



DEVELOPMENT SPRINT REVIEW

CALENDAR WEEK 50.21

HIGHLIGHTS:

- SVC3 & Series mirror design finalized
- eCall sourcing decision finalized: → DONE
- Infotainment: Confirmed SVC3 parts tool choice
- Wiring: Position for connection boxes for solar panels is fix
- E/E: Many components have been released (e.g. BCM, LF-Antenna, Switches, RCM, gSAT, pSAT,...)

GENERAL (2/5)

- Steering Column Motor is not anymore clashing with fusebox → Instrument panel is updated
- All Hardware requirements for supplier OBC finalized
- Communicate BMS / Battery pack warnings icon for infotainment team (Refer to UNECE R121)

IN PROGRESS:

- Solar body panels > concept confirmation shows need for improvements shaping PV label to body panel
- First thermal expansion simulation
- eCall & VCM are last remaining components to be released, only waiting on updated CAD & CAE data IN REVIEW
- Test bench components to be finalized and ordered in January; also waiting on supplier to provide specifications for test bench components → IN REVIEW
- E/E: Item definition vehicle start in progress (70 % completed)

GENERAL (4/5)

- E/E (including EDU, MCU, OBC, HV cable etc. excluding HV Battery) to deliver CAE models required for Crash&Safety assessments based on Design Release CAD data
- PO sent to supplier to source PABD / Hazard Light Switch / Brake Light Switch
- Towing Capability vs Target → IN REVIEW

LOWLIGHTS:

- SVC3 part quantity - tryout parts > open points
- SVC3 launch planning > open points
- SCCM: Supplier still not defined

BODY CLOSURE (1/3)

HIGHLIGHTS:

- SVC3 manufacturing location decision
- Supplier PO for tailgate D&D
- SVC3 Solar Body Panels: concept confirmation progresses
- Door structure OK > monitor at pole & MPDB
- SVC3 & Series mirror design finalized

BODY CLOSURE (2/3)

IN PROGRESS:

- PedPro - loops 3.4, 3.4 & 4+ kicked off
- Door inner panel > simulation KO for PP T30 5x elongation
- Solar body panels > concept confirmation shows need for improvements shaping PV label to body panel
- SVC3 testing plans (+cost)
- First thermal expansion simulation

BODY CLOSURE (3/3)

LOWLIGHTS:

- Solar body panel concept > potential effect on SVC3 vehicle appearance (thermal expansion & PVL shaping)
- SVC3 part quantity - tryout parts > open points
- SVC3 launch planning > open points

INFOTAINMENT (1/5)

HIGHLIGHTS:

SVC3

- eCall sourcing decision finalized: → DONE
- Completed review of past ordered parts → DONE
- Finalized SVC3 parts quantities
- Confirmed SVC3 parts tool choice
- Progress of purchasing SVC3 parts
 - POs sent to suppliers
 - Antennas
 - POs in approval
 - Quotes submitted to Supplier

INFOTAINMENT (2/5)

- VCM
 - Waiting for quote
 - IHU
- 100% assessments done
- Team completed DFMEA training → DONE
- Provide EE team IHU Device Transmittal Information → DONE
- Deliver HU CAE data to Interiors → DONE
- Coordination with WireHarness Team for Display's Schematic and cabling → DONE
- Deliver VCM CAE data to Interiors → DONE
- Quotation for CAE data for Display's from ARRk → IN REVIEW
- Sourcing decision on E-Call Button → DONE

INFOTAINMENT (3/5)

- Create Decisions Documentation for eCall sourcing decision → DONE
- Deliver Microphone CAE data to Interiors → DONE
- Deliver Audio System CAE data to Interiors → DONE
- Deliver USB CAE data to Interiors → DONE
- Position VCM in the new location → DONE
- Discuss with Interiors to shorten ECall brackets by (3mm on both sides) 6mm → DONE
- Resolve clash between HVAC and VCM CAD data → DONE
- Test bench components to source → DONE
- Overview of ordered SVC3 Parts → DONE
- HARA for ECall → DONE
- DFMEA Training → DONE
- eSIM Activation on Hologram → DONE

INFOTAINMENT (4/5)

IN PROGRESS:

- Infotainment team HC in discussion → IN REVIEW
- Currently waiting on supplier to provide in-depth milestone schedule with payment revisions → IN REVIEW
- Working with ESP to provide Interiors CAE Crash&Safety data → IN REVIEW
- eCall & VCM are last remaining components to be released, only waiting on updated CAD & CAE data → IN REVIEW
- Test bench components to be finalized and ordered in January; also waiting on supplier to provide specifications for test bench components → IN REVIEW
- IC Controller/CANbus Monitor Module/Phone Projection Module Proposal Review → IN REVIEW

INFOTAINMENT (5/5)

- Review SRS for Phone Projection → IN REVIEW
- CAN.dbc for IHU → IN REVIEW
- Discuss provisioning plan with Supplier → IN REVIEW
- CAE data of Instrument Cluster Display for crash Analysis → IN REVIEW
- CAN details for all the Tell Tales list → IN REVIEW
- Test bench components to source → IN REVIEW
- Create plan for Infotainment team headcount → IN REVIEW
- Complete Parking Aid Item Definition → IN REVIEW

LOWLIGHTS: None

CHASSIS (1/5)

HIGHLIGHTS:

- Tire, Rim, Valve, Balancing Weight → DONE
- Implement Supplier Fasteners → DONE
- LOI for Steering Supplier → DONE
- Update Gdrive Structure → DONE
- Fastener spec → DONE
- How to handle I shaft before assembly → DONE
- Pinion Length and Manufacturability → DONE
- OBJ Optimization → DONE
- Ergonomics & Safety Alignment with interior → DONE
- 3D model update - Design Freeze → DONE

CHASSIS (2/5)

- Legal Requirements Fulfillment → DONE
- Intermediate Shaft - 1 → DONE
- Mechanical Steering Gear (MSG) - 1 → DONE
- General Steering - 1 → DONE
- Structured Jira Board - Steering → DONE
- Quote for SVC3 Development → DONE
- Steering Commercials - 1 → DONE
- Brake Pedal and Throttle Pedal Sweep Zones → DONE
- Nominate supplier for Brackets → DONE
- Get supplier quote for Drop Links → DONE
- Drop Links Development - 1 → DONE
- Wrap-up Technical alignment with Supplier → DONE

CHASSIS (3/5)

- Get Hard quote from Supplier → DONE
- Prototype Timeline information from supplier → DONE
- Rear Spindle Development - 1 → DONE
- Brackets Supplier Strategy → DONE
- Marking Standards for the Knuckle Supplier → DONE
- Send RFQ to supplier for ARB → DONE
- Send RFQ to supplier for Drop link → DONE
- Get Spindle Hard quotes → DONE
- Twistbeam Updates - 1 → DONE
- Subframe Updates - 1 → DONE
- Coolant Pump Bracket updates → DONE

IN PROGRESS:

- Steering Fasteners → IN REVIEW
- CEPS Mechanical - 1 → IN REVIEW
- Suspension Commercials - 1 → IN REVIEW
- Chassis Test and Validation - 1 → IN REVIEW
- DT Document Updation → IN REVIEW

LOWLIGHTS:

- MSG bolt access - Gotta change the subframe design
- Data from Supplier → IS BLOCKED
- 1 piece of CEPS needed for LabCar → IS BLOCKED

HIGHLIGHTS:

- **E/E integration**

- Body electronics

- Steering Wheel Buttons: A-Surfaces and Design in being finalized
- PMCS Issues are finished
- PMCS Deliverables S0/S1 for BCM are finished → Every Deliverables are 100 % finished!
- Body CAN final SVC3 release (85 % completed)

- ADAS

- dbc V1 released

E/E (2/6)

- **Wiring Harness**

- Catia wiring work bench now available
- Position for connection boxes for solar panels is fix

- **CAD Integration**

- Many components have been released (e.g. BCM, LF-Antenna, Switches, RCM, gSAT, pSAT,...)
- Froze E/E parts for review
- Steering Column Motor is not more clashing with fusebox → Instrument panel is updated

- **Overall**

- PMCS deliverables S0/S1 - All done
- Good progress in estimating the hardware demands (Bucks+BIW) - EE & Powertrain

IN PROGRESS:

- **E/E Integration**

- Body electronics:

- Item definition vehicle start in progress (70 % completed)
 - Integration of PDC sensors is delayed
 - No PO for brake light switch as we did not get a revised quote from supplier yet

- ADAS

- Received the ADAS offer late and were not able to raise the PO before the end of the year

E/E (4/6)

- **CAD Integration**
 - OBC installation issue → access needed → Thermal: perhaps clashing with components
- **Overall**
 - Good progress regarding prepare the overall timing E/E in roadmap, but not ready

LOWLIGHTS:

- **E/E Integration:**
 - Body electronics:
 - SCCM: Supplier still not defined
 - BMS DVC file not ready
 - ADAS:
 - LoDMC strategy - what is the strategy for blending regen braking with foundation braking? This controller is needed to execute the ACC function
 - Steering system - Some signals required from ADAS are not provided by steering system

- Lack of map data - ADAS supplier has informed us that we cannot be GSR compliant with camera only solution so we will need map data. Supplier investigation is already ongoing for this.

- **Wiring Harness**
 - DT's are not complete

- **Overall**
 - Still missing (10 %) and incomplete (32 %) DT's from Thermal, Chassis and Closures

POWERTRAIN (1/3)

HIGHLIGHTS:

- Supplier confirmed they can supply their VCU HW for SVC3
- EDU release is set to approval
- Successful handover of HV battery

IN PROGRESS:

- Durability Requirements → IN REVIEW
- SVC3 Powertrain System DVP → IN REVIEW
- Design release for SVC3 EDU Mounts → IN REVIEW
- Design Release for SVC3 Fasteners → IN REVIEW
- Towing Capability vs Target → IN REVIEW

POWERTRAIN (2/3)

- Benchmarking and Concept Design → IN REVIEW
- Fixing Strategy → IN REVIEW
- CAD Release-Engine Mount → IN REVIEW
- CAD Release → IN REVIEW
- CAD Release → IN REVIEW
- SVC3 Vehicle RLD Test Plan → IN REVIEW
- SVC3 PO sent to VCU HW supplier → IN REVIEW
- Job Interviews → IN REVIEW
- Clarify peak current capability of HV Battery → IN REVIEW
- HV Battery cell temperature delta improvement → IN REVIEW

LOWLIGHTS:

- Headcount ramp-up
- HV battery handover support and new responsibilities are taking a lot of time

BI-DIRECTIONAL

HIGHLIGHTS:

- PO with supplier for PLC module
- PO with ESP to support for specification and testing
- Final discussions in terms of requirement and project plan with suppliers
- All Hardware requirements for supplier OBC finalized

IN PROGRESS: None

LOWLIGHTS:

- Headcount ramp-up
- Diagnosis specification open

HV BATTERY (1/3)

HIGHLIGHTS:

- Update HV Battery dimensions, mounting concept and BIW cutout, communicate changes to supplier
- Confluence page on positioning of MSD, HV battery pack in BIW and its virtual validation
- Simulation plan for
 - According ECE R100 r2, UN 38.3, LV124, vehicle crash pulse.
 - Internal planned simulations
 - BIW and complete vehicle related
- Define requirements and cost (machine, license, maintenance costs etc.) of performing the simulations.
- Screws BIW-HVB dimension preliminary calculation on static loads

HV BATTERY (2/3)

- Implement error calculation for reference and obtained speeds from simulation. Tune PID to meet error specs of ISO 8714.
- Testing the electric motor and battery model, its integration and do some improvements to the model.
- Communicate BMS / Battery pack warnings icon for infotainment team (Refer to UNECE R121)
- Confluence page for simulations why, what, how and work until now
- Release version 1.0 of HV SSTS
- Finalize HV cable size, connector and LV interfaces for battery pack.
- Align battery BoM cost, budget for planned DVP and other development activities
- Finalize the length at 1680 mm

HV BATTERY (3/3)

IN PROGRESS:

- Finalize BMS diagnostic list
- Get quote of complete DVP or part of tests in battery pack DVP
- Release PO for cell storage and testing jig on hold

LOWLIGHTS:

- Internal / external support for defining BMS Hardware / Software functionalities

NVH (1/2)

HIGHLIGHTS:

- Roadmap Planning to SOP (Resources, budget and Scope) => validated with Project team)
- Weight reduction First results in 2021-12-20 Meeting notes
- Benchmark analysis on battery position for weight reduction 2021-12-20 Meeting notes
- Steering design support (air tightness on lower cross member)
- Validation plan - Durability discussions
- Crossfunctional meetings with Interior & Exterior /Body: Air tightness review
- Cost reduction advice
- Squeak and Rattle appraisal
- NVH testing on SVC2 Reports > 95%

NVH (2/2)

- Additional reports for shaft swap decision Drive shaft Validation
- SVC2 status
- Recruitment on going

IN PROGRESS:

- Jira link to Requirement
- OBC/MCU Vibration / Design Support
- AVAS system integration Launched - Sound Package ongoing

LOWLIGHTS: None

HIGHLIGHTS:

SVC3

- CUpdate supplier Mirror + mirror foot → DONE
- Create rear window switch bezel → DONE
- Create windshield front camera bezel → DONE

IN PROGRESS: None

LOWLIGHTS: None