

| Project Information | |
|-------------------------|---|
| Project Info | Remarks |
| Project description | PPGPL SOW2 : 3 Assets DT (Release 3 MVP : Gas Turbine , Cooling Tower (LF), Pump(LF) , High Frequency not In scope as customer has not procured the sensors for the HF for Pump and Cooling Tower |
| Release Version No. | Version 01 |
| Top Management | GROW/PAD-PD |
| Development Department | GROW/PAD-PD |
| Project ID_Project Name | PJ-109491 PPGPL_01_DT-IAPM_PPGPL |
| PM Name | Ashok S Mallya |
| QG_ID | Delta QG4_11670_1 |
| QG Date (dd-mmm-yy) | 02-Aug-24 |
| QG Moderator | Ramkumar R K (BGSW/QMM-ACS) |
| Sub-ProjectID_Name | PJ-109491 PPGPL_01 |
| Sub-Project PM | Ashok S Mallya |
| Sales Manager | Bhuvan Shetty |

For location specific roles, Please refer [BASIC CHART XLS](#)

| Stakeholder Information | |
|----------------------------------|----------------|
| Name & Department | QG Participant |
| Ashok S Mallya (GROW/PAD-PD) | Yes |
| Swetha Venkatesappa (SX/ETL3) | Yes |
| Bharatesh C E (BGSW/QMM-PD) | Yes |
| Ramkumar R K (BGSW/QMM-ACS) | Yes |
| Deepa Velankar (GROW/PAD-PD) | No |
| Feng Xuesong (GROW/QMM GROW/PCO) | Yes |
| Bhatt Satish Chandra (MS/ECL7) | Yes |
| Claret Felix (GROW/ENG) | Yes |
| | |

Please Note : Previous QG4 for the Gas Turbine was used as reference

| Software (Product / Component) QG Assessment | | | | Update QG | |
|--|--|--|--|-----------|--|
| Criteria GREEN : Target is reached or can be certainly reached, no measure necessary. YELLOW : Target can be reached with additional measures. RED : Target cannot be reached. Management decision is required , if necessary targets have to be adjusted. | | | | | |


| Q.No | SW-QGR | SW-QG4 | SW-QG5 | Measurement criteria | Status Requirement | Assessment Rating | Supplier of result | Measures / Actions | Delta QG4 (3 Assets) | Responsibility / Remarks |
|------|--------|--------|--------|--|---|-------------------|--------------------|--|----------------------|---|
| 1 | x | x | x | Previous QG approved Measures from the previous QGs are incorporated, monitored and are effectively introduced. | The previous QG report should have been reviewed and approved. All the open points identified should have been closed If the above requirement is not satisfied, then the QG can be stopped Question is not applicable for QG0 and QGP0. For QGC0 check corresponding QGP approval and open point closure | G | PM | QG4 for Gas Turbine is completed, QG moderator and management approval is done. Promise: Link to be attached. | G | QG4 for Gas Turbine, Pump and Cooling tower Pump is completed as per Delta QG4. |
| 2 | x | x | | The approved Contract is available. | QGC0: All relevant contracts are signed. Confirmation from C/LSR-IN team on availability of all applicable contracts. i) With Customer - NDA, Master Agreement, SOW, PO ii) Intra-Bosch Agreements (applicable if any other Bosch entity is involved in the project) Signed copy of the above agreements should be available with project team. C/LSR-IN and BGSW/EIP are consulted to align on the IP ownership and licensing model QGR/4: The signed contracts are valid as on date | G | PM | User Document: https://sites.inside-share5.bosch.com/sites/170185/Documents/PPGPL_MVP/03_MVP_Assets/04_User_Manual_PPGPL/20231214_04_DigitalTwin-IAPM_User_Documentation_PPGPL_MVP_V1.pdf RFA_2023_BGSW_RBNA_DT_signed.pdf https://inside-share-hosted-apps.bosch.com/DMS/GetDocumentService/Document.svc/GetDocumentURL?documentID=P15S170185-808908765-658 | G | User manual is available, and reseller framework contract available with RBNA and PPGPL with all the legal terms and conditions Legal Review Completed |
| 4 | x | x | x | Risk management is implemented and approved. | Risk plan is available in PROMISE and risks are being managed. Appropriate mitigation and contingency are identified and actions implemented for all Red or Yellow risks. Risk plan is updated for any changes and up to date | G | PM | Risks are available and all Risks are mitigated. Risks points are closed in PROMISE tool | G | |
| 5 | x | x | | An up to date release plan / milestone plan is available and agreed with all the stakeholders and is adhered to Schedule is updated and is feasible to achieve. | Release plan / milestone plan includes the releases that are supplied to customers (or to the market) QG0: Initial release plan is in place QGR/QG4: The release plan is up to date, reflects the project status and approved for release Schedule is available in PRIME (also for subprojects / components) and agreed with all stakeholders The target dates are up-to-date and achievable The impact of the target dates on the subprojects and components has been analyzed Customer milestones are taken into account. | G | PM | Release plan is available and up to data 20230912_PPGPL_MVP_Plan_Digital_Twin_IAPM_Updated_PO_Based.mpp Document Link for Release Plan :- https://sites.inside-share5.bosch.com/sites/170185/Documents/Forms/AllItems.aspx?RootFolder=/sites/170185/Documents/PPGPL_Project_Phase-2A/01_Contract/01_Kickoff%20PPGPL&FolderCTID=0x0120000759E423B4836644B1439BAD6432B468&ShowWebPart=%7BC3B5FECF-FED0-4011-B929-E2F87B14448D%7D | G | |
| 6 | x | x | x | The cost targets are known and are maintained within limits. The business and revenue models are defined. The revenues projected are achievable. | QG0: The cost targets are set. Business model is in place QGR/QG4: The costs are within the set targets. The revenues projected are achievable. QG5: The costs are within the set target. Revenues are achieved as projected. An updated profitability calculation is available and has been confirmed Respective teams in BGSW/CTG and BGSW/SAM may be contacted to arrive at the cost and revenue targets respectively | G | PM | Costs are within the planned limits of project budget Revenue projected are achieved. EBIT 29.3% as per sales. The Delivery approval from the customer is available for the delivered Milestones and invoiced accordingly to Customer. Document Evidence :- Invoice plan and Actual Invoice sheet attached https://sites.inside-share5.bosch.com/sites/170185/_layouts/15/DocIdRedirect.aspx?ID=P15S170185-808908765-1075 | G | |
| 7 | x | x | x | The project budget will be adhered to. Required resources are available (HW, SW, Human, etc) | Project budget is the cost of development (resource cost, travel cost). Sample costs may be included. Required resources and skills are available and sufficient to fulfill the agreed requirements. QG0: The allocated budget is approved and achievable. In case of PIN (Pre-Investment) approved IA is available QGR/QG4/QG5: The proportionate budget has been adhered to in every phase including the subproject / components | G | PM | Project budget is adhered to Required resource | G | |
| 8 | x | x | x | The quality targets (internal or from customer) are set and are achievable Release / Acceptance criteria are defined (fully) | QG0: Quality targets are set and are achievable. Acceptance criteria defined and approved QGR/QG4/QG5: Quality target is achieved. Acceptance criteria is successfully met. If not met, then is there approval from the appropriate authority | G | QM | Defined in the Project Plan SonarQube Quality Gate Metrics BGSW Goal Code coverage <input type="checkbox"/> >85% Bugs <input type="checkbox"/> 0 Security vulnerabilities <input type="checkbox"/> 0 Code Smell <input type="checkbox"/> 0 Duplication of Codes <input type="checkbox"/> 0% SONAR Cube report is being checked and reviews during every Checkins. All the repositories like Front end , Back end and Function App AI's are scanned and reports are documented with the QMM approval. Update 02.08.2024 Link for the Document :- https://sites.inside-share5.bosch.com/sites/170185/Documents/Forms/AllItems.aspx?RootFolder=/sites/170185/Documents/PPGPL%20MVP%20F12%20Quality%20Gates%20F05%20QG4%20Delta%20F02%20Sonar%20Qube%20Reports | G | |
| 9 | | x | x | Lessons learned have been drawn up / taken into consideration. | QG0: Lessons learned from other similar projects are considered while project planning QG4/QG5: Lessons learned are documented and available for other projects | G | PM | The Lessons learned from the project is updated in LLBP Bosch connect page The lessons learned on the SQ scan is captured and deployed to all the SES and Projects Update 02.08.2024 Link for the Document :- https://inside-share-hosted-apps.bosch.com/DMS/GetDocumentService/Document.svc/GetDocumentURL?documentID=P15S170185-808908765-2488 | G | |
| 10 | x | x | | Interfaces with the other projects / products / subprojects / components have been taken into account. | Dependencies / impact from other projects or products or subprojects / components are identified, agreed. Actions implemented Kick-off meeting including all stakeholders conducted Agreement with internal stakeholders available | G | PM | Kickoff meeting with customer attached. Document Evidence of Kick off Meeting :- https://sites.inside-share5.bosch.com/sites/170185/Documents/Forms/AllItems.aspx?RootFolder=/sites/170185/Documents/PPGPL_Project_Phase-2A/01_Contract/01_Kickoff%20PPGPL&FolderCTID=0x0120000759E423B4836644B1439BAD6432B468&ShowWebPart=%7BC3B5FECF-FED0-4011-B929-E2F87B14448D%7D | G | |
| 11 | | x | | Communication concept for market launch is available. | Applicable only for SW Product QG0: Concept for market introduction is planned. QG4: Implemented | NA | Marketing, PM | It is only PPGPL plant at Trinidad and Tobago (Gas Turbine GT451-A) No Market release is involved here. | NA | |

| Q.No | SW-QGR | SW-QG4 | SW-QG5 | Measurement criteria | Status Requirement | Assessment Rating | Supplier of result | Measures / Actions | Delta QG4 (3 Assets) | Responsibility / Remarks |
|------|--------|--------|--------|---|--|-------------------|--------------------|--|----------------------|--------------------------|
| 12 | x | x | x | Configuration management is defined and is adhered to. Complete software baseline (including internally developed, COTS, supplied software, OSS etc) is available and reproducible. This is verified. | QG0: Configuration management plan is available and is up to date. QGR/QG4/QG5: Standard archiving and labeling of project documents is followed. Special requirements (e.g. customer requirement) are met in relation to the archiving and labeling of the documents Configuration audit conducted with positive result. All the action items closed A baseline has been created and a check has been done that the baseline is complete in terms of the configuration items defined. All documents which are used as evidence for the QG assessment must be collected and stored together with the QG documents. (alternative: mention the documents in the QG assessment: file name and version date yyyy-mm-dd, store as write-protected versions) It is defined which configuration items are relevant for the Delivery/ Release. Thereof a baseline is created and the completeness of the baseline is ensured. It shall be clear which baseline is relevant for the QG and Configuration Audit is conducted for | G | PM | Configuration Audit completed Link attached below for the same. Document Evidence:- https://sites.inside-share5.bosch.com/sites/170185/Documents/PPGPL_Project_Phase-2A/19_QualityReports_PQSR/Configuration%20Audit/20240222_CA_PPGPL_QG4.xlsx?d=wa0816667f518485c9c79a413aa7ad122 Update 02.08.2024 Link for the Document :- https://sites.inside-share5.bosch.com/sites/170185/Documents/Forms/AllItems.aspx?RootFolder=%2Fsites%2F170185%2FDocuments%2FFPPGPL%5FMVP%2F19%5FQualityReports%5FPQSR%2FConfiguration%20Audit | G | |
| 13 | x | x | | Third party software (Supplied SW, COTS, etc) handled effectively (used for development or included as part of deliverable) SW ordered by means of a specification document was accepted on the basis of the specification document. The supplied components integrated successfully. Any risks foreseen. If yes, addressed effectively | Third party Software includes freeware / shareware /commercially purchased SW / customer supplied SW) QG0: Plan for any requirement for Third Party SW or COTS. If the Licenses are already planned and procured, -License Agreement and Purchase Order with vendor available -Details on no. of licenses purchased and being used is documented in the proview template. -Review and approval of third party SW license terms and conditions in a commercially procured third party SW is done together with C/LSR-IN team -Approval available from management (applicable based on Direct or Indirect area) for Third party SW usage - Customer approval for the third party usage (Not required for Organization Products) -Risks wrt Third party SW or COTS SW(Commercially Off The Shelf SW) are identified and addressed in Risk plan QG4: The Third Party SW components integrated successfully. Any risks foreseen, have been addressed effectively - Any requirements as part of License agreement are taken care of (Ex. License reporting, Vendor All the purchased SW meets the intended requirements eg. SW used for testing, Released components, approved vendors, etc. | NA | PM | No Third party software used for PPGPL. | NA | |
| 14 | x | x | | The necessary bought-in products and services have the necessary maturity. | All the purchased SW meets the intended requirements eg. SW used for testing, Released components, approved vendors, etc. | NA | Purchasing | There is no purchased products. | NA | |
| 17 | x | x | | UX-relevance has been evaluated and UX activities are planned and implemented. | QG0: Evaluate UX relevance using UX Check Tool along with UX team (BGSW/NE-ME-UX-Enabling). In case of High or Medium evaluation output, UX activities are planned. (Email from UX team on accepting the output of the UX check Tool) QGR/QG4: All relevant UX activities are implemented as planned, ensuring compliance to Bosch UX guidelines Refer "Plan for User Experience (UX)" activity in "Project Planning" Procedure | NA | Sales | Not in scope of DT for this Project. Document Evidence SOW Dashboards Designs Indicated :- https://sites.inside-share5.bosch.com/sites/170185/_layouts/15/DocIdRedir.aspx?ID=P15S170185-808998765-1056 | NA | |
| 18 | x | x | | Statutory (legal) / official requirements / restrictions and regulations are known and have been taken into account. | This measurement criterion can be marked as "NA" only with a valid justification. QG0: Plan for certification is available. List of certifications is identified. technical legal requirements such as legal requirements of the target market. Competitive analysis considered. QGR/QG4: All pre-requisites required for certification are completed successfully. C/LSR-IN team is kept 'Informed' of the status. In case of doubt, contact C/LSR-IN for any applicable requirements. | G | PM | Legal team has been approached before the project contracting was done and all necessary alignments and checks were completed. Document Evidence from Legal team:- https://sites.inside-share5.bosch.com/sites/170185/_layouts/15/DocIdRedir.aspx?ID=P15S170185-808998765-1057 | G | |
| 19 | x | x | | Requirements for product safety are known and have been taken into account. The current risk assessment in relation to product safety is available and has been confirmed. All safety related requirements are tested and errors are eliminated. | This measurement criterion can be marked as "NA" only with a valid justification. Industry-specific standards are to be observed Customer or market specific safety requirements identified QG0: (i) Relevance to the project is confirmed. Considered in target specifications. Measures and plan defined. (ii) In case of Software Update management (Over-the-Air), Software and associated metadata (includes pre and post conditions, compatibility information etc.) release for target system is identified and understood. QGR/QG4: Progress of measures according to plan is confirmed and implementation is proven SW-QGR: if necessary, releases incl. risk assessment regarding road-worthiness CD00214 Requirements for product safety | NA | PM | Not related to automotive application as it is Industrial application. | NA | |
| 20 | x | x | | Any product liability problems possible? The current "State of the art" in the market are assessed and taken into account in relation to product liability. Safeguards in place for any possible product liability problems | This measurement criterion can be marked as "NA" only with a valid justification. For SW products which are not owned by Organization, check the agreement with customer if a clause on product liability is agreed QG0: The contract is reviewed by C/LSR and documented required disclaimers Discussions for insurance coverage initiated State-of-the-art, see CGP 01901-783 | G | PM | During QG0 phase SOTA document has been discussed with CAC team and for this release OSS scan is completed and the report is available. Document Evidence for OSS Report and Approval:- https://sites.inside-share5.bosch.com/sites/170185/Documents/Forms/AllItems.aspx?RootFolder=/sites/170185/Documents/PPGPL_Project_Phase-2A/26_CyberSecurity/06_OSS_Scan_Report_and_Approval&FolderCTID=0x0120000759E423B4836644B1439BAD6432B468&ShowWebPart=%7BC3B5FECF-FED0-4011-B929-E2F87B14448D%7D The Service agreement has been discussed with the C/LSR-IN and the Liability clause is already included in the Service agreement along with the Insurance coverage Limits. Confidentiality and NDA point was also discussed and confirmed by the Legal team in email Document Evidence from C/LSR-IN for NDA confidentiality:- https://sites.inside-share5.bosch.com/sites/170185/_layouts/15/DocIdRedir.aspx?ID=P15S170185-808998765-1056 | G | |
| 21 | x | x | | The specifications document (internal requirements) is complete and has been reviewed / confirmed. All functional, non-functional, performance requirements (internal and/or from customer) that are relevant for the product approval / the release or for the QG as well as their acceptance criteria are defined / fulfilled | Includes Functional, Non-Functional, Performance, Quality, Implicit, Explicit requirements Review records available QG0: Requirements are documented. QGR/QG4: Requirements are achieved | G | PM | Requirements are identified as User stories and necessary tagging is done in ADO (Functional, Non-Functional, Security, Legal, Data protection) Document Evidence : https://dev.azure.com/PPGPL-Bosch/Digital%20Twin/_sprints/taskboard/Digital%20Twin/Digital%20Twin/Phase%202a/Sprint%203 | G | |

| Q.No | SW-QGR | SW-QG4 | SW-QG5 | Measurement criteria | Status Requirement | Assessment Rating | Supplier of result | Measures / Actions | Delta QG4 (3 Assets) | Responsibility / Remarks |
|------|--------|--------|--------|--|---|-------------------|--------------------|---|----------------------|--------------------------|
| 22 | x | x | | Requirements in relation to product development code are known and have been taken into account. | <p>This measurement criterion can be marked as "NA" only with a valid justification.</p> <p>QG0: Initiate and plan review with BGSW -CAC team (Compliance Advisory Committee) by raising a request using outlook email request template (Email addressed to BGSW/CAC-Team <Bani_BGSW_CAC@bch.bosch.com>). Completed Product Development Code training by all members of the project</p> <p>QGR/QG4: CAC review completed. Recorded Mintues of the discussion available, clearly indicating compliance to RBGF182</p> <p>Legality and Bosch values; Developing functions for Cycle / Test Recognition is not permitted the warranted characteristics are met, human life is protected to the greatest possible extent; Optimization purely to the cycle is not permitted.</p> | G | PM | <p>RBGF 182 assessment for Digital Twin completed with PJ-CAC team and also the project PC-Checks was done and assesment was GREEN.The updated DSO documents will be updated and documented in the RBGF 182 checksheet and stored.</p> <p>Document Evidence on PC Check:-</p> <p>Copy of 2023-11-17_BGSW-GROW_PPGPL_PC-Check_2023).xlsx_xlsx -- Updated as on 8th Dec 2023_2023-12-08_05-22-37_Navalgund Padmini (BGSW QMM-PJ-CAC).msg</p> | G | |
| 23 | x | x | x | <p>Information security requirements are known and have been taken into account.</p> <p>All security-related requirements are tested and errors are eliminated</p> | <p>This measurement criterion can be marked as "NA" only with a valid justification. The below points are indicative w.r.t. product maturity, however, the specific activities to be completed at a particular QG level is determined on discussion with ProSO</p> <p>QG0: Security relevance assessments carried out, reviewed by the ProSO</p> <p>If Security is relevant*, 1. competent security manager to be identified 2. Initiate preparation of Customer Cyber Security Agreement (CCA) 3. Initiate preparation of Cyber Security Requirements Interface (CRI) must capture and document CS requirements from other domains like Safety, Data Protection 4. Initiate preparation of Supplier Agreements on Cyber Security (SAC) Document 5. Initiate preparation of Threat and Risk Analysis (including residual risks) and Security Concept to be prepared. 6. Initiate preparation of Security Impact analysis to be prepared [for projects based on platforms and previous versions] 7. Initiate preparation of State of the art for cyber security 8. Initiate preparation of Security Testing concept & Penetration testing to be planned. 9. Identify Security coding guideline and Static code analysis tool</p> | G | PM | <p>All Cyber security engineering process have been successfully completed.</p> <p>PROSO review, Sponsor Review and updates completed and all the relevant vulnerabilities are addressed from Test Version 1 Demo.</p> <p>PEN Test report https://sites.inside-share5.bosch.com/sites/170185/_layouts/15/DocIdRedir.aspx?ID=P15S170185-808998765-912</p> <p>PEN test again ongoing and the reports shall be reviewed and updates shall be made.</p> <p>PEN test report is available and team is closing on the issues after the network changes.</p> <p>QG4/QGR:</p> <p>Update 02.08.2024</p> <p>1. This is out of scope as per SOW2 2.The document is available in the Docupedia 3. Completed & Reviewed-No Open issues 4.Completed & Reviewed-No Open issues 5. Scan Dated 31 Jul 24 Completed & Reviewed-No Open issues 6. Penetration Test Report Dated 02 Aug 24(Penetration testing issues are closed) 7. Identified team to take up the responsibilities of managing cyber security posture during "Operations" Yes</p> | G | |
| 24 | x | x | | Data Protection requirements are known and have been taken into account. | <p>This measurement criterion can be marked as "NA" only with a valid justification. The below points are indicative w.r.t. product maturity, however, the specific activities to be completed at a particular QG level is determined on discussion with BGSW/DSO</p> <p>QG0: • Data Protection (DP) relevance assessments carried out, reviewed by DSO respectively and approved by Sponsor. - If data protection is relevant, Data security partner in engineering (DSPIE)to be identified. • Filled DP checklist is reviewed with DSO and approved by Sponsor. • Budget and Resource Plan for DP Activities • Team should be aware of country specific data protection laws (xx - Training reference in TrainM: ISP002-xx (xx is country short code)</p> <p>C/LSR-IN team is 'Informed' if any data is collected and if any data protection obligations apply.</p> <p>QGR: - DP checklist is updated (for SW products - till QG3), reviewed by BGSW/DSO and approved by Sponsor</p> <p>QG4: • DP checklist is updated, reviewed by BGSW/DSO and approved by Sponsor</p> <p>DD02500 Information Security and Privacy</p> | G | PM | <p>There are no DP requirement in T&T region. As per DSP/IN . However risk assessment have been made and found risk is low in T&T Region.</p> <p>Document Evidence for DPA</p> <p>https://sites.inside-share5.bosch.com/sites/170185/Documents/Forms/AllItems.aspx?RootFolder=/sites/170185/Documents/PPGPL_MVP/25_DPA&FolderCTID=0x0120000759E423B4836644B1439BAD6432B468&ShowWebPart=%7BC3B5FECF-FED0-4011-B929-E2F87B14448D%7D</p> <p>Update 02.08.2024</p> <p>Specific checks for T&T region is done and the feedback is available from the T&T region, DPN will be updated based on the suggestion from external counsel after the customer feedback is shared.</p> <p>Link for the Document :- https://sites.inside-share5.bosch.com/sites/170185/Documents/Forms/AllItems.aspx?RootFolder=/sites/170185/Documents/PPGPL_MVP/25_DPA&FolderCTID=0x0120000759E423B4836644B1439BAD6432B468&ShowWebPart=%7BC3B5FECF-FED0-4011-B929-E2F87B14448D%7D</p> | G | |
| 25 | | x | x | The traceability of the product is defined / secured. | Engineering Traceability is defined, maintained and complete | G | Engineering | <p>All the requirements are traced in ADO and the same is available in tool.</p> <p>Document evidence for Traceability:- https://sites.inside-share5.bosch.com/sites/170185/_layouts/15/DocIdRedir.aspx?ID=P15S170185-808998765-1061</p> | G | |
| 26 | | x | | Service, maintenance and diagnostics concepts have been drawn up. SW support required subsequent to approval and regulated as necessary. | <p>QG0: If AMC is being provided, then, AMC terms are covered as part of master agreement or separate agreement. Concept for service and maintenance (for the developed product) is available, updated and confirmed. Plan for product training is available. Plan for creation of User, Project, Service manual is available</p> <p>QG4: Concept is implemented / introduced. Customer support team for service and maintenance is set up, as required. Approved product training material and Necessary infrastructure in place. Manuals created, approved and released</p> <p>Service manual / User manual</p> | NA | Engineering | No AMC as on today | NA | |
| 27 | x | x | | Patent search complete and evaluated: Is the product free from third party property rights? Are internal inventions registered for industrial property rights? | <p>QG0: Patent search initiated and request for FTO submitted to BGSW/EIP team. Discussion with EIP for checking possibility of filing invention reports. Necessary invention reports submitted to BGSW/EIP post evaluation by Dept. IP Coordinator</p> <p>QGR/QG4: Freedom to operate (FTO) document from BGSW/EIP available. Necessary patents are filed.</p> | G | Engineering | <p>FTO Discussion has been started with FTO team and concluded.</p> <p>FTO Document Evidence</p> <p>https://sites.inside-share5.bosch.com/sites/170185/_layouts/15/DocIdRedir.aspx?ID=P15S170185-808998765-981</p> | G | |
| 28 | x | x | | BES-PE maturity is verified | <p>Moderated BES-PE assessment checklist is used for evaluation which is moderated by BES-PE expert or coach or architect (who has undergone necessary trainings). The rating of the same should be taken towards this point</p> <p>The level of implementation required for the "basic PE requirement" has been achieved, recognized gaps have been assessed in terms of risks. Risk assessment, Measures have been defined.</p> | G | Engineering | <p>BES-PE discussion completed and points discussed and the sheet is attached and verified by Moderator, Email is shared to the Moderator.</p> <p>Evidence Document : Email to Moderator</p> <p>https://sites.inside-share5.bosch.com/sites/170185/Documents/Forms/AllItems.aspx?RootFolder=/sites/170185/Documents/PPGPL_Project_Phase-2A/12_Quality_Gates/03_QG4/Documents_Evidence_OPL_Closure/QG_30/FAM%20Documents&FolderCTID=0x0120000759E423B4836644B1439BAD6432B468&ShowWebPart=%7BC3B5FECF-FED0-4011-B929-E2F87B14448D%7D</p> | G | |

| Q.No | SW-QGR | SW-QG4 | SW-QG5 | Measurement criteria | Status Requirement | Assessment Rating | Supplier of result | Measures / Actions | Delta QG4 (3 Assets) | Responsibility / Remarks |
|------|--------|--------|--------|---|--|-------------------|--------------------|--|----------------------|--------------------------|
| 29 | x | x | | Product architecture and design available and applicable rules are adhered to. The interaction of the components is analyzed and assured. The critical computer resources are identified, measured, tracked and are in control | System architecture / design, HW and Mech design is available, reviewed and baselined. Review reports available. In case of any changes in the design updated The effective relationships between the components (mechanism, HW, SW) have been analyzed and taken into account in development. QG4: Changes are incorporated Interfaces of product to external environment or connected products is established and proven | G | Engineering / PM | SW architecture review done by Microsoft team before on boarding to their market place. Later review was done on Review board along with Jeson and PPGPL Architect. Coding - Python for Backend ; JAVA script and TYPE script used. Resources maintained via azure consumption dashboards Rules applied . SW architecture and detailed design . Coding-Review checklist . Re-use is plannedis done for all 3 assets . Critical computer resources run CodeReviewDocumentationEvidences.docx HLD PPGPL.docx Document Evidence for HLD document:- https://inside-share-hosted-apps.bosch.com/DMS/GetDocumentService/Document.svc/GetDocumentURL?documentID=P15S170185-808998765-835 | G | |
| 30 | x | x | | FAA/ATAM/FMEA is in place, up-to-date and confirmed. | SW as a Product (Non-embedded): QG0: Plan for FAA/ATAM. FAA/ATAM Moderator is identified. Product requirements, Software architecture are available. QGR: FAA/ATAM is updated for current SW release. QG4: FAA/ATAM is completed and current version is approved. All measures are verified. FAA/ATAM final approved version is stored in Project Configuration management tool All versions of FAA/ATAM is approved by PM, MLM, Key Account QA Head. SW as a Component: QG0: Plan for FMEA. FMEA contracting document filled and signed/approved by respective PM and Moderator. Structure is created in IQRM tool. SW QGR corresponding to System QG1: Function and Failure net is created. Measures with responsibility and due date are identified. The first version with a signed coversheet is available SW QGR corresponding to System QG2: All measures are completed and finalized. Open measures due to customer specific items may be open. SW QGR corresponding to System QG3: FMEA is up to date SW QGR corresponding to System QG4 or Platform QGP2: FMEA is completed and current version is signed. All measures are verified. FMEA is stored in Configuration management tool.(Final QGR/QG4: applicable coding standards and code analysis tools identified and used. Code review done, issues closed and records available. Static code analysis report should be available with all the critical warnings identified and resolved. In case of any critical warnings not resolved, then approval by Architect for go ahead is available | G | Engineering | FAM is reviewed and aligned with the Moderator. Final review is done and Approval received on the Work On Document Evidence Work-ON:-7617872 https://sites.inside-share5.bosch.com/sites/170185/_layouts/15/DocIdRedir.aspx?ID=P15S170185-808998765-1103 | G | |
| 31 | x | x | | Applicable coding standards are followed and code reviewed. Static Code Analysis report available and all critical warnings resolved. | | G | PM | SonarQube is used for Static code analysis. Code reviews are done in GIT Hub, Python Coding standard are used. Target :- SonarQube Quality Gate:Metrics: Code coverage <input type="checkbox"/> >85% Bugs <input type="checkbox"/> 0 Security vulnerabilities <input type="checkbox"/> 0 Code Smell <input type="checkbox"/> 0 Duplication of Codes <input type="checkbox"/> 0% SonarQube Report: https://sites.inside-share5.bosch.com/sites/170185/_layouts/15/DocIdRedir.aspx?ID=P15S170185-808998765-831 Code Review: https://sites.inside-share5.bosch.com/sites/170185/_layouts/15/DocIdRedir.aspx?ID=P15S170185-808998765-833 Link for the Document : https://sites.inside-share5.bosch.com/sites/170185/Documents/Forms/AllItems.aspx?RootFolder=%2FSites%2F170185%2FDocuments%2FPFPGPL%5FMVP%2F12%5FQuality%5FGates%2F05%5FQG4%5FDelta%2F02%5FSonar%5FQube%5F | G | |
| 32 | x | x | | The quality of re-used software has been examined and adapted as necessary. | QG0: Define which software is to be re-used and which open points are known. QGR/QG4: The elimination of open points is defined and re-used software will be modified as necessary | G | PM | Software was re used after initial MVP. Templates are used for Solution Eco System team and fine tuned. Artifacts received from SES - All Documents (bosch.com) | G | |
| 33 | x | x | | It is verifiably known whether the product contains Open Source software, including externally supplied software, and what software is involved. The licensing conditions for all Open Source and proprietary software components are adhered to. | QG0: Decision wrt usage of OSS components is available. Plan wrt frequency of OSS check aligned with development milestones, cost assignment for OSS support, agreement with OSS scan team for the required support, etc., are available. In case of usage of externally supplied software, terms and conditions wrt OSS handling has to be contractually agreed QGR: SW scan completed. OSS scan report is available (output of Blackduck tool) giving a list of OSS components. OSS components are used in the intended way (eg. no usage of GPL, handling of license text, etc). OSS Disclosure document is accompanied along with release. QG4: Scan must have been performed. Approval from OSS officer is obtained. OSS Disclosure document is accompanied along with release. | G | PM | OSS Scan is done and report is released . The Release for Gas turbine is the scope of delivery Evidence for OSS Report and Approval:- https://sites.inside-share5.bosch.com/sites/170185/Documents/Forms/AllItems.aspx?RootFolder=/sites/170185/Documents/PPGPL_Project_Phase-2A/26_CyberSecurity/06_OSS_Scan_Report_and_Approval&FolderCTID=0x0120000759E423B4836644B1439BAD6432B468&ShowWebPart=%7BC3B5FECF-FED0-4011-B929-E2F87B14448D%7D Update 02.08.2024 OSS Delta is completed and the reults and the feedback awaited from OSS team Link of the Document : https://sites.inside-share5.bosch.com/sites/170185/Documents/Forms/AllItems.aspx?RootFolder=%2FSites%2F170185%2FDocuments%2FPFPGPL%5FMVP%2F12%5FQuality%5FGates%2F05%5FQG4%5FDelta%2F04%5FOSS%5FDelta%5F | G | |
| 34 | x | x | | Are different levels of tests completed as planned? The agreed and defined test strategy is implemented and the results are found to be okay. Errors / open items / "known issues" have been evaluated and dealt with. | QG0: Tests are planned (as agreed in contract) QGR/QG4: (i) Test specifications are available for various tests as planned. Various levels of tests are implemented as per plan. Test defects are closed. Test reports are available (ii) In case of Software Update management (Over-the-Air), Results for OTA updated S/w test on-field should be available (Acknowledgement from OEM during on-field test) All errors or open items are closed. If no, then are the known issues communicated with the customer and agreed with customer. | G | PM | Test plan for SEP related activities are done and executed. Refer ADO for documentation Test plan related to ISO standards used in projects are executed and Links are shared in the ADO for tracability Evidence for ISO tags in ADO. https://sites.inside-share5.bosch.com/sites/170185/_layouts/15/DocIdRedir.aspx?ID=P15S170185-808998765-1061 Test caess related to AI and ML modelling are exeucted and available in ADO. | G | |

| Q.No | SW-QGR | SW-QG4 | SW-QG5 | Measurement criteria | Status Requirement | Assessment Rating | Supplier of result | Measures / Actions | Delta QG4 (3 Assets) | Responsibility / Remarks |
|------|--------|--------|--------|--|--|-------------------|--------------------|---|----------------------|--------------------------|
| 36 | x | x | x | Change management is agreed with the customer and supplier and is adhered to The requirements are checked for changes, any impact is taken into account and communicated within the supply chain. | Change management agreed with the customer and is adhered to Impact analysis due to changed requirements is considered, like effects on planning (deadlines, resources) and target achievement forecast | G | Purchasing / Sales | CR is maintained and all changes respect to project is documented in CR Log. CR#2 is updated and in progress to go live based on customer CAB-2 approval <u>Update 02.08.2024</u> <u>CR Log : for Evidence</u> https://sites.inside-share5.bosch.com/sites/170185/_layouts/15/DocIdRedir.aspx?ID=P15S170185-808998765-791 | G | |
| 37 | x | x | | Complaints management planned and secured. SW support required subsequent to approval and regulated as necessary. | Applicable only for SW Product Complaint management process (A mechanism for receiving, handling and resolution of customer complaints) is established Infrastructure is ready depending on the project/product (in case of 3rd party vendor managing complaints and claims ensure everything is ready) | G | Engineering | Email will be sent to dedicated Email id to handle customer complaint. Support.DigalTwinIAPM@in.bosch.com Document evidence : User Manual https://sites.inside-share5.bosch.com/sites/170185/_layouts/15/DocIdRedir.aspx?ID=P15S170185-808998765-894 | G | |
| 38 | x | x | x | Any other topics which might affect the project but not discussed above | Discuss missed out topics, if any | NA | All stakeholders | No Topics to discuss further | | |

| QG Approval Form | | | | | <div></div> <div>Click on "PDF" icon to generate PDF</div> |
|------------------|--------------------|--------|--------------------|-------------------|---|
| Project ID_Name | Delta QG4_11670_1 | | QG ID | Delta QG4_11670_1 | |
| Project Manager | Ashok S Mallya | | QG Moderation Date | 02-Aug-24 | |
| QG Rating | G | | | | |
| Q. No. | Assessment Remarks | Rating | Measures / Actions | Responsibility | Due Date (dd-mmm-yy) |
| | | | | | |

| Major Risks resulting from Deviations |
|---------------------------------------|
| |
| |
| |
| |

| Focus area | Red | Yellow | Green | Overall Rating |
|---|-----|--------|-------|----------------|
| Project Management (PM) | 0 | 0 | 8 | G |
| On Budget (OB) | 0 | 0 | 2 | G |
| On Time (OT) | 0 | 0 | 1 | G |
| On Spec: Purchasing (OS-P) | 0 | 0 | 0 | |
| On Spec: Compliance / Risk (OS-R) | 0 | 0 | 9 | G |
| On Spec: Specification (OS-S) | 0 | 0 | 4 | G |
| On Spec: Verification / Validation (OS-V) | 0 | 0 | 4 | G |

| | | |
|----------|-------------------------------------|------|
| % Green | % of measurement criteria rated "G" | 100% |
| % Yellow | % of measurement criteria rated "Y" | 0% |
| % Red | % of measurement criteria rated "R" | 0% |