

致 Raghav Nandyal 先生：

首先，我代表公司对评估小组此次针对广州智算信息技术有限公司产品研发部研发参评项目，即 ECP 平台替换技术服务项目，执行的 CMMI 5 成熟度评估表达最诚挚的敬意与感谢。

CMMI 模型是一个全面的框架，能够作为我们公司通往成功实践活动的“地图”。本次 CMMI 5 的评估从 2023 年 1 月 14 日正式开始，在评估小组高效有序的评估过程当中，将我们的实际实践与模型实践进行逐条的比对，确定其满足的程度，精确地刻画出我们当前的“位置”和存在的差距。本次评估小组成员共发现的四十多个弱项精准地暴露了公司过程中的一些薄弱环节，并给出解决问题的办法。

此次本次评估，我认为至少在以下几个方面获得经验教训：

1. 项目团队成员的人岗匹配非常重要，当前我们项目对人员的选择主要是根据员工岗位技能矩阵表的课程评分数作为员工能力选择标准。评估小组建议我们从多角度出发评估个人能力：从研发技能（研发前台后台、数据分析、数据挖掘、数据库管理、网络管理、测试）、研发经验（曾经参加的项目类型、项目中担任的角色）、已获得资质、项目中的表现，按照权重综合计算，得出专业能力值，以便可以将经验与实现 QPPO 所需的胜任力快速匹配，以准确（获得相应技能信息）确认与组织目标的一致性程度。
2. 及时有效为公司战略发展和项目提供具备胜任力的人员是培训工作的重中之重，目前我们培训需求调查仅限每年一次需求调查，未能灵活配合新项目的培训需求。评估小组建议我们今后做培训需求调查不仅限于年末或年初，项目的启动规划时，OT 专员就可提前从高层经理处获取，在项目启动之前进行需求调研，及时做更切合项目目标的培训计划；
3. 项目计划过程中，项目经理在项目计划中定义了各个子计划，其中包括评审计划，当前我们评审计划不够细致，没有定义代码走查的最低限制。评估团队建议在评审计划中，明确定义评审准备活动，包括计划评审日期、计划产出物和计划评审参与人，并量化定义各个评审活动的出口准则，如：代码走查必须走查至少一半的代码，出口准则可以减少执行过程中的沟通成本。明确和完整的项目计划可以帮助项目准确

实现目标。


4. 我们目前已经推广了代码走查工具，EPG 收集了需求评审缺陷密度、设计评审缺陷密度和代码走查缺陷密度，并形成 PPB。评估团队建议 EPG 进一步探索需求评审缺陷密度、设计评审缺陷密度和代码走查缺陷密度对客户验收缺陷密度的影响，引入 DevOps 平台，通过自动化测试、监控和持续集成、持续交付的方式，提高产品的内建质量，从而有效降低客户验收缺陷密度。
5. 目前我们项目估算小组先用国际功能点估算法估算了各个需求的功能点，并采用三点估算法进行了多人多轮估算（专家法）。由于项目是针对新功能的定制开发，因此评估小组建议我们制定项目规模时应该扣除采用“大数据智能数字化运营技术平台”时复用的功能点，得到的项目规模才更加准确。
6. 如果项目提前结束，项目经理目前需要及时与高层经理沟通才能释放项目组人力资源。建议建立项目人员状态看板，可以展示每个在运行项目的人员状态，更便于高层经理协调人力资源，并附录汇报详情、会议纪要等。
7. 当前我们制定了产品开发部激励制度，但激励力度及措施不够到位，评估小组建议我们增加针对 EPG 成员的考核细则，如：按照过程改进实施量化的改进效果的好坏，对 EPG 成员进行激励，针对勇于探索创新的 EPG 成员，给与额外的奖励，从而提高过程改进的步伐。

在本次评估结束之后，我们将继续保持认真、谨慎的工作态度，对需要整改的问题抓紧落实，确保我们各项整改工作能到有效执行：

1. 召开 CMMI 5 评估的总结会：公司将 1 月下旬组织召开本次 CMMI 5 评估的总结会议，公司高层经理、EPG 组长、ATM 成员将参加本次会议，总结本次评估过程的各项工作，针对本次评估提出改进方向。
2. 整改落实工作：EPG 小组将全权负责改进活动，内部 ATM 将进行指导。EPG 小组组织各部门针对部门涉及的弱项，制定改进方案和详细计划，明确责任人，监督各部门按同计划、同整改、同验证的三同原则，落实整改。每年年底，对各部门的整改工作进行分析 and 评估，以确保整改工作能有效落实。

在此，我们特别感谢评估小组认真细致的评估工作，我们带来很大的帮助和改进建议，不断提升公司的成熟度，公司将继续坚持自主创新的研发道路，秉承 CMMI 标准和要求，不

断优化研发过程管理，强化自我创新能力，为客户创造更高价值。

 郑飞

总经理

广州智算信息技术有限公司

2023年1月20日



Dear Mr. Raghav Nandyal.

First of all, on behalf of our organization, I would like to express our most sincere respect and gratitude to the appraisal team for the CMMI 5 maturity appraisal done for GuangZhou ZhiSuan Information Technology Co., Ltd. for the pilot implementation project under the R&D Center, namely, ECP Platform Replacement Technical Service Project (ECP 平台替换技术服务项目).

The CMMI model is a comprehensive framework that serves as a map for our organization to successful practices. The CMMI 5 appraisal began on January 14, 2023, and the appraisal team conducted an efficient and orderly appraisal process, comparing our actual practices with the model practices, determining the level of satisfaction, and accurately mapping out our gaps. More than 40 weaknesses are identified by the appraisal team members accurately exposed some weaknesses in the organization's process and provided solutions to the problems.

I concluded the lessons learned from this appraisal in the following areas.

1. It is very important to match the project team members with their jobs and skill level. currently, our project's selection of personnel is mainly based on the number of course ratings in the employee role skills matrix as the criteria for employee competency selection. The appraisal team recommended that we assess individual competencies from multiple perspectives: from R&D skills (front end and back end Dev knowledge, data analysis, data mining, database management, network management, testing), R&D experience (types of projects they have participated in, roles they have in past projects), certificate they have obtained, and performance in historical projects. By applying a comprehensive calculation according to weights, professional competency values can be derived. The competencies required to achieve QPPO can be quickly matched to accurately (by obtaining information on the appropriate skills) confirm the alignment with organizational goals.

2. Currently, our training needs survey is limited to an annual frequency and is not flexible enough to meet the training needs of new projects. The appraisal team recommends that we do not limit the training needs survey to the end of the year or the beginning of the year in the future. The OT can obtain the project plan from the senior manager in advance when planning the project at its very beginning, so as to conduct a training need survey before the start of the project and make a timely training plan that better meets the project objectives.

3. During the project planning process, the project manager defined various sub-plans in the project plan, including the review plan. currently, our review plan is not detailed enough and does not include the threshold of minimum coverage for code walkthrough. The appraisal team recommends that the review plan clearly specify the review preparation activities, including the planned review dates, planned outputs, and planned review participants. In this way we can quantitatively define the exit criteria for each review activity, e.g., the code walkthrough must have

at least half of the code covered. The proper exit criteria can reduce the communication costs during the development process. A clear and complete project plan can help the project achieve its goals accurately.

4. We have now defined the code walkthrough tool and EPG has collected the requirements review defect density, design review defect density and code walk defect density data. The PPBs of which have been created. The appraisal team recommended EPG to further explore the impact of requirement review defect density, design review defect density and code walkthrough defect density on customer acceptance defect density. If possible, introduce DevOps platform, and improve the built-in quality of the product through automated testing and monitoring, continuous integration and continuous delivery, so as to effectively reduce customer acceptance defect density.

5. Currently, our project estimation team estimated the function points of each requirement using the international function point estimation method, and conducted multiple rounds of estimation by multiple people using the three-point estimation method (expert method). Since the project is a custom development for new functions, the appraisal team suggested that we should exclude the function points reused in the adoption of the "Big Data Intelligent Digital Operation Technology Platform" in order to obtain a more accurate project size.

6. The project manager currently needs to communicate with the senior manager in time to release the human resources of the project team if the project close ahead of schedule. It is suggested to establish a project staff status Kanban, which can present the staff status of each running project and make it easier for senior managers to coordinate human resources and append reporting details, meeting minutes, etc.

7. The appraisal team suggested that we should also create the evaluation criteria for the EPG members for their process improvement performance, such as: incentives to the EPG members according to the quantitative improvement effect of the process improvement, and extra rewards to the EPG members who are innovate to explore new improvements. In this way we can improve the pace of process improvement.

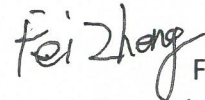
After this appraisal, we will continue to maintain a rigorous and prudent working attitude and implement the issues that need to be fixed to ensure that all our work can be effectively implemented. I plan to do the following:

1. CMMI 5 appraisal summary meeting: Our organization will hold a CMMI 5 appraisal summary meeting in late January. Senior managers, EPG team leader and the ATM member will attend this meeting to summarize the work of the appraisal process and propose improvement directions for this appraisal.

2. Correction: The EPG team will be fully responsible for improvement activities and internal ATM will provide guidance. the EPG team organizes each department to develop improvement plans and detailed plans for the weaknesses involved in the department. The EPG will supervise the implementation of the corrective actions in accordance with the principle of "same plan, same corrective action and same verification method". At the end of each year, senior managers analyze and evaluate

the corrective work of each department to ensure that the corrective work can be effectively implemented.

We would like to express our thanks to the appraisal team for their careful and meticulous appraisal work, which has brought us with great help and improvement suggestions to continuously improve the maturity of the organization. Our organization will continue to adhere to the R&D road of independent innovation, uphold the CMMI standards and requirements, continuously optimize the R&D process management. We will improve our self-innovation capability, and create higher value for our customers.



Fei Zheng
General Manager

GuangZhou ZhiSuan Information Technology Co., Ltd.

20th Jan 2023

