

Assessment Report

Organization: **Sample Motors**

Onsite date of assessment: **2026-09-14 to 2026-09-18**

Project: **BCU-200 Brake Control Unit**

Table of Contents

1. Assessment Plan	2
1.1. About the organization	2
1.2. Assessment team	2
1.3. Assessment scope	2
1.4. Participants	2
2. Result Summary	4
2.1. Overall ratings	4
3. Detailed Results	5
3.1. ACQ.4 — Supplier Monitoring	5
3.2. MAN.3 — Project Management	7
3.3. SUP.1 — Quality Assurance	9
3.4. SUP.8 — Configuration Management	11
3.5. SUP.9 — Problem Resolution Management	13
3.6. SUP.10 — Change Request Management	15
3.7. SWE.1 — Software Requirements Analysis	17
3.8. SWE.2 — Software Architectural Design	19
3.9. SWE.3 — Software Detailed Design and Unit Construction	21
3.10. SWE.4 — Software Unit Verification	23
3.11. SWE.5 — Software Component Verification and Integration Verification	25
3.12. SWE.6 — Software Verification	27
3.13. SYS.2 — System Requirements Analysis	29
3.14. SYS.3 — System Architectural Design	31
3.15. SYS.4 — System Integration and Integration Verification	33
3.16. SYS.5 — System Verification	35
3.17. Total List of Evidence	37
4. Rating Rule Check Summary	39
5. Final Remark	47
Copyright Notice	48

1. Assessment Plan

1.1. About the organization

Organization: Sample Motors

Project: BCU-200 Brake Control Unit

Purpose: Determine whether the VDA Scope processes of the BCU-200 series development project achieve Capability Level 2 before the customer SOP.

Sponsor: Yoon Taeho (Head of Chassis Electronics)

1.2. Assessment team

- Lee SeungJu — INTACS Certified Lead Assessor, Principal Lead Assessor, INTACS#: INTACS-2019-0471 (SPID Co., Ltd.)
- Park Jihoon — Co-Assessor, Competent Lead Assessor, INTACS#: INTACS-2022-1188 (SPID Co., Ltd.)

1.3. Assessment scope

ID	Process Name	Target CL
ACQ.4	Supplier Monitoring	2
MAN.3	Project Management	2
SUP.1	Quality Assurance	2
SUP.8	Configuration Management	2
SUP.9	Problem Resolution Management	2
SUP.10	Change Request Management	2
SWE.1	Software Requirements Analysis	2
SWE.2	Software Architectural Design	2
SWE.3	Software Detailed Design and Unit Construction	2
SWE.4	Software Unit Verification	2
SWE.5	Software Component Verification and Integration Verification	2
SWE.6	Software Verification	2
SYS.2	System Requirements Analysis	2
SYS.3	System Architectural Design	2
SYS.4	System Integration and Integration Verification	2
SYS.5	System Verification	2

Rating scale applied: refined, 6 levels (N · P- · P+ · L- · L+ · F) — ASPICE PAM Table 19

1.4. Participants

- [sponsor] Yoon Taeho — Head of Chassis Electronics (Sample Motors)
- [coordinator] Kim Doyoon — Project Manager (Sample Motors)
- [interviewee] Oh Sejin — System Engineering Lead (Sample Motors)
- [interviewee] Bae Hyunwoo — Software Lead (Sample Motors)
- [interviewee] Shin Yerin — Software Architect (Sample Motors)
- [interviewee] Lim Jaehyuk — Software Test Lead (Sample Motors)
- [interviewee] Hwang Jiyeon — System Test Engineer (Sample Motors)
- [interviewee] Choi Nayoung — Quality Assurance Engineer (Sample Motors)

- [interviewee] Kwon Dahye — Configuration Manager (Sample Motors)
- [interviewee] Moon Seokjin — Supplier Quality Manager (Sample Motors)

2. Result Summary

2.1. Overall ratings

ID	Process Name	PA1.1	PA2.1	PA2.2	CL
ACQ.4	Supplier Monitoring	P+	P+	P+	0
MAN.3	Project Management	L+	P+	L+	1
SUP.1	Quality Assurance	L+	L+	L+	1
SUP.8	Configuration Management	F	L+	F	2
SUP.9	Problem Resolution Management	F	L+	L+	2
SUP.10	Change Request Management	F	L+	L+	2
SWE.1	Software Requirements Analysis	F	L+	L+	2
SWE.2	Software Architectural Design	F	L+	L+	2
SWE.3	Software Detailed Design and Unit Construction	F	F	L+	2
SWE.4	Software Unit Verification	F	L+	L+	2
SWE.5	Software Component Verification and Integration Verification	L-	P+	L+	1
SWE.6	Software Verification	F	L+	L+	2
SYS.2	System Requirements Analysis	F	L+	F	2
SYS.3	System Architectural Design	F	L+	P+	1
SYS.4	System Integration and Integration Verification	L+	P+	P+	1
SYS.5	System Verification	F	L+	P+	1

3. Detailed Results

3.1. ACQ.4 — Supplier Monitoring

Interviewees:

Moon Seokjin (Supplier Quality Manager), Kim Doyoon (Project Manager), Bae Hyunwoo (Software Lead)

Rating overview:

PA 1.1 — Process performance					Final: P+
BP1	BP2	BP3	BP4	BP5	
P+	P-	L-	L+	P+	

PA 2.1 — Performance management						Final: P+
GP2.1.1	GP2.1.2	GP2.1.3	GP2.1.4	GP2.1.5	GP2.1.6	
P+	P+	P+	P+	P-	P+	

PA 2.2 — Work product management				Final: P+
GP2.2.1	GP2.2.2	GP2.2.3	GP2.2.4	
P+	L-	L-	P-	

Level 1 — Process performance (PA 1.1)

Strength

[ACQ.4.BP4] Supplier progress reviewed against milestones every month: Every monthly report compares planned and actual milestones, and the comparison is reviewed in the supplier meeting and minuted.

Weakness

[ACQ.4.BP1] Joint interfaces with the supplier not agreed: The agreement defines deliverables and dates only. Joint review activities, the defect data to be exchanged and the format of interim deliveries are not agreed, and the annex meant to define them was never issued.

[ACQ.4.BP2] Agreed information not exchanged: Because the information to be exchanged was never agreed (BP1), defect lists and test results of interim deliveries are not exchanged as a rule; the last two drops arrived without test reports.

[ACQ.4.BP3] Supplier work products reviewed only at final delivery: Joint reviews of supplier work products take place at the final delivery only; the software requirements and the design of the sensor driver were not reviewed with the supplier.

[ACQ.4.BP4] Progress reviews do not cover quality indicators: The monthly reviews compare milestones only; defect trends and test progress of the supplier software are not covered.

[ACQ.4.BP5] Deviations not tracked to closure: Deviations raised in the supplier meeting are minuted but not recorded as actions with an owner and a due date; two delays raised in May were raised again in July.

Observation

None

Improvement Opportunity

None

Level 2 — Process management

PA 2.1 — Performance management

Strength

None

Weakness

[GP2.1.1, GP2.1.2] No objectives or plan for supplier monitoring: There are no monitoring objectives such as which deliveries are reviewed and what the acceptance criteria are, and monitoring activities beyond the monthly meeting - including reviews of supplier work products - are not part of any plan. This strategy is not suitable for achieving the process outcomes.

[GP2.1.3, GP2.1.4] Resources for supplier monitoring not determined: The effort and the people needed to monitor the supplier are not determined. The project manager does it alongside other work, and nobody is assigned to review supplier test results.

[GP2.1.5] Performance of supplier monitoring not checked or adjusted: With activities and resources undefined, nobody checks whether the monthly reviews and the information exchange take place. Missing test reports were not followed up, and the monitoring approach was not adjusted after the delays in May.

[GP2.1.6] Interfaces between purchasing, project and supplier undefined: Purchasing, the project and the supplier contact each other directly, and responsibility for communicating with the supplier is not defined. One change of delivery date was agreed by purchasing without informing the project.

Observation

None

Improvement Opportunity

None

PA 2.2 — Work product management**Strength**

None

Weakness

[GP2.2.1, GP2.2.4] No requirements or review for monitoring work products: What the supplier meeting minutes and the deviation records must contain is not defined, and with no criteria these work products are not reviewed. The June minutes omit the decisions taken.

[GP2.2.2, GP2.2.3] Supplier records partly outside controlled storage: The project handbook defines where supplier reports and minutes are stored but not who may change them; interim delivery notes were found in personal mailboxes rather than on the project drive.

Observation

None

Improvement Opportunity

None

3.2. MAN.3 — Project Management

Interviewees:

Kim Doyoon (Project Manager)

Rating overview:

PA 1.1 — Process performance Final: L+									
BP1	BP2	BP3	BP4	BP5	BP6	BP7	BP8	BP9	BP10
F	F	L+	P+	L-	F	F	L-	F	F

PA 2.1 — Performance management Final: P+					
GP2.1.1	GP2.1.2	GP2.1.3	GP2.1.4	GP2.1.5	GP2.1.6
L-	P+	P+	P+	P+	L-

PA 2.2 — Work product management Final: L+			
GP2.2.1	GP2.2.2	GP2.2.3	GP2.2.4
F	F	F	L-

Level 1 — Process performance (PA 1.1)

Strength

[MAN.3.BP1] Scope of work kept consistent across three documents: The project plan, the customer statement of work and the system requirements together define the scope; the plan references both, and the three were consistent at the last gate.

[MAN.3.BP10] Progress reported weekly to the steering committee: Weekly status reports cover milestones, top risks and open issues, and record the decisions taken.

Weakness

[MAN.3.BP3] Feasibility not re-evaluated at the B-sample gate: Feasibility was evaluated at project start. At the B-sample gate, where the hardware changed, feasibility with respect to schedule and resources was not evaluated again.

[MAN.3.BP4] Work packages lack dates and effort: About 40% of the 146 work packages, mainly software and test, have no planned start and end dates or planned effort, and actual effort is booked at project level only. Dependencies between packages are not identified, so progress of these packages cannot be measured.

[MAN.3.BP5] Basis of estimates not recorded: Estimates are made by expert judgment, which is appropriate for a project of this size, but the assumptions and reference projects are not recorded, so the estimates for the software packages cannot be traced to their basis.

[MAN.3.BP8] Baseline and actual dates not compared in writing: The schedule is updated weekly and milestone baselines are kept, but baseline and actual dates are not compared in writing; slips are explained verbally in the weekly meeting.

Observation

None

Improvement Opportunity

None

Level 2 — Process management

PA 2.1 — Performance management

Strength

None

Weakness

[GP2.1.1] Objectives of project management not stated: Objectives for project management

such as schedule adherence and reporting cycle are not written down; the objectives the project manager described in the interview are applied consistently.

[GP2.1.2, GP2.1.5] Project management activities not planned or monitored: The plan covers the release milestones only. Project management activities themselves - plan updates, plan reviews, estimate revisions - and the review of their work products are not planned, and with the plan incomplete their execution is not monitored or adjusted.

[GP2.1.3, GP2.1.4] Resources for project management limited to people: Resource needs for project management name only the project manager; planning tool licences, steering committee time and a deputy for the project manager are neither determined nor provided.

[GP2.1.6] Interface to the system team agreed verbally: Responsibilities between project management and the system team for schedule input are agreed verbally and not recorded.

Observation

None

Improvement Opportunity

None

PA 2.2 — Work product management

Strength

[GP2.2.3] Project plan under configuration control: The project plan and the schedule are versioned in the PLM system, and every change creates a new version.

Weakness

[GP2.2.4] Plan reviews not recorded formally: The project plan is reviewed at each gate and changes are agreed in the meeting, but no review record is kept; the agreed changes can only be seen in the plan revision history.

Observation

None

Improvement Opportunity

None

3.3. SUP.1 — Quality Assurance

Interviewees:

Choi Nayoung (Quality Assurance Engineer)

Rating overview:

PA 1.1 — Process performance Final: L+						
BP1	BP2	BP3	BP4	BP5	BP6	BP7
F	F	P+	F	L+	F	F

PA 2.1 — Performance management Final: L+					
GP2.1.1	GP2.1.2	GP2.1.3	GP2.1.4	GP2.1.5	GP2.1.6
F	F	L+	F	F	L-

PA 2.2 — Work product management Final: L+			
GP2.2.1	GP2.2.2	GP2.2.3	GP2.2.4
L-	F	F	F

Level 1 — Process performance (PA 1.1)

Strength

[SUP.1.BP1] QA independent of the project line: The QA engineer reports to the head of the quality department; the QA charter and the organisation chart confirm it.

[SUP.1.BP4, SUP.1.BP6] Monthly process audits with verified closure: Process audits are performed monthly against the QA plan, and all 11 non-conformances from the last quarter were closed with evidence of verification.

Weakness

[SUP.1.BP3] Work-product QA checks existence, not content: For test specifications and source code, the QA checklists confirm only that the work product exists and was reviewed; the content is not checked against criteria. The QA records of the last two releases show "present" as the only result.

[SUP.1.BP5] QA results not reported to the steering committee: Monthly QA reports go to the project, but QA results do not reach the steering committee, where release decisions are taken.

Observation

None

Improvement Opportunity

None

Level 2 — Process management

PA 2.1 — Performance management

Strength

[GP2.1.5] QA performance tracked against targets: The QA plan sets targets for audit coverage and non-conformance closure time, and the monthly report tracks actuals against them.

Weakness

[GP2.1.3] Basis for QA effort not recorded: The QA plan allocates a fixed 0.5 FTE; how this was derived from the number of work products and releases is not recorded.

[GP2.1.6] Hand-over of QA findings not defined: Who receives a QA finding on a work product and by when it must be answered is not defined; findings are passed on by e-mail case by case.

Observation

None

Improvement Opportunity*None***PA 2.2 — Work product management****Strength***None***Weakness**

[GP2.2.1] Content of QA reports not defined: The QA plan does not define what a QA report must contain, and the structure of the reports differs from month to month.

Observation*None***Improvement Opportunity***None*

3.4. SUP.8 — Configuration Management

Interviewees:

Kwon Dahye (Configuration Manager)

Rating overview:

PA 1.1 — Process performance Final: F							
BP1	BP2	BP3	BP4	BP5	BP6	BP7	BP8
F	L+	F	F	F	L+	F	F

PA 2.1 — Performance management Final: L+					
GP2.1.1	GP2.1.2	GP2.1.3	GP2.1.4	GP2.1.5	GP2.1.6
F	F	F	F	L+	L-

PA 2.2 — Work product management Final: F			
GP2.2.1	GP2.2.2	GP2.2.3	GP2.2.4
F	L+	F	F

Level 1 — Process performance (PA 1.1)

Strength

[SUP.8.BP1, SUP.8.BP5] Complete baselines including calibration data and tools: Release baselines cover requirements, models, source, calibration data and tool versions, and a baseline audit confirms completeness before each release.

[SUP.8.BP8] Backup restore tested every quarter: A restore test of the repository backup is performed every quarter and the result is reported.

Weakness

[SUP.8.BP2] Status attribute not used for test specifications: Item properties are defined and used for source code and models; for test specifications the status attribute is defined but not used, so their review state is not visible in the tool.

[SUP.8.BP6] Configuration status shared in meetings only: Configuration status is presented in the weekly project meeting, but no status report is issued; what was reported can be reconstructed only from the meeting minutes.

Observation

None

Improvement Opportunity

None

Level 2 — Process management

PA 2.1 — Performance management

Strength

None

Weakness

[GP2.1.5] Timeliness of baseline audits not checked: The CM plan schedules a baseline audit at each release gate, but whether each audit took place on time is not checked; one audit was held a week after the gate.

[GP2.1.6] No CM intake path for supplier deliveries: How software delivered by the sensor software supplier enters configuration management, and who checks it, is not defined; the last two drops were added by the integrator ad hoc.

Observation

None

Improvement Opportunity

None

PA 2.2 — Work product management

Strength

None

Weakness

[GP2.2.2] Retention period for CM records not defined: The CM plan defines versioning, storage and access for configuration items, but not how long baseline records and audit reports are kept.

Observation

None

Improvement Opportunity

None

3.5. SUP.9 — Problem Resolution Management

Interviewees:

Lim Jaehyuk (Software Test Lead), Kwon Dahye (Configuration Manager)

Rating overview:

PA 1.1 — Process performance Final: F						
BP1	BP2	BP3	BP4	BP5	BP6	BP7
F	L+	F	F	F	L+	F

PA 2.1 — Performance management Final: L+					
GP2.1.1	GP2.1.2	GP2.1.3	GP2.1.4	GP2.1.5	GP2.1.6
F	F	L-	F	F	L+

PA 2.2 — Work product management Final: L+			
GP2.2.1	GP2.2.2	GP2.2.3	GP2.2.4
F	F	F	L-

Level 1 — Process performance (PA 1.1)

Strength

[SUP.9.BP3] Emergency resolution path defined in advance: The procedure defines who may authorise an urgent fix (software lead and QA engineer together); the path has not been needed in this project.

[SUP.9.BP7] Weekly problem status report with trends: A problem status report with trends is produced weekly and sent to the project manager and the system lead.

Weakness

[SUP.9.BP2] Cause analysis missing for low-severity problems: Root cause and impact are recorded for severity 1 and 2 problems; for severity 3 problems the cause field is empty in most records.

[SUP.9.BP6] Re-test result missing from closure records: Closure requires a verification note. In 9 of 30 sampled problems the re-test was performed (confirmed in the test logs) but the problem record names only the build, not the result.

Observation

None

Improvement Opportunity

None

Level 2 — Process management

PA 2.1 — Performance management

Strength

[GP2.1.5] Problem backlog monitored and adjusted weekly: The number and age of open problems are reviewed in the weekly meeting, and delayed problems are given a new owner and date, recorded in the tracker.

Weakness

[GP2.1.3] Effort for problem resolution not determined: The effort for problem resolution is not determined separately from feature work; in the last release the two competed and the backlog of severity 3 problems grew.

[GP2.1.6] Hand-over of problems to the supplier informal: Problems found in the supplier software are forwarded by the project manager by e-mail; there is no agreement on hand-over and response time.

Observation

None

Improvement Opportunity

None

PA 2.2 — Work product management

Strength

None

Weakness

[GP2.2.4] Check of problem records limited to severity and owner: Problem records are checked in the weekly triage, but the check covers severity and owner only; completeness of the description is not checked.

Observation

None

Improvement Opportunity

None

3.6. SUP.10 — Change Request Management

Interviewees:

Kim Doyoon (Project Manager), Kwon Dahye (Configuration Manager)

Rating overview:

PA 1.1 — Process performance						Final: F
BP1	BP2	BP3	BP4	BP5	BP6	
F	L+	F	F	F	F	

PA 2.1 — Performance management						Final: L+
GP2.1.1	GP2.1.2	GP2.1.3	GP2.1.4	GP2.1.5	GP2.1.6	
F	F	F	F	L-	L+	

PA 2.2 — Work product management				Final: L+
GP2.2.1	GP2.2.2	GP2.2.3	GP2.2.4	
L-	F	F	F	

Level 1 — Process performance (PA 1.1)

Strength

[SUP.10.BP3] Change control board with defined approval criteria: A board with all relevant disciplines - and the customer representative for customer-visible changes - approves changes against defined criteria.

[SUP.10.BP4, SUP.10.BP6] Change requests traced to work products and closed with the initiator: Each change request is linked to the affected requirements and the baseline, and closure is approved by the board including the initiator.

Weakness

[SUP.10.BP2] Side effects not covered in change analysis: Impact analysis covers effort, schedule and affected work products, but the template has no field for side effects on other functions; 4 of 15 sampled analyses do not address them.

Observation

None

Improvement Opportunity

None

Level 2 — Process management

PA 2.1 — Performance management

Strength

None

Weakness

[GP2.1.5] Lead time of change requests not measured: The lead time of change requests is not measured, so the board does not see how long requests wait for analysis.

[GP2.1.6] Customer change requests arrive through two channels: Customer change requests arrive by e-mail and in meetings, and no rule says how a request from either channel is registered in the same way.

Observation

None

Improvement Opportunity

None

PA 2.2 — Work product management

Strength

None

Weakness

[GP2.2.1] Required content of an impact analysis not defined: The procedure lists the fields of a change request but not what an impact analysis must contain to be sufficient; the depth of analysis varies by author.

Observation

None

Improvement Opportunity

None

3.7. SWE.1 — Software Requirements Analysis

Interviewees:

Bae Hyunwoo (Software Lead), Shin Yerin (Software Architect)

Rating overview:

PA 1.1 — Process performance Final: F					
BP1	BP2	BP3	BP4	BP5	BP6
F	L+	F	F	L+	F

PA 2.1 — Performance management Final: L+					
GP2.1.1	GP2.1.2	GP2.1.3	GP2.1.4	GP2.1.5	GP2.1.6
F	L+	F	F	L-	F

PA 2.2 — Work product management Final: L+			
GP2.2.1	GP2.2.2	GP2.2.3	GP2.2.4
F	F	F	L-

Level 1 — Process performance (PA 1.1)

Strength

[SWE.1.BP1] Software requirements consistently derived from system requirements: All 40 sampled software requirements are derived from a system requirement and recorded in the requirements tool.

[SWE.1.BP3] Analysis results kept as tool attributes: Feasibility, effort estimate and verification criteria are recorded per requirement as tool attributes, so the analysis can be confirmed without a separate report.

Weakness

[SWE.1.BP2] Release attribute missing for newer requirements: Requirements are structured by component and release, but those added after R2.0 have no release attribute.

[SWE.1.BP5] Links lost when parent requirements are revised: Traceability is maintained in the tool and consistency is confirmed through peer review comments, but 3 of 40 sampled links were lost when the parent requirements were revised.

Observation

None

Improvement Opportunity

None

Level 2 — Process management

PA 2.1 — Performance management

Strength

None

Weakness

[GP2.1.2] Requirement reviews not scheduled in the release plan: Requirements analysis is planned, but the reviews are not part of the release plan, so their timing is negotiated each time.

[GP2.1.5] Overdue review comments not followed up: The number of open review comments is visible, but no action is taken on comments past their due date.

Observation

None

Improvement Opportunity

None

PA 2.2 — Work product management

Strength

[GP2.2.3] Requirements baselined in the tool: Requirements are baselined per release in the tool, and the change history is kept per item.

Weakness

[GP2.2.4] Resolution of review comments not confirmed by the reviewer: Review comments are resolved in the tool, but the resolution is not confirmed by the reviewer.

Observation

None

Improvement Opportunity

None

3.8. SWE.2 — Software Architectural Design

Interviewees:

Shin Yerin (Software Architect)

Rating overview:

PA 1.1 — Process performance					Final: F
BP1	BP2	BP3	BP4	BP5	
F	L+	F	F	F	

PA 2.1 — Performance management						Final: L+
GP2.1.1	GP2.1.2	GP2.1.3	GP2.1.4	GP2.1.5	GP2.1.6	
F	F	L+	F	F	L-	

PA 2.2 — Work product management				Final: L+
GP2.2.1	GP2.2.2	GP2.2.3	GP2.2.4	
F	F	F	L-	

Level 1 — Process performance (PA 1.1)

Strength

[SWE.2.BP1] Architecture models with linked supplementary descriptions: The architecture is described in Simulink models; the notation guideline and supplementary descriptions are kept in the SAD and linked to the model elements, and the interfaces of the supplier driver are included.

[SWE.2.BP3] Analysis matched to criticality: Most components are adequately covered by qualitative analysis, and the brake-pressure control loop is analysed with measurements.

Weakness

[SWE.2.BP2] Diagnostic task scheduling only in the OS configuration: Dynamic aspects of the main operating modes are described, but the scheduling of the diagnostic tasks exists only in the OS configuration, not in the architecture.

Observation

None

Improvement Opportunity

None

Level 2 — Process management

PA 2.1 — Performance management

Strength

None

Weakness

[GP2.1.3] Timing measurement equipment not planned: The timing measurement equipment needed for the control-loop measurements is not in the resource plan and is borrowed from the test team.

[GP2.1.6] Architecture changes not notified to the test team: There is no path for notifying the test team of architecture changes; two interface changes were not reflected in the test specification.

Observation

None

Improvement Opportunity

None

PA 2.2 — Work product management

Strength

None

Weakness

[GP2.2.4] Two SAD review findings open: Of 23 findings from the SAD v3.2 review, two editorial findings (figure numbering, a glossary entry) remain open; they have an owner and are planned for v3.3.

Observation

None

Improvement Opportunity

None

3.9. SWE.3 — Software Detailed Design and Unit Construction

Interviewees:

Shin Yerin (Software Architect), Bae Hyunwoo (Software Lead)

Rating overview:

PA 1.1 — Process performance					Final: F
BP1	BP2	BP3	BP4	BP5	
F	F	L+	F	F	

PA 2.1 — Performance management						Final: F
GP2.1.1	GP2.1.2	GP2.1.3	GP2.1.4	GP2.1.5	GP2.1.6	
F	F	F	F	F	L+	

PA 2.2 — Work product management				Final: L+
GP2.2.1	GP2.2.2	GP2.2.3	GP2.2.4	
F	L+	F	L-	

Level 1 — Process performance (PA 1.1)

Strength

[SWE.3.BP1] Metric deviations justified and approved: All six functions above the complexity limit have a recorded deviation with a rationale (state machines generated from the model) approved by the software lead.

[SWE.3.BP1, SWE.3.BP2] Detailed design models with linked notes: The detailed design consists of Simulink models with design notes linked to the blocks, and units are organised consistently as clusters of routines per component.

Weakness

[SWE.3.BP3] Hotfix code changed before the design notes: Two hand-written units were changed for a hotfix before their design notes, which were updated only in the next release.

Observation

None

Improvement Opportunity

None

Level 2 — Process management

PA 2.1 — Performance management

Strength

[GP2.1.5] Guideline adherence checked at every merge: Adherence to the coding guideline is checked by static analysis at every merge, and the result is kept in the pipeline record.

Weakness

[GP2.1.6] Hand-over of generated code to the driver team informal: When generated code is handed to the driver team, there is no defined way of announcing interface changes.

Observation

None

Improvement Opportunity

None

PA 2.2 — Work product management

Strength*None***Weakness**

[GP2.2.2] No storage rule for model library versions: Storage rules exist for models and code, but not for the versions of the shared model library.

[GP2.2.4] Reviews of small model changes not recorded: Model reviews are recorded for new components; changes below a size threshold are reviewed at the desk without a record.

Observation*None***Improvement Opportunity***None*

3.10. SWE.4 — Software Unit Verification

Interviewees:

Lim Jaehyuk (Software Test Lead)

Rating overview:

PA 1.1 — Process performance					Final: F
BP1	BP2	BP3	BP4	BP5	
F	L+	F	F	F	

PA 2.1 — Performance management						Final: L+
GP2.1.1	GP2.1.2	GP2.1.3	GP2.1.4	GP2.1.5	GP2.1.6	
F	F	L+	F	L-	F	

PA 2.2 — Work product management				Final: L+
GP2.2.1	GP2.2.2	GP2.2.3	GP2.2.4	
L-	F	F	F	

Level 1 — Process performance (PA 1.1)

Strength

[SWE.4.BP1] Justified omission of unit tests for unmodified generated code: The strategy states, with a rationale, that unmodified code from the qualified generator is verified at model level with back-to-back tests, while modified generated code is unit-tested.

[SWE.4.BP3, SWE.4.BP4] Unit results linked to the detailed design: Unit test results per build are linked to the units and to the detailed design, and generated code is traced at component level.

Weakness

[SWE.4.BP2] Selection list for the last release not kept: Tests are selected by changed units, but the selection list for the last release was not kept, so the selection cannot be re-checked.

Observation

None

Improvement Opportunity

None

Level 2 — Process management

PA 2.1 — Performance management

Strength

None

Weakness

[GP2.1.3] Coverage tool licences not determined: The number of coverage tool licences is not derived from the test volume, causing queues just before releases.

[GP2.1.5] Units below the coverage target not acted upon: Coverage is reported per build, but no action was recorded for the four units below their target.

Observation

None

Improvement Opportunity

None

PA 2.2 — Work product management

Strength*None***Weakness**

[GP2.2.1] No content criteria for unit test specifications: What a unit test specification must state - pass criteria, coverage target - is not defined, so the level of detail varies by unit.

Observation*None***Improvement Opportunity***None*

3.11. SWE.5 — Software Component Verification and Integration Verification

Interviewees:

Lim Jaehyuk (Software Test Lead), Bae Hyunwoo (Software Lead)

Rating overview:

PA 1.1 — Process performance Final: L-						
BP1	BP2	BP3	BP4	BP5	BP6	BP7
P+	P-	L-	L+	L+	F	F

PA 2.1 — Performance management Final: P+					
GP2.1.1	GP2.1.2	GP2.1.3	GP2.1.4	GP2.1.5	GP2.1.6
L-	L-	P+	P+	P+	L-

PA 2.2 — Work product management Final: L+			
GP2.2.1	GP2.2.2	GP2.2.3	GP2.2.4
L-	F	F	L-

Level 1 — Process performance (PA 1.1)

Strength

[SWE.5.BP6, SWE.5.BP7] Integration results traced and summarised per build: Results are linked to test cases and summarised per build in the pipeline report sent to the software lead and the system team.

Weakness

[SWE.5.BP1, SWE.5.BP2] Verification measures incomplete; script correctness not addressed: Component behaviour tests are specified for only 4 of 11 components, and the specification does not address how the correctness of the automated integration test scripts is assured.

[SWE.5.BP3] Test selection criteria not recorded: The integrator selects tests per build, but the criteria are not recorded, so it cannot be confirmed that the selection was adequate.

[SWE.5.BP4, SWE.5.BP5] Component verification not repeated after a late change: After the late change to the brake-pressure filter, component verification was not repeated for the C-sample build, and integration proceeded on the previous results.

Observation

None

Improvement Opportunity

None

Level 2 — Process management

PA 2.1 — Performance management

Strength

None

Weakness

[GP2.1.1, GP2.1.2] Integration plan still in draft: The integration plan is a draft (v0.9); objectives per step are stated, but dates are given only for the next two builds.

[GP2.1.3, GP2.1.4] Test hardware neither determined nor provided: Resource needs name only the two test engineers. The target boards with sensor simulation needed for component tests are not determined and only one is available, so the resource needs themselves are incomplete.

[GP2.1.5] Plan not adjusted when integration testing fell behind: Integration testing fell behind by three builds; the shortfall was reported, but the plan was not adjusted.

[GP2.1.6] Integration order not agreed with the system team: The software integration order is not agreed with the system team, and builds came out of step with the HIL schedule.

Observation

None

Improvement Opportunity

None

PA 2.2 — Work product management

Strength

None

Weakness

[GP2.2.1, GP2.2.4] Review of the test specification limited to integration: The test specification is a draft, and its last review covered the integration part only, not the component tests; the required content of the component test part is not defined either.

Observation

None

Improvement Opportunity

None

3.12. SWE.6 — Software Verification

Interviewees:

Lim Jaehyuk (Software Test Lead)

Rating overview:

PA 1.1 — Process performance					Final: F
BP1	BP2	BP3	BP4	BP5	
F	F	L+	F	F	

PA 2.1 — Performance management						Final: L+
GP2.1.1	GP2.1.2	GP2.1.3	GP2.1.4	GP2.1.5	GP2.1.6	
F	F	F	L+	L-	F	

PA 2.2 — Work product management				Final: L+
GP2.2.1	GP2.2.2	GP2.2.3	GP2.2.4	
F	F	F	L-	

Level 1 — Process performance (PA 1.1)

Strength

[SWE.6.BP1, SWE.6.BP2] Qualification tests specified per requirement and covering all changes: Tests are specified per requirement with entry and exit criteria per set; although the release plan missed some changes, the selection covered all of them.

[SWE.6.BP4, SWE.6.BP5] Report states deferred tests explicitly: The report summarises results per requirement, lists the deferred tests explicitly and was sent to the system team.

Weakness

[SWE.6.BP3] 14 tests deferred to the next release: For R3.0, 14 low-priority tests were deferred to R3.1 with the agreement of the system lead; the risk for the requirements they cover was not evaluated.

Observation

None

Improvement Opportunity

None

Level 2 — Process management

PA 2.1 — Performance management

Strength

None

Weakness

[GP2.1.4] Second SiL licence not provided: The planned second SiL licence was not provided, so regression tests run only overnight.

[GP2.1.5] Deferred tests not tracked: Nobody checked whether the 14 deferred tests entered the plan for the next release.

Observation

None

Improvement Opportunity

None

PA 2.2 — Work product management

Strength*None***Weakness**

[GP2.2.4] Requirement owners not involved in test specification reviews: Test specifications are reviewed within the test team; the requirement owners do not take part in the review.

Observation*None***Improvement Opportunity***None*

3.13. SYS.2 — System Requirements Analysis

Interviewees:

Oh Sejin (System Engineering Lead)

Rating overview:

PA 1.1 — Process performance Final: F					
BP1	BP2	BP3	BP4	BP5	BP6
F	L+	F	F	L+	F

PA 2.1 — Performance management Final: L+					
GP2.1.1	GP2.1.2	GP2.1.3	GP2.1.4	GP2.1.5	GP2.1.6
F	F	L+	F	L-	F

PA 2.2 — Work product management Final: F			
GP2.2.1	GP2.2.2	GP2.2.3	GP2.2.4
F	L+	F	F

Level 1 — Process performance (PA 1.1)

Strength

[SYS.2.BP1, SYS.2.BP3] System requirements specified and analysed in the tool: Each requirement carries verification criteria, feasibility and safety attributes, and analysis results are recorded as attributes and comments in the tool; legal requirements kept in a spreadsheet are imported each release and managed in one place.

[SYS.2.BP6] Requirements communicated through baseline and release note: The agreed system requirements reach the software and hardware teams through the release baseline and a release note.

Weakness

[SYS.2.BP2] Priority missing for part of the requirements: A priority attribute exists but is empty for 18% of the system requirements, so release planning cannot use it for those requirements.

[SYS.2.BP5] Links to stakeholder requirements missing for new functions: Carry-over functions are traced at group level, which is adequate; for new functions, 6 of 40 sampled requirements have no link to a stakeholder requirement.

Observation

None

Improvement Opportunity

None

Level 2 — Process management

PA 2.1 — Performance management

Strength

None

Weakness

[GP2.1.3] Reviewer capacity for requirements not determined: The reviewer effort needed for requirement reviews is not determined, so reviews pile up just before each release.

[GP2.1.5] Growing review backlog not acted upon: The number of unreviewed requirements is reported, but no action was taken when it grew to 120 before the last release.

Observation

None

Improvement Opportunity

None

PA 2.2 — Work product management

Strength

None

Weakness

[GP2.2.2] Write access to the legal requirements spreadsheet undefined: The legal requirements spreadsheet is stored on the project drive under a versioning rule, but who may change it is not defined.

Observation

None

Improvement Opportunity

None

3.14. SYS.3 — System Architectural Design

Interviewees:

Oh Sejin (System Engineering Lead)

Rating overview:

PA 1.1 — Process performance					Final: F
BP1	BP2	BP3	BP4	BP5	
F	L+	F	F	F	

PA 2.1 — Performance management						Final: L+
GP2.1.1	GP2.1.2	GP2.1.3	GP2.1.4	GP2.1.5	GP2.1.6	
F	F	L+	F	L-	F	

PA 2.2 — Work product management				Final: P+
GP2.2.1	GP2.2.2	GP2.2.3	GP2.2.4	
P+	L-	L-	P-	

Level 1 — Process performance (PA 1.1)

Strength

[SYS.3.BP3] Architecture options compared and decision recorded: Two partitioning options were compared qualitatively and the rationale for the choice is recorded; qualitative analysis is adequate for the complexity of this system.

[SYS.3.BP4] Manual traceability kept complete per release: Traceability is kept as a spreadsheet snapshot per release, and the snapshot for R3.0 was complete.

Weakness

[SYS.3.BP2] Return from degraded mode not described: Dynamic behaviour is described for start-up, normal braking and degraded mode, but the transition from degraded mode back to normal mode is missing.

Observation

None

Improvement Opportunity

None

Level 2 — Process management

PA 2.1 — Performance management

Strength

None

Weakness

[GP2.1.3] Tool needs for architecture analysis not determined: The tools needed for timing and load analysis are not determined, so engineers use personal tooling.

[GP2.1.5] Architecture work not adjusted after the hardware change: Progress of architecture work is tracked, but the plan was not adjusted when the B-sample hardware changed, and the architecture update finished three weeks after the gate.

Observation

None

Improvement Opportunity

None

PA 2.2 — Work product management

Strength

None

Weakness

[GP2.2.1, GP2.2.4] Architecture review without criteria or traceable record: No review criteria are defined for the architecture description, and as a result the review records list only attendees and date. They name neither the reviewed version nor the findings, so it cannot be shown what was reviewed and what was found.

[GP2.2.2] No storage rule for SysML model exports: Storage and versioning of the architecture description are defined, but there is no rule for the SysML model exports used by the hardware team.

[GP2.2.3] Superseded architecture versions in circulation: Two superseded versions of the interface list were found in the hardware team's working folder.

Observation

None

Improvement Opportunity

None

3.15. SYS.4 — System Integration and Integration Verification

Interviewees:

Hwang Jiyeon (System Test Engineer), Oh Sejin (System Engineering Lead)

Rating overview:

PA 1.1 — Process performance					Final: L+
BP1	BP2	BP3	BP4	BP5	
P+	L+	L-	L+	F	

PA 2.1 — Performance management						Final: P+
GP2.1.1	GP2.1.2	GP2.1.3	GP2.1.4	GP2.1.5	GP2.1.6	
L-	P+	L-	L+	P-	P+	

PA 2.2 — Work product management				Final: P+
GP2.2.1	GP2.2.2	GP2.2.3	GP2.2.4	
L-	P+	P+	L-	

Level 1 — Process performance (PA 1.1)

Strength

[SYS.4.BP5] Integration results summarised per step: Integration test results are summarised per integration step and sent to the project.

Weakness

[SYS.4.BP1] Correctness of automated HIL scripts not assured: Integration test cases and criteria are specified, but how the correctness of the automated HIL scripts and of the plant model is assured is not part of the verification measures; script errors could go undetected.

[SYS.4.BP2] Test selection not updated after the sample change: For the last two hardware samples, the selection of test cases was not updated after the sample change.

[SYS.4.BP3] Second integration step verified with a regression subset only: For the second step of the C-sample integration only the regression subset was run; tests of the newly integrated interfaces were deferred to the next step.

[SYS.4.BP4] Some test cases linked to obsolete interfaces: 7 of 50 sampled test cases link to an interface that no longer exists in architecture v2.4. (Exploratory HIL session notes without links were not treated as a gap, given the nature of exploratory testing.)

Observation

None

Improvement Opportunity

None

Level 2 — Process management

PA 2.1 — Performance management

Strength

None

Weakness

[GP2.1.1] Integration objectives not quantified: Objectives per integration step (pass rate, completion date) are not set, so the decision to close a step differs from person to person.

[GP2.1.2, GP2.1.5] Integration plan not maintained; progress checked only at gates: Integration dates and bench slots are agreed per hardware sample, but the plan is not revised when samples arrive late, leaving the planned activities incomplete. Progress is checked only at the release gate, too late to react.

[GP2.1.3, GP2.1.4] HIL bench capacity not derived from test volume: Bench time is negotiated per sample; the capacity needed is not derived from the test volume.

[GP2.1.6] Hand-over between HIL team and software team undefined: Who prepares software builds for the HIL bench and how defects found there are handed to the software team is not defined; two builds were delivered without release notes.

Observation

None

Improvement Opportunity

None

PA 2.2 — Work product management

Strength

None

Weakness

[GP2.2.1, GP2.2.4] Review checklist for test specifications lacks HIL-specific items: Test specifications are reviewed with a checklist, but the checklist does not cover HIL-specific parts such as signal scaling and plant model version, so those parts were not reviewed.

[GP2.2.2, GP2.2.3] Storage requirements for test results incomplete: The storage requirements for integration work products omit the HIL test results and the plant model versions; test results stay on the bench PC, and their link to the tested build cannot always be established.

Observation

None

Improvement Opportunity

None

3.16. SYS.5 — System Verification

Interviewees:

Hwang Jiyeon (System Test Engineer)

Rating overview:

PA 1.1 — Process performance					Final: F
BP1	BP2	BP3	BP4	BP5	
F	F	L+	F	F	

PA 2.1 — Performance management						Final: L+
GP2.1.1	GP2.1.2	GP2.1.3	GP2.1.4	GP2.1.5	GP2.1.6	
F	F	L+	F	L-	F	

PA 2.2 — Work product management				Final: P+
GP2.2.1	GP2.2.2	GP2.2.3	GP2.2.4	
L-	P-	P+	L-	

Level 1 — Process performance (PA 1.1)

Strength

[SYS.5.BP1, SYS.5.BP2] Qualification tests specified and selected per release: Test cases are defined per requirement, with entry and exit criteria per campaign. Although the release plan omitted some content, the selection based on the matrix of changed requirements covered every change.

[SYS.5.BP4, SYS.5.BP5] Results traced to requirements and summarised: Test results are linked to system requirements and summarised per campaign for the project.

Weakness

[SYS.5.BP3] R3.0 changes verified on HIL only: The winter tests were run with the B-sample software, and the changes up to R3.0 were verified on HIL only, not in the vehicle.

Observation

None

Improvement Opportunity

None

Level 2 — Process management

PA 2.1 — Performance management

Strength

None

Weakness

[GP2.1.3] Test vehicle time not planned: Test vehicle time is negotiated with other projects; the time each test campaign needs is not determined.

[GP2.1.5] No follow-up of campaign deviations: Campaign progress is tracked, but no adjustment or action was recorded for the two campaigns that fell behind plan.

Observation

None

Improvement Opportunity

None

PA 2.2 — Work product management

Strength*None***Weakness**

[GP2.2.1] Required content of test reports partly defined: The test report template requires a summary of results but not the test environment or the software version.

[GP2.2.2, GP2.2.3] No versioning rule for test specifications and reports: The project handbook says where test reports are stored but defines no versioning; three test reports with the same name and different content were found, so it cannot be shown which report belongs to which software release.

[GP2.2.4] Test report review skips the traceability section: Test reports are reviewed by the test lead, but the review does not cover the traceability section.

Observation*None***Improvement Opportunity***None*

3.17. Total List of Evidence

Process	Document Name	Version	Doc No.
ACQ.4	Sensor Software Development Agreement	v1.1	SUP-AGR-011
ACQ.4	Supplier Monthly Progress Reports (Mar-Aug 2026)	-	SUP-RPT-012
MAN.3	Steering Committee Status Reports (wk 24-35)	-	BCU-STR-005
MAN.3	BCU-200 Work Breakdown Structure	v1.6	BCU-WBS-003
MAN.3	BCU-200 Project Management Plan	v2.3	BCU-PMP-001
MAN.3	BCU-200 Master Schedule	v14	BCU-SCH-002
MAN.3	BCU-200 Configuration Management Plan	v2.0	BCU-CMP-020
SUP.1	BCU-200 Project Handbook	v1.9	BCU-HB-006
SUP.1	BCU-200 Configuration Management Plan	v2.0	BCU-CMP-020
SUP.1	BCU-200 Quality Assurance Plan	v1.4	BCU-QAP-010
SUP.1	QA Monthly Reports (Apr-Aug 2026)	-	BCU-QAR-011
SUP.8	BCU-200 Configuration Management Plan	v2.0	BCU-CMP-020
SUP.8	BCU-200 Project Handbook	v1.9	BCU-HB-006
SUP.8	Release Baseline Record R3.0	v1.0	BCU-BLR-021
SUP.9	Problem Resolution Procedure	v1.2	BCU-PRP-030
SUP.9	Problem Tracker Export R3.0 (2026-09-11)	-	BCU-PRX-032
SUP.9	BCU-200 Project Handbook	v1.9	BCU-HB-006
SUP.10	BCU-200 Project Handbook	v1.9	BCU-HB-006
SUP.10	Change Request Procedure	v1.3	BCU-CRP-031
SWE.1	BCU-200 Software Requirements Specification	v3.0	BCU-SRS-200
SWE.1	BCU-200 Project Handbook	v1.9	BCU-HB-006
SWE.1	BCU-200 Configuration Management Plan	v2.0	BCU-CMP-020
SWE.2	SAD v3.2 Review Record	v1.0	BCU-SADR-211
SWE.2	BCU-200 Software Architecture Description	v3.2	BCU-SAD-210
SWE.2	BCU-200 Configuration Management Plan	v2.0	BCU-CMP-020
SWE.2	BCU-200 Project Handbook	v1.9	BCU-HB-006
SWE.3	Coding Guideline and Metric Limits	v1.5	BCU-CG-221
SWE.3	BCU-200 Project Handbook	v1.9	BCU-HB-006
SWE.3	BCU-200 Configuration Management Plan	v2.0	BCU-CMP-020
SWE.3	Software Detailed Design (models and design notes)	v3.0	BCU-SDD-220
SWE.4	BCU-200 Project Handbook	v1.9	BCU-HB-006
SWE.4	Unit Verification Results R3.0 (build 3.0.412)	-	BCU-UVR-231
SWE.4	Software Unit Verification Strategy	v1.2	BCU-UVS-230
SWE.4	BCU-200 Configuration Management Plan	v2.0	BCU-CMP-020
SWE.5	BCU-200 Project Handbook	v1.9	BCU-HB-006
SWE.5	BCU-200 Configuration Management Plan	v2.0	BCU-CMP-020
SWE.5	Software Integration Test Specification	v0.9	BCU-SITP-240
SWE.5	Integration Pipeline Reports R3.0 (build 3.0.412)	-	BCU-CIR-241
SWE.6	Software Qualification Test Report R3.0	v1.0	BCU-SQTR-251
SWE.6	BCU-200 Configuration Management Plan	v2.0	BCU-CMP-020
SWE.6	Software Qualification Test Specification	v2.0	BCU-SQTP-250
SWE.6	Test Tool Qualification Report TQ-07	v1.1	BCU-TQ-007
SWE.6	BCU-200 Project Handbook	v1.9	BCU-HB-006

SYS.2	BCU-200 Configuration Management Plan	v2.0	BCU-CMP-020
SYS.2	BCU-200 Project Handbook	v1.9	BCU-HB-006
SYS.2	BCU-200 System Requirements Specification	v3.1	BCU-SYRS-100
SYS.3	System Architecture Review Records	-	BCU-SYRV-111
SYS.3	BCU-200 Configuration Management Plan	v2.0	BCU-CMP-020
SYS.3	BCU-200 Project Handbook	v1.9	BCU-HB-006
SYS.3	BCU-200 System Architecture Description	v2.4	BCU-SYAD-110
SYS.4	System Integration Test Specification	v1.8	BCU-SITS-120
SYS.4	BCU-200 Project Handbook	v1.9	BCU-HB-006
SYS.4	System Integration Test Results R3.0	v1.0	BCU-SITR-121
SYS.5	BCU-200 Project Handbook	v1.9	BCU-HB-006
SYS.5	System Qualification Test Specification	v2.1	BCU-SQTS-130

4. Rating Rule Check Summary

Total rules checked: 682, Passed: 97, Not applicable: 582, Violations: 3

Rule ID	Process	Result	Description	Justification
ACQ.4.RL.1	ACQ.4	Pass	[Must Downrate] When exchange information agreement is incomplete causing BP1 downrate, BP2 is also affected	
PA2.1.RL.9	ACQ.4	Pass	[Must Downrate] When GP 2.1.1 (objectives/strategy) is downrated for lacking suitability to achieve process outcomes, GP 2.1.2 is downrated	
PA2.1.RL.13	ACQ.4	Pass	[Must Downrate] When GP 2.1.2 (planning) is downrated for not covering process outcomes/work product review, GP 2.1.3 is downrated	
PA2.1.RL.15	ACQ.4	Pass	[Must Downrate] When GP 2.1.3 (resource needs) is downrated as inadequate/incomplete, GP 2.1.4 is downrated	
PA2.1.RL.18	ACQ.4	Pass	[Must Downrate] When GP 2.1.2 (planning) is downrated for incomplete activities/work packages or undetermined resources, GP 2.1.5 is downrated	
PA2.2.RL.12	ACQ.4	Pass	[Must Downrate] When GP 2.2.1 review/approval criteria are inadequate, affecting GP 2.2.4 (review)	
MAN.3.RL.3	MAN.3	Pass	[No Downrate] When scope of work content is distributed across multiple work products	
MAN.3.RL.4	MAN.3	Pass	[Max Rating] When dependencies between work packages are not identified	
MAN.3.RL.5	MAN.3	Pass	[Max Rating] When work packages are missing mandatory items such as start/end dates, planned/actual effort	
MAN.3.RL.14	MAN.3	Pass	[No Downrate] When links between planning information are not supported by tools	
PA2.1.RL.11	MAN.3	Pass	[Max Rating] When resource needs determination includes only human resources, missing physical/material resources	
PA2.1.RL.13	MAN.3	Pass	[Must Downrate] When GP 2.1.2 (planning) is downrated for not covering process outcomes/work product review, GP 2.1.3 is downrated	
PA2.1.RL.14	MAN.3	Pass	[Max Rating] When resource identification/provision includes only individuals, missing	

			physical/material resources	
PA2.1.RL.15	MAN.3	Pass	[Must Downrate] When GP 2.1.3 (resource needs) is downrated as inadequate/incomplete, GP 2.1.4 is downrated	
PA2.1.RL.18	MAN.3	Pass	[Must Downrate] When GP 2.1.2 (planning) is downrated for incomplete activities/work packages or undetermined resources, GP 2.1.5 is downrated	
PA2.2.RL.6	MAN.3	Pass	[No Downrate] When simple status definitions lack workflow/status change criteria/authority details	
PA2.2.RL.11	MAN.3	Pass	[No Downrate] When work product reviews are demonstrable for all required aspects but not documented in a formal review record	
PA2.1.RL.4	SUP.1	Pass	[No Downrate] When strategy is described in an integrated document rather than per-process documents	
PA2.1.RL.8	SUP.1	Pass	[No Downrate] When support activities are planned on ratio/time basis instead of explicit activities	
PA2.2.RL.6	SUP.1	Pass	[No Downrate] When simple status definitions lack workflow/status change criteria/authority details	
SUP.1.RL.2	SUP.1	Pass	[Max Rating] When work product QA only checks existence without content accuracy	
SUP.1.RL.3	SUP.1	Pass	[Max Rating] When work product QA (BP3) is rated N/P, PA1.1 cannot exceed L	
COM.RL.1	SUP.8	Pass	[No Downrate] When agreed information is communicated effectively but not based on baselines or explicitly documented records	
PA2.1.RL.4	SUP.8	Pass	[No Downrate] When strategy is described in an integrated document rather than per-process documents	
PA2.1.RL.8	SUP.8	Pass	[No Downrate] When support activities are planned on ratio/time basis instead of explicit activities	
PA2.2.RL.6	SUP.8	Pass	[No Downrate] When simple status definitions lack workflow/status change criteria/authority details	
PA2.1.RL.4	SUP.9	Pass	[No Downrate] When strategy is described in an integrated document rather than per-process documents	

SUP.9.RL.2	SUP.9	Pass	[No Downrate] When emergency problem resolution rules are defined but not yet needed	
PA2.1.RL.4	SUP.10	Pass	[No Downrate] When strategy is described in an integrated document rather than per-process documents	
PA2.1.RL.8	SUP.10	Pass	[No Downrate] When support activities are planned on ratio/time basis instead of explicit activities	
SUP.10.RL.1	SUP.10	Pass	[Max Rating] When side effect review is missing in change analysis	
GEN.RL.1	SWE.1	Pass	[No Downrate] PA1.1 rating of process X shall not be used as basis for downrating PA1.1 of process Y	
PA2.1.RL.4	SWE.1	Pass	[No Downrate] When strategy is described in an integrated document rather than per-process documents	
PA2.2.RL.6	SWE.1	Pass	[No Downrate] When simple status definitions lack workflow/status change criteria/authority details	
SWE.1.RL.7	SWE.1	Pass	[No Downrate] When analysis results are evidenced through tool-based attributes/comments instead of separate reports	
TAC.RL.3	SWE.1	Pass	[No Downrate] When consistency evidence is obtained through pair work/peer review/change comments instead of separate review records	
GEN.RL.1	SWE.2	Pass	[No Downrate] PA1.1 rating of process X shall not be used as basis for downrating PA1.1 of process Y	
MBD.RL.3	SWE.2	Pass	[No Downrate] When supplementary descriptions are in separate documents but linked to the model	
PA2.1.RL.4	SWE.2	Pass	[No Downrate] When strategy is described in an integrated document rather than per-process documents	
PA2.2.RL.2	SWE.2	Pass	[No Downrate] When standard templates exist but an effective alternative approach is used	
PA2.2.RL.6	SWE.2	Pass	[No Downrate] When simple status definitions lack workflow/status change criteria/authority details	
PA2.2.RL.10	SWE.2	Violation	[Max Rating] GP2.2.4 is rated L-, but this rule limits max to P.	All 21 technical findings from the SAD v3.2 review are closed. The two open findings are editorial (figure numbering

				and a glossary entry) and have an owner and a due date for v3.3. The cap at P assumes that unresolved findings affect the content of the work product; these two do not, so GP 2.2.4 is kept at L-.
SWE.2.RL.1	SWE.2	Pass	[No Downrate] When qualitative instead of quantitative analysis techniques are used but appropriate	
GEN.RL.1	SWE.3	Pass	[No Downrate] PA1.1 rating of process X shall not be used as basis for downrating PA1.1 of process Y	
MBD.RL.3	SWE.3	Pass	[No Downrate] When supplementary descriptions are in separate documents but linked to the model	
PA2.1.RL.4	SWE.3	Pass	[No Downrate] When strategy is described in an integrated document rather than per-process documents	
PA2.2.RL.2	SWE.3	Pass	[No Downrate] When standard templates exist but an effective alternative approach is used	
PA2.2.RL.6	SWE.3	Pass	[No Downrate] When simple status definitions lack workflow/status change criteria/authority details	
PA2.2.RL.11	SWE.3	Pass	[No Downrate] When work product reviews are demonstrable for all required aspects but not documented in a formal review record	
SWE.3.RL.1	SWE.3	Pass	[No Downrate] When SW units are implemented as routine clusters rather than single routines	
SWE.3.RL.2	SWE.3	Pass	[No Downrate] When code metric criteria are formally violated but with reasonable justification	
TAC.RL.1	SWE.3	Pass	[No Downrate] When traceability is established at reasonable cluster level rather than individual element level	
GEN.RL.1	SWE.4	Pass	[No Downrate] PA1.1 rating of process X shall not be used as basis for downrating PA1.1 of process Y	
MBD.RL.6	SWE.4	Pass	[No Downrate] When static verification/unit testing is not performed on auto-generated code (unmodified) from verified toolchain	
PA2.1.RL.4	SWE.4	Pass	[No Downrate] When strategy is	

			described in an integrated document rather than per-process documents	
PA2.2.RL.6	SWE.4	Pass	[No Downrate] When simple status definitions lack workflow/status change criteria/authority details	
SWE.4.RL.1	SWE.4	Pass	[No Downrate] When there is reasonable justification that specific verification is unnecessary	
TAC.RL.1	SWE.4	Pass	[No Downrate] When traceability is established at reasonable cluster level rather than individual element level	
GEN.RL.1	SWE.5	Pass	[No Downrate] PA1.1 rating of process X shall not be used as basis for downrating PA1.1 of process Y	
PA2.1.RL.4	SWE.5	Pass	[No Downrate] When strategy is described in an integrated document rather than per-process documents	
PA2.1.RL.11	SWE.5	Pass	[Max Rating] When resource needs determination includes only human resources, missing physical/material resources	
PA2.1.RL.14	SWE.5	Pass	[Max Rating] When resource identification/provision includes only individuals, missing physical/material resources	
PA2.1.RL.15	SWE.5	Pass	[Must Downrate] When GP 2.1.3 (resource needs) is downrated as inadequate/incomplete, GP 2.1.4 is downrated	
PA2.2.RL.6	SWE.5	Pass	[No Downrate] When simple status definitions lack workflow/status change criteria/authority details	
SWE.5.RL.1	SWE.5	Violation	[No Downrate] SWE.5.BP1 is rated P+, but this rule condition prevents downrating. [No Downrate] SWE.5.BP2 is rated P-, but this rule condition prevents downrating.	Defining entry and exit criteria per test set was not used as a reason to downrate, as this rule requires. BP1 and BP2 are downrated (P+, P-) for separate weaknesses: component behaviour tests are specified for only 4 of 11 components, and the correctness of the automated test scripts is not assured (SWE.5.RL.2 applies).
SWE.5.RL.2	SWE.5	Pass	[Must Downrate] When accuracy of automated verification scripts/programs is not included in verification definition	
SWE.5.RL.3	SWE.5	Pass	[No Downrate] When exploratory testing is by definition not traceable, resulting in no	

			traceability	
GEN.RL.1	SWE.6	Pass	[No Downrate] PA1.1 rating of process X shall not be used as basis for downrating PA1.1 of process Y	
PA2.1.RL.4	SWE.6	Pass	[No Downrate] When strategy is described in an integrated document rather than per-process documents	
PA2.2.RL.6	SWE.6	Pass	[No Downrate] When simple status definitions lack workflow/status change criteria/authority details	
SWE.6.RL.1	SWE.6	Pass	[No Downrate] When entry/exit criteria are defined at verification set level rather than individual verification level	
SWE.6.RL.2	SWE.6	Violation	[Must Downrate] SWE.6.BP1 is rated F, but this rule condition requires downrating.	The verification measures contain no separate item on script correctness, but the scripts are generated from the requirements' test criteria by a qualified test tool, and their correctness is assured by the tool qualification report (TQ-07). The risk this rule addresses - verdicts from unverified scripts - is controlled by other means, so BP1 is kept at F.
SWE.6.RL.4	SWE.6	Pass	[No Downrate] When verification selection is adequate but release plan is inadequate/incomplete	
PA2.1.RL.4	SYS.2	Pass	[No Downrate] When strategy is described in an integrated document rather than per-process documents	
PA2.2.RL.6	SYS.2	Pass	[No Downrate] When simple status definitions lack workflow/status change criteria/authority details	
SYS.2.RL.2	SYS.2	Pass	[No Downrate] When multiple tools/methods are used simultaneously for requirements documentation	
SYS.2.RL.3	SYS.2	Pass	[No Downrate] When some requirements are derived from internal standards/reuse strategy instead of customer requirements	
SYS.2.RL.7	SYS.2	Pass	[No Downrate] When analysis results are evidenced through tool-based attributes/comments instead of separate reports	
TAC.RL.1	SYS.2	Pass	[No Downrate] When traceability is established at reasonable cluster level rather than individual element level	

GEN.RL.1	SYS.3	Pass	[No Downrate] PA1.1 rating of process X shall not be used as basis for downrating PA1.1 of process Y	
PA2.1.RL.4	SYS.3	Pass	[No Downrate] When strategy is described in an integrated document rather than per-process documents	
PA2.2.RL.6	SYS.3	Pass	[No Downrate] When simple status definitions lack workflow/status change criteria/authority details	
PA2.2.RL.9	SYS.3	Pass	[Max Rating] When CL1 work product review does not include product name/version, review findings, criteria	
PA2.2.RL.12	SYS.3	Pass	[Must Downrate] When GP 2.2.1 review/approval criteria are inadequate, affecting GP 2.2.4 (review)	
SYS.3.RL.1	SYS.3	Pass	[No Downrate] When qualitative instead of quantitative analysis techniques are used but appropriate	
TAC.RL.2	SYS.3	Pass	[No Downrate] When traceability is managed manually (snapshot-based) instead of automated tools	
GEN.RL.1	SYS.4	Pass	[No Downrate] PA1.1 rating of process X shall not be used as basis for downrating PA1.1 of process Y	
PA2.1.RL.4	SYS.4	Pass	[No Downrate] When strategy is described in an integrated document rather than per-process documents	
PA2.1.RL.17	SYS.4	Pass	[Must Downrate] When monitoring frequency is inadequate to detect deviations from plan in a timely manner	
PA2.1.RL.18	SYS.4	Pass	[Must Downrate] When GP 2.1.2 (planning) is downrated for incomplete activities/work packages or undetermined resources, GP 2.1.5 is downrated	
PA2.2.RL.4	SYS.4	Pass	[Must Downrate] When work product storage/control requirements do not include minimum necessary items	
PA2.2.RL.7	SYS.4	Pass	[Max Rating] When GP 2.2.2 (storage/control requirements) is downrated, GP 2.2.3 is limited to equal or lower	
SYS.4.RL.2	SYS.4	Pass	[Must Downrate] When accuracy of automated verification scripts/programs is not included in verification definition	
SYS.4.RL.3	SYS.4	Pass	[No Downrate] When exploratory	

			testing is by definition not traceable to system architecture	
GEN.RL.1	SYS.5	Pass	[No Downrate] PA1.1 rating of process X shall not be used as basis for downrating PA1.1 of process Y	
PA2.1.RL.4	SYS.5	Pass	[No Downrate] When strategy is described in an integrated document rather than per-process documents	
PA2.2.RL.5	SYS.5	Pass	[Max Rating] When work product storage/control requirements do not include version management and storage requirements	
PA2.2.RL.7	SYS.5	Pass	[Max Rating] When GP 2.2.2 (storage/control requirements) is downrated, GP 2.2.3 is limited to equal or lower	
SYS.5.RL.1	SYS.5	Pass	[No Downrate] When entry/exit criteria are defined at verification set level rather than individual verification level	
SYS.5.RL.4	SYS.5	Pass	[No Downrate] When verification selection is adequate but release plan is inadequate/incomplete	

Not applicable rules per process

The assessor judged these rules not applicable: the situation each rule describes does not occur in this assessment. Each decision is recorded in the assessment.

Process	Not applicable
ACQ.4	26
MAN.3	52
SUP.1	38
SUP.8	36
SUP.9	32
SUP.10	39
SWE.1	40
SWE.2	38
SWE.3	35
SWE.4	37
SWE.5	35
SWE.6	34
SYS.2	39
SYS.3	34
SYS.4	33
SYS.5	34

5. Final Remark

We confirm that the assessment was performed according to the requirements of ISO/IEC 33020.

(INTACS Certified Lead Assessor: Lee SeungJu)
Principal Lead Assessor · INTACS#: INTACS-2019-0471

(Co-Assessor: Park Jihoon)
Competent Lead Assessor · INTACS#: INTACS-2022-1188

Copyright Notice

This document reproduces material from an Automotive SPICE process reference/assessment model for which permission has been granted by the VDA QMC.

Automotive SPICE® is a registered trademark of the Verband der Automobilindustrie e.V. (VDA).

INTACS® is a registered word mark of the International Assessor Certification Scheme e.V. in the EU, the U.S., Japan, Korea, India, and China.

For further information about Automotive SPICE® visit www.vda-qmc.de/en/automotive-spice.