarify specific improvement measures for process monitoring and control, and enhance the accuracy and usability of the model; At the same time, establish a full process

audit mechanism for data quality through PQA, clarify the audit scope and standards of PQA in data collection, storage, analysis, and use, and ensure that the quality of measurement indicators used for quantitative management is controllable. For the optimization of regression models, rework workload/cost is controlled as independent parameters, and its confusion correlation with demand and code review defect density is stripped away. Various controllable key parameters are accurately identified, the model structure is optimized, and the model's control and guidance value for the process are enhanced.

In terms of organizational capacity building, we will reconstruct the process management quantitative training system, expand the training scope to key support functional departments such as quality assurance, and design personnel involved in process measurement. We will build a competency development plan that covers all roles, promote the sinking of quantitative thinking to the executive level, ensure the implementation of the organization's "learning ability" goals, and form a quantitative management culture with full participation of all staff. Strengthen the awareness of process change management, clarify the responsibilities of all stakeholders in process change management, promote the deep integration of process change management practice and measurement efficiency improvement, fully unleash the value of process change, and promote continuous optimization of process maturity and process capability.

For requirement management and testing verification, combined with the characteristics of the insurance product field, establish a collaborative business analysis mechanism between business departments and internal project members, promote the deep participation of business departments in requirement acquisition and analysis, fully restore the end-user perspective, reduce unnecessary requirement changes during the iteration process, and improve requirement adaptability; At the same time, optimize system testing capabilities, build a comprehensive end-to-end verification perspective, balance the trade-off between product features and functions, improve the testing system, and ensure that project performance verification is in line with end-user needs and insurance product business scenarios.

In terms of code engineering and configuration management, comprehensively investigate and remove dead code (such as PolicyBase module), strictly require code implementation to follow the underlying design (LLD), incorporate all functional modules into configuration management and version control, establish a dead code control mechanism, and reduce code operation risks; At the same time, standardize the code annotation standards, requiring the use of annotations in code blocks to reference the corresponding underlying design (LLD) and requirement objectives, creating self documented code with good traceability, improving the maintainability, traceability, testability, and upgradability of the code, and adapting to the continuous expansion characteristics of insurance products.

EPG will track the progress of various improvement measures throughout the process, select pilot projects related to insurance products to verify the effectiveness of improvements, confirm the improvement effects through quantitative analysis, and promote them comprehensively within the organization. The continuous accumulation of improvement results will become organizational assets, forming a closed-loop improvement mechanism. We will take this evaluation as an opportunity to continuously optimize the process system, improve R&D management and product delivery level, better adapt to the business needs of the insurance product field, create higher value for customers, and achieve long-term stable development of the organization.

We sincerely appreciate the professional guidance and hard work of the evaluation team. In the future, we will continue to promote various improvement work with firm determination, effectively transform the evaluation results into organizational capabilities, and continuously improve process maturity and core competitiveness.

I hereby authorize and agree that you and SITARA Technologies may share our appraisal results on SITARA's publishing channels and promote them as deemed appropriate by SITARA Technologies.

Shanghai Yuning Information Technology Co., Ltd

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April 18th 2026