



DEVELOPMENT SPRINT REVIEW

CALENDAR WEEK 34.21

GENERAL (1/2)

HIGHLIGHTS:

- Program Timing investigation
 - New naming convention introduced
- Program Timing investigation
 - Supplier communication created for new time plan
 - SVC3/SVC4 Volumes and Purpose

PMCS Assessment

- 60% S0 and 65% S1 unassessed
- Review of deliverables for S0

BOM

- Extension EBOM flowchart created

GENERAL (2/2)

BOM

- Nightletter introduction
- Cost BOM created
- SVC3 BOM created
- Logistic BOM created

BOM Part Source attribute improvement

LOWLIGHTS: None

BLOCKER:

- BOM cost reduction investigations (cost per part)
- Check-list for SVC3 DR defined until 20-AUG-21 (CAD/CAE/QUAL/EBOM/ME)
- BOM Error Report 02-SEP-21

BODY CLOSURE

HIGHLIGHTS:

- Vacation

LOWLIGHTS:

- Supplier/SM vacation periods affect communication

BLOCKER:

- Updated timing summary not available > risk no coordinated communication

EXTERIOR (1/5)

HIGHLIGHTS:

SVC3/Series only:

- Bring UBP and WAL's supplier onboard - Done

PV & Non-PV Panels:

- After checking the styling H.1, some issues need to be addressed / solved for rocker and cantrail
- Check implications for tailgate and spoiler if the roof needs to be moved up by 2-3 mm so that there is enough space for the glue bead - Done
- Check solution in rear area of the rocker to have the required clearance for decking - Done

EXTERIOR (2/5)

Bumpers:

- FR bumper-fender connection w/o head lamp fixation (DONE till Friday)

Lighting:

- Finalise fixing strategy for Headlamp (Done)

Wiper/Wash Systems:

- Integrate new parts from DOGA in CAD (filler, motor, fixation points) (DONE)
- Finalize Motor position for front wiper incl. alignment with other squads (body) (DONE)
- Check device transmittal proposals with DOGA - Done

EXTERIOR (3/5)

Bumpers:

- FR bumper-fender connection w/o head lamp fixation (DONE till Friday)

Lighting:

- Finalise fixing strategy for Headlamp (Done)

Wiper/Wash Systems:

- Integrate new parts from DOGA in CAD (filler, motor, fixation points) (DONE)
- Finalize Motor position for front wiper incl. alignment with other squads (body) (DONE)
- Check device transmittal proposals with DOGA (Done)

EXTERIOR (4/5)

LOWLIGHTS:

PV & Non-PV panels:

- Pillar trims design optimizations on parts, brackets, foams, fixing strategy,
- water management, door harness and grommet locations
- Clarify clash of A pillar/cantrail /fender (WIP - feedback cantrail necessary)
- Check to reduce the number of fixings for the rocker

Bumpers

- Check new Body / CMS design and the impact on the FR bumper (WIP - feedback thermal necessary)

EXTERIOR (5/5)

Lighting:

- Look at solving interference between headlamp and hood (Not complete, supplier optics team still investigating possible solutions)
- Implement Z support for fascia front from headlamp into CAD (Not complete, WIP to implement into CAD)

BLOCKER: None

BODY STRUCTURE (1/2)

HIGHLIGHTS:

- Processing of PMCS issues is ongoing and with satisfactory degree of processing.
- Most of interface information are available → current status **85%**.
- 2nd load path -> concept is finalized. Body Structure is updated and 3D data in 3Dx available.
- Optimization of body structure for crash requirements (seat cross member) done.
- Roof cross member front redesigned, but not with final status in 3Dx.
- Preparation mounting concept for tie down hooks and loading floor done. Brackets designed, available in 3Dx in week 35.

BODY STRUCTURE (2/2)

LOWLIGHTS:

- Fixing concept sun visor and roof module → currently only a proposal with principal section available (no 3D data) → redesign of the cross member roof front started, but finalization not possible yet.
- Concept front end (cross member body structure, several brackets) not finally defined and designed yet.

BLOCKER: None

INTERIOR (1/2)

HIGHLIGHTS:

- SVC3
 - Supplier Sourcing (Sunvisor, Headliner, Soft Trims, Hard Trims, Seats, 1st Aid Kit, ESP)
 - To Get technical/cost feedback for the Sunvisors / done
 - To Get cost&timing feedback for the Sunvisors / WIP
 - Finalized cost&timing feedback is awaited for the headliners / done
 - PO is in internal circulation to be approved for the Hard Trims / WIP
- Regular meetings with ARRK Interior on I/P, Doors, Trunk, and Console hard points / WIP
- Share remaining BIW related Interior attachment points / WIP

INTERIOR (2/2)

LOWLIGHTS: None

BLOCKER:

- SVC3
 - Steering Package (steering column, steering column module and steering wheel)

INFOTAINMENT (1/2)

HIGHLIGHTS:

SVC3:

- All Infotainment commodities are placed in their correct location in 3Dx and CAD
- All PMCS deliverable for S0 and S1 at 100%
- Android Automotive 11 software image is released to Sono-Digital team for development.
- Supplier L7 found a way to reduce the VCM current when the module is in sleep mode 10ma vs 20ma
- Sibros and L7 Up loaded the VCM Hardware and Software architecture documentation, schematic layout and the DMFA for the VCM
- Supplier Level 3 delivered the final version of the System block diagram

INFOTAINMENT (2/2)

- Infotainment components are released in 3DX for Version I.1:
- Speakers, Microphones, BT/WiFi/GNSS Antenna, FM/DAB Antenna, ECall Module, USB modules, Displays and VCM Module

LOWLIGHTS:

SVC3

- L7 sleep mode current reduction
- ECall button in discussion

BLOCKER:

- No update on steering wheel controls

HIGHLIGHTS:

- Vacation

LOWLIGHTS: None

BLOCKER: None

CHASSIS (1/4)

HIGHLIGHTS:

- Brakes:
 - Finish booster connection to brake pedal -90%
 - Nominate brake disc supplier- ok
 - Nominate calipers supplier - ok
 - Freeze fastener design -75%
 - Finish FuSa system definition -ok
 - HARA - 50%(WIP)
 - Get flex hoses design from TRE -ok
 - RFQ for brake piping - WIP

CHASSIS (2/4)

- Knuckle/Spindle
 - Nominate knuckle supplier -ok
 - Move w/ knuckle DFM improvements -ok
 - Freeze fastener definition -75%
 - 3D model for tire repair kit
- Steering
 - Finish FuSa system definition - ok
 - Gd&T for body interface - ok
 - Analysis of ass'y access - ok
 - Approach Cikautxo for ED&T quote alignment -ok

CHASSIS (3/4)

- CAD / PDM
 - Finalize EVP position - 75%
 - PDM attributes: Serviceability - 70%
 - Finish rolling chassis GD&T - OK
 - Create package protection for Repair Kit - OK
 - PDM update + BOM review - OK
- Suspensions
 - CAE results for SF and RTB - OK
 - Align quotes
 - Implement SF front extension attachment - OK
 - RFQ for springs

CHASSIS (4/4)

- PM
 - Start VD CAE interviews - OK
 - Attribute on EBOM of sourcing - OK

LOWLIGHTS:

- PMCS S1 assessment - 25%
- RFQ for rear damper attachment - 0%
- RFQ for rubber accessories - 0%
- Summarize final TRE results for steering -0%
- EVP / ESC / TMC / Brakes lines interface documents on Confluence - 0%

BLOCKER: None

HIGHLIGHTS:

SVC3:

- (Nearly) all Part source attribute updated (Large BOM update 02.09 on TCY839 will have to be re-done)
- (Nearly) all enterprise numbers updated (Large BOM update 02.09 on TCY839 will have to be re-done)

E/E (2/2)

LOWLIGHTS:

SVC3:

- Missing peripheral information attached to BCM

BLOCKER:

SVC3:

- Headcount (timing)

HIGHLIGHTS:

- SVC3
 - Workshop being organised for mid september
 - ARRK are now looking at some of the mechanical issues we have with the OBC/MCU
 - feedback on socket positions

DES (2/2)

LOWLIGHTS:

- OBC Mechanical Freeze
- OBC PLC discussion promising
- Holidays

BLOCKER: None

HV BATTERY (1/2)

HIGHLIGHTS:

SVC3:

- Implement error calculation for reference and obtained speeds from simulation. Tune PID to meet error specs of ISO 8714.
- Update the confluence page of simulation with test results
- Finalize A sample, and get PO
- Finalize key design parameters for B sample
- Sign off BMS diagnostics list and functionalities for B samples
- Get quote of complete DVP or part of tests in battery pack DVP
- Design and DVP review for B sample

HV BATTERY (2/2)

LOWLIGHTS:

- Study regenerative braking and implement in system model (this has strong influence on overall energy consumption)
- Communicate BMS / Battery pack warnings icon for infotainment team (Refer to UN ECE R121)
- Implementing coast down curve testcase in the model.
- Validating the simulation model with the real data.
- Item definition for FuSA
- Release version 1.0 of HV SSTS

BLOCKER:

- Validating the simulation model with the real data.

HIGHLIGHTS:

- SOP
 - Logistics Service Agreement currently under review.
 - Verified the standards from CM and compared with descriptions on the LM & LSA. All documents are aligned on the way to proceed.
 - New file construction is underway.

LOWLIGHTS: None

BLOCKER: None

PURCHASING

HIGHLIGHTS:

- Introduction of Commodity Managers to sprint planning within squads.
- provided data for potential SCCM. (Steering Column Control Module date being reviewed - E/E).

LOWLIGHTS:

- Guidance on the HOW of integration into Squads not provided due to How Master time constraints. (Ie: No Time).

BLOCKER:

- Updated timing presentation from Group Sion Project Management to share with suppliers. (Project Management).
- No information on assembly assumptions impacts sourcing of assembly suppliers (Manufacturing).

QUALITY (1/2)

HIGHLIGHTS:

SVC3/SOP

- SQA:
 - Communication with suppliers on SVC3-Quality (APQP/MLV) requirements initiated
 - Meeting to be arranged with BM Plastics through the solar super squad (kick-off SQA cooperation)
- *IMS/PQE*
 - Training for Parts identification & traceability (09.09.21)
 - Preparation of the shortened APQP / MLA training (German and English)

QUALITY (2/2)

LOWLIGHTS:

SVC3/SOP

- SQE → 2 positions open

BLOCKER: None

PRODUCTION (1/2)

HIGHLIGHTS:

- Contracting
 - Negotiation about the sealing and KTL is done
 - Various tasks with NEVS are done. Preparation for RFQ SVC3 is started with 2 workshops and preparation of the Annexes of the Start up contract has also started. Preparation with Legal will start next week
 - .Information for the calculation of the Invest for the Nomination Letter are now available.
 - Adapting the timeline of the contracts will be done today
- Organization and Process
 - Cooperation with NEVS turn to NEVS get the driver in different topics

PRODUCTION (2/2)

- ME
 - Information to the result out of the NEVS visit was given to different parties
 - Timing Meeting for week 37 is arranged

LOWLIGHTS:

- Contracting
 - Negotiation for BOM level will take place next week
- ME
 - BOM canalize for contracting is actual not possible

BLOCKER: None

SIMULATION (1/9)

HIGHLIGHTS:

Crash & Safety Sprint 1

Expectation

- Assembly finalized & model run-able

Actual achieved

- Model run-able until end of week 35
 - Model still contains minor simulation/cae related issues and a chassis-lowering-effect
--> Impact on structural crash results are not expected by ARRK
 - Running model will help solving these issues

SIMULATION (2/9)

Complete Vehicle CFD

Expectation

- Very first results expected

Actual achieved

- First test simulation done
- - results not valid -
 - Next steps: Refinement simulation environment
 - rotating wheels
 - rotating fan
 - porosity cooling module
- Outlook
 - Analyse and report available on 22. Sept. 2021
 - Meeting invite already sent

SIMULATION (3/9)

LCO Improvements

Expectation:

- Load cases/Deliverables with Product Owner aligned
- Current result overview updated
- Delivery dates updated

Actual achieved:

- LCO is growing
- LCO is restructured
- still ongoing process

SIMULATION (4/9)

CAE Standardizations

Expectation

- Load case descriptions:
 - Closures & Exterior started
- NVH Modelling Guideline
 - Started

Actual achieved

- Load case descriptions:
 - Closures & Exterior - in work
 - Expected date of delivery: 15th September
- NVH Modelling Guideline
 - Blocked - Competences not available

SIMULATION (5/9)

LOWLIGHTS:

Crash & Safety Sprint 1

Expectation

- Product Owner's response mandatory:
- (Request of cw32/33)
 - CAD Releases for CAE model build
 - Part/system masses

Actual achieved

E/E and PWT CAD: no feedback

- → Traceability issue

SIMULATION (6/9)

Complete Vehicle CFD

Expectation:

- Very first results expected

Actual achieved:

- Unexpected modelling efforts lead to Worst-case-timing
 - Modelling issues solved
 - (Example: Body Structure-2-Wheel House)
 - Setup simulation environment delayed

SIMULATION (7/9)

BLOCKER:

Crash & Safety Sprint 1

Expectation

- Assembly finalized & model run-able

Actual achieved

- CAE Structural Crash loop will be not performed without Chassis-Front-Subframe-Update

SIMULATION (8/9)

CAE Software Acquisition (Pre/Post-Processor)

Expectation

- Pre-Processor and Post-Processor in-house available

Actual achieved

- Licence Check available
- Quotes available
 - Pre-Processor: yes
 - Post-Processor: yes
- Acquisition
 - Pre-Processor: PO pending
 - Post-Processor: Testing licence available already

SIMULATION (9/9)

CAE Standardization

- Modelling Guidelines: NVH
 - NEVS needs software licences
 - no CAE-NVH capacities at NEVS

PERFORMANCE REQUIREMENTS (1/2)

HIGHLIGHTS:

NVH

- Conti and Vitesco Documents reviewed
- Engine Mounts system evaluation - Deeper Issue confirmed
- NVH test campaign - Feasible, Budget ok, RFQ in progress

Weight

- Update Input Quality Monitoring Dashboard V5 Complete Vehicle Weight Benchmark
- Crossfunction Topic with CAE - Mass list: Details in Jira Story
- Crossfunction Meeting with Interior Squad: Details in Jira Story

PERFORMANCE REQUIREMENTS (2/2)

LOWLIGHTS:

NVH

- Follow CAD issues on various modules,
- Assist all PO and modules for NVH topic

Weight

- Input source: still missing a lot of Part_Source and weight information in BOM/EBOM, Details in BOM error Report & Input Quality Monitoring Overview Charts
- **BLOCKER:**
- Weight
 - Input source

HOMOLOGATION & RECYCLING (1/2)

HIGHLIGHTS:

Homologation

- General enquiry KBA regarding type approval started by technical service

Recycling

- meetings with potential imds service providers
- Presentation concerning European Green Deal and impact on resource and recycling laws and how Sono is affected
- uptake recycled content in plastic parts
- put down homologation and recycling requirements in Jira
- internship and Master Thesis on Recycling Process for Solar Body Panels First outline of Research on legal requirements and Market analysis concerning OEM with integrated solar roof / suppliers of free available solar panels

HOMOGOLATION & RECYCLING (2/2)

LOWLIGHTS: None

BLOCKER: None

PROGRAM MANAGEMENT (1/3)

HIGHLIGHTS:

Issue Management

- Kick-off for PMCS Platform transition in CW35 (1 month time estimated)

Change Management Process

- Using Change Actions for DR SVC3 as sign off tool (Agreed with 90% of the Squads - Agreement with missing Squads will be done till end of the week).
- Release VTS via 3DX - Trials works - Process 80% defined.

Release Management

- Release for RFQ work process is created and aligned with Purchasing

PROGRAM MANAGEMENT (2/3)

LOWLIGHTS:

Issue Management

- Feedback from drivers and solvers are time consuming
- There is no automatic warning system implemented yet

Release Management

- EBOM work process draft is created, but downstream information flow and requirements for implementation need to be defined.

PROGRAM MANAGEMENT (3/3)

BLOCKER:

Timing

- Deliverable Risk
 - Risk assessment not possible w/o S0 and S1 input

VTS

- Low feedback on VTS change requests (driver + stakeholder approval)

Issue Management

- Massive expired issues have not been updated until the end of sprint.

Release Management

- Decision to be made: shall we use Change Action for minor releases.

VIRTUAL VEHICLE (1/2)

HIGHLIGHTS:

- Issues resolved
 - Trunk Volume (Parcel Shelf)
 - Chassis Integration Rear End
 - Curtain Airbag Integration
 - Fusebox Package
 - Tire Envelopes Collision Rear
 - Fender Package (BIW collision)
- Release Data for I&C and Body Structure

VIRTUAL VEHICLE (2/2)

LOWLIGHTS:

- Vacuum Pump positioning still not fixed

BLOCKER:

- Scope of Release I.1 unclear
- 3DX Update over the Weekend could lead to delays

HIGHLIGHTS:

- Vacation

LOWLIGHTS: None

BLOCKER: None

FUNCTIONAL SAFTEY (1/2)

HIGHLIGHTS:

- SVC3
 - FuSa Timing
 - FuSa internal timeline > adjusted to change strategy based on pending feedback by dev squads
 - DR checklist > first draft done
 - FuSa Requirements
 - Connecting FuSa Jira Board to VTS requirements in Jira > started

FUNCTIONAL SAFTEY (2/2)

LOWLIGHTS:

- SVC3
 - Item Definition
 - Missing functional architecture/state diagrams
 - Resource planning
 - Finding resource for FuSa challenging > new round of active sourcing starting

BLOCKER:

- SVC3
 - Item Definitions
 - 32 Item Definitions in review by Sono

HIGHLIGHTS:

SVC3

- Checking min required requirements (in progress)

LOWLIGHTS:

- SVC3
 - Group Coordination Meeting
 - There is no presentation from our side for ESP

BLOCKER:

SVC3

- Time availability in Squads for this topic

REQUIREMENTS

HIGHLIGHTS: SVC3

- VTS with links to Jira tickets
- Roadmap
- Battery SYS.1 requirements

LOWLIGHTS: SVC3

- Group Coordination Meeting
- Requirements Management Tool is not approved.

BLOCKER: SVC3

- Time availability in Squads for this topic