DEVELOPMENT SPRINT REVIEW
CALENDAR WEEK 48.21

GENERAL (1/8)

HIGHLIGHTS:

- Cross-functional board for cross-functional requests → Good progress on prioritized items achieved
- Design release progress: All squads within releasing their parts (e.g. main body structure etc.)
- RV requirement for dynamic overlays → IN REVIEW
- DFMEA discussion → DONE
- Start discussion LoDMC for ACC and AEB → DONE
- Meeting between Sono SCCM/BCM and supplier ADAS signal experts → DONE
- RVS217/218 Technical specifications document → DONE
- NDA Sono - supplier (ADAS) - supplier (steering) → DONE

GENERAL (2/8)

- Meeting between suppliers for EOL procedures → IN REVIEW
- Check packaging implications on SVC3 of switching between SVC220 to RVS218 → DONE
- WSS cable routing in CAD → DONE
- Cyber security alignment with homologation team → DONE
- SVC3 Plan → DONE
- Steering commercials - 1 → DONE
- Overview of ordered SVC3 parts → DONE
- Headcount plan update interior → DONE
- TE socket mounting interfaces → DONE
- Homologation issue - Do we need map data? → DONE
- ADAS boundary diagram → DONE

GENERAL (3/8)

- SVC3 tool choice → DONE
- Map project statuses in the cross functional board → IN REVIEW
- PT controls engineer job posting → DONE
- Costing | Cost workshop 01.12.2021→ DONE
- ECALL - Item definition → DONE
- Resolve clash between HVAC and VCM CAD data → IN REVIEW
- CAE data of center information display (CID) for crash analysis → DONE
- Finalize HU bracket/fastener alignment → DONE
- Provide antenna device transmittal information → DONE
- Provide EE team IHU device transmittal information → IN REVIEW
- Coordination with WireHarness team for display's schematic and cabling → IN REVIEW

GENERAL (4/8)

- Bring Jira plugins into Confluence sprint reviews → DONE
- Overview of ordered SVC3 parts → IN REVIEW
- Sourcing decision on e-call button → DONE
- Deliver audio system CAE data to interiors → IN REVIEW

GENERAL (5/8)

IN PROGRESS:

- PedPro and CV crash & safety: additional loops required.
- DTs: progress made, but still items open (night letter)
- Update supplier mirror + mirror foot → IN REVIEW
- To discuss map strategy to apply for TSR/OSP → IN REVIEW
- Pinion angle sensor/steering wheel angle sensor→ IN REVIEW
- Support the release and approval process → IN REVIEW
- Chassis to deliver CAE models required for crash & safety assessments based on design release CAD data by 17-Dec-2021→ IN REVIEW
- HV battery to deliver CAE models required for crash & safety assessments based on design release CAD data by 17-Dec-2021 → IN REVIEW

GENERAL (6/8)

- Infotainment to deliver CAE models required for crash & safety assessments based on design release CAD data by 17-Dec-2021 → IN REVIEW
- Exterior to deliver CAE models required for crash & safety assessments based on design release CAD data by 17-Dec-2021
- Individual hardware demands (Bucks+BIW) - crash & safety → IN REVIEW
- Hood to be updated to improve for homologation requirements → IN REVIEW
- PO sent to supplier to source PABD / hazard light switch / brake light switch → IN REVIEW
- FVC cover design → IN REVIEW
- Review IHU messages for ADAS → IN REVIEW
- PMCS input E/E: S0 &S1 = 100% → IN REVIEW
- Overview of ordered SVC3 parts → IN REVIEW

GENERAL (7/8)

- Release AVAS (SVC3) → IN REVIEW
- Release horn (SVC3) → IN REVIEW
- Support the release and approval process → IN REVIEW
- E/E interfaces in interior are open → IN REVIEW
- 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 by 17-Dec-2021 → IN REVIEW
- Update DT for EPS Ext_EE-DESS squad → IN REVIEW
- CAN details for all the tell tales list → IN REVIEW
- Support the release and approval process → IN REVIEW
- Sion exterior color matching - need grain / color info from solar → IN REVIEW

GENERAL (8/8)

LOWLIGHTS:

- Release Process: CA approval time takes too long → risk on getting all planned releases DONE on time for next sprint
- CAE data of instrument cluster display for crash analysis → PARKED
- Deliver HU CAE data to interiors → PARKED

BODY CLOSURE (1/3)

HIGHLIGHTS:

- 75% PMI completed before release
- Agreement short-term way forward with supplier
- Initial ESP discussions
- Cost workshop: Alignment with all squads.
- SBP mostly DONE - minor revisions (CAE possible without)

BODY CLOSURE (2/3)

IN PROGRESS:

- PedPro - improvements ongoing
- CL - extended lid to be analyzed - delays possible
- Side doors - awaiting feedback on frames + 1.5 wks
- DTs - supplier delayed feedback
- RVC changes 1 wk before release - no option but to delay & adapt
- No clear plan EE sockets in CL - SVC3 assumptions taken, risk +350k investment to protect for changes
- EE socket deleted - CL size affects PedPro but now no reason for increased size
- Release process works well - quality input not so well
- Extrusion profile & sheet sourcing - slow, expensive
- SBP - late change requests: not complete until 23.12

BODY CLOSURE (3/3)

LOWLIGHTS:

- Decontent - unclear expectations: SVC3 or SVC4?
- SVC3 part quantity definition ongoing
- Decontent timing - 1wk before SVC3 DR
- Clear problem communication

BODY STRUCTURE (1/4)

HIGHLIGHTS:

SVC3

- Supplier welding analysis presentation (first part)
- Trailer hitch supplier meeting → verbally info that they can deliver trailer hitch for SVC3
- Design release process started for the big body structure assemblies (about 300 parts)

IN PROGRESS:

SVC3

- Status PedPro simulation: risk that changes on the body structure are needed (affected area: front end & wiper bracket)
- Supplier welding analysis shows that we need in some areas an update of the welding lines.

BODY STRUCTURE (2/4)

- Single parts sourcing
  - Feedback supplier that they cannot support for the profiles sourcing
  - Single part sourcing is time critical
- No planned topics in the next sprint
  - Supplier meetings
  - Cost workshop
  - Workshop PO
- Data Export from 3DX
  - Revision and maturity status not in the export (requirement from body team: must be in the FILE/ Catia name and Catia attribute)
  - Needed for 3D and 2D data

BODY STRUCTURE (3/4)

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BODY STRUCTURE (4/4)

- Body structure SVC3 MRD date still 18.01.22 in the VPP
  - In the past highlighted that this date is not confirmed by supplier
  - Date not achievable with Sono sourcing, external support needed
- Currently no time for CAs (after SVC3 DR and SVC3 part order)
- The list for change request gets longer

LOWLIGHTS:

SVC3

- SVC3 builder purchasing ongoing
- 2D drawing
  - Delay because of rework details for SVC3 DR
  - 3DX save strategy was unclear

INTERIOR (1/2)

HIGHLIGHTS:

- Cross functional data status for the completion of interior development
- Steering column updates lead to CCB & I/P changes post DR
- Tolerances of interfaces are required

IN PROGRESS: None

INTERIOR (2/2)

LOWLIGHTS:

- Overhead console thus headliner design heavily affected by e-call and wiring (on hold)
- Deadline to raise issues in PMCS to be specified or PMCS issues should be raised with design-freeze data to manage workload/priorities
- Open Xfunctional interfaces

INFOTAINMENT (1/5)

HIGHLIGHTS:

- HARA ready IS-20: item definition - infotainment → DONE
- HARA ready IS-21: item definition - connectivity → DONE
- HARA ready IS-22: instrument cluster - item definition → DONE
- Bench testing H/W and S/W requirement is completed and shared with development team → DONE
- DT for e-call is shared with all the connector details → DONE
- Provided 2nd version of security document between VCM and BCM → DONE
- Next step: plan timeline for provisioning at the assembly → DONE
- Next step: update requirements with new proposed method → DONE
- Complete the release of all infotainment components → IN REVIEW

INFOTAINMENT (2/5)

- Provide EE team IHU device transmittal information → IN REVIEW
- Coordination with WireHarness team for display's schematic and cabling → IN REVIEW
- Sourcing decision on e-call button → DONE
- Create decisions documentation for e-call sourcing decision → IN REVIEW
- Deliver audio system CAE data to interiors → IN REVIEW
- Position VCM in the new location → IN REVIEW
- Discuss with interiors to shorten e-call brackets by (3 mm on both sides) 6 mm → IN REVIEW
- Resolve clash between HVAC and VCM CAD data → IN REVIEW
- Overview of ordered SVC3 parts → IN REVIEW
- Test bench components to source → IN REVIEW

INFOTAINMENT (3/5)

- DFMEA foundation training → IN REVIEW
- eSIM activation on hologram → IN REVIEW

IN PROGRESS:

- Received new CAD data for head impact area IS-33: follow-up to meet ECE R21 head impact→ DONE
- SW benchmark for complete e-cockpit will be DONE in this week, sync with Sono digital team to sync with the SW release → SELECTED FOR DEVELOPMENT
- Based on the functionalities CAN messages are prepared will be IN PROGRESS until design freeze → IN REVIEW

INFOTAINMENT (4/5)

- CAN details are updated based on CAN1_SION_V08.dbc and shared for development team, will be IN PROGRESS until design freeze → IN REVIEW
- In progress will be completed in next weeks → DONE
- Straight connector is available but the final decision will require testing. Next step: alignment between harness team and TE. IS-3: confirm VCM 12-pin main connector → DONE
- Supplier for SOS (e-call) sutton is IN PROGRESS waiting for the quotation expected early next week IS-32: supplier for e-call button → DONE
- IC controller/CANbus monitor module/phone projection module proposal review → IN REVIEW
- Create plan for infotainment team headcount → IN REVIEW
- Source test bench components → IN REVIEW

INFOTAINMENT (5/5)

- CAN.dbc for IHU → IN REVIEW
- Quotation for CAE data for displays from ESP → IN REVIEW
- CAN details for all the tell tales list → IN REVIEW
- IVI system specification reference document for digital team → IN REVIEW
- Review SRS for phone projection → IN REVIEW
- Complete parking aid item definition → IN REVIEW

LOWLIGHTS:

SVC3

- IS-15: Complete the release of all infotainment components→ IN REVIEW
- Screw type not finalized. IS-26: confirm screw length and torque for VCM → PARKED
- Wireframe for the instrument cluster application is required for further development.

CHASSIS (1/8)

HIGHLIGHTS:

- Overall steering development
- Rear axle and sub-frame design speeding up
- SVC3 releases
- SVC3 BOM in place - great initiative
- SVC3 DVP taking shape for chassis. But we really need the CV test plan.
- Most of the brackets are nominated.
- Front brake hose routing to be updated to remove/reduce clash to WAL → DONE
- Add brake line split near firewall → DONE
- supplier ESC proposal initial discussion → DONE
- EVP and ESC data from supplier → DONE

CHASSIS (2/8)

- To get quote from supplier → DONE
- SVC3 Plan → DONE
- Create bolted joint sign-off sheet → DONE
- Determine bolted joint release process → DONE
- Complete fastener BOM with all details → DONE
- LCA → DONE
- LOI for steering supplier → DONE
- Update G drive Structure → DONE
- How to handle I shaft before assembly → DONE
- Tie rod sweep zones → DONE
- Pinion length and manufacturability → DONE
- OBJ optimization → DONE

CHASSIS (3/8)

- Legal requirements fulfillment → DONE
- Mechanical steering gear (MSG) → DONE
- General steering → DONE
- Structured Jira board - steering → DONE
- Quote for SVC3 development → DONE
- Steering commercials - 1 → DONE
- Brake pedal and throttle pedal sweep zones → DONE
- Nominate ESP for brackets → DONE
- Get supplier quote for drop links → DONE
- Drop links development- 1 → DONE
- Wrap-up technical alignment with supplier → DONE
- Brackets supplier strategy → DONE

CHASSIS (4/8)

- Send RFQ to supplier for ARB → DONE
- Send RFQ to supplier for drop link → DONE
- Get spindle hard quotes → DONE
- Coolant pump bracket updates → DONE
- Define test method for drop links → DONE
- Wrap-up tech alignment with supplier → DONE
- Implement design feasibility → DONE
- Kickoff ESP CAD support → DONE
- Definition on RTB bushing → DONE
- Droplink hard quotes → DONE
- Nominate tire repair kit supplier → DONE
- Test physical samples → DONE

CHASSIS (5/8)

- Wheels + tires commercials -1 → DONE
- Nominate wheel supplier → DONE
- Preliminary quote for brackets → DONE
- Rubber edge protector added → DONE
- Damper interface plate adapted to act as stopper → DONE
- Update brake line structure in BOM doc → DONE
- Organisation chart of the supplier → DONE
- ESC mass and C.O.G → DONE
- EVP mass and C.O.G → DONE
- Get ESC forces → DONE

CHASSIS (6/8)

IN PROGRESS:

- Supplier quote for SVC3 → IN REVIEW
- SVC3 bucks: detailed test plan → IN REVIEW
- ADAS: supplier 1 x supplier 2 integration → IN REVIEW
- How to route the brake hoses? → IN REVIEW
- Booster feasibility study for SVC3 → IN REVIEW
- Priorities for design freeze → IN REVIEW
- Implement supplier fasteners → IN REVIEW
- Steering FMEA - 1 → IN REVIEW
- Intermediate shaft - 1 → IN REVIEW
- CEPS mechanical - 1 → IN REVIEW

CHASSIS (7/8)

- Rear spindle development- 1 → IN REVIEW
- Suspension commercials-1 → IN REVIEW
- Chassis test and validation - 1 → IN REVIEW
- Freeze tire repair kit with documents → IN REVIEW
- DT document updation → IN REVIEW
- Identify prio joints → IN REVIEW
- DFMEA with foundation brakes supplier & SQA → IN REVIEW

CHASSIS (8/8)

LOWLIGHTS:

- MRD rear spindle proto parts on CW31/2022 - Go for plan B
- MSG bolt access - gotta change the sub-frame design
- DT data from supplier → IS BLOCKED
- 3D models are missing → IS BLOCKED
- Prototype timeline information from supplier → IS BLOCKED
- Mounting holes for brake pipe clips + brackets→ IS BLOCKED

E/E (1/7)

HIGHLIGHTS:

- **E/E integration**
  - Body electronics
    - BCM wiring harness for LabCar finished
    - Item definition for seat features finished
    - Item definition for vehicle access finished
    - Item definition for vehicle start finished
    - HARA power windows, wash & wipe and side mirrors finished
    - PO for vector tool has been raised (rest-BUS simulation (CAN & LIN)/ data-logging & testing)
    - SVC3 start/stop-button in place (carry over part) already confirmed with interior team

E/E (2/7)

- Body-CAN, diagnostic-CAN and powertrain-CAN: BUS-termination already defined
- Design for AVAS, PDC-sensors, RF-receiver are frozen

- ADAS
  - Negotiations for ADAS timeline are finished with supplier
  - ALL DTs finalized
  - Discussions with suppliers on end-of-life procedures and calibration.
  - Our ADAS function concepts have all been reviewed with supplier and minor changes have been made to fit off the shelf features provided by supplier → Functions are frozen, changes have been captured in FuSa documents.

E/E (3/7)

- **Wiring Harness**
  - Grommets requirements finished (also for next prototypes)
- **CAD Integration**
  - Change actions for every E/E part started
- **Overall**
  - ALL item definitions DONE!
  - PMCS deliverables S0/S1 - Nearly DONE (only one component not)
  - Exchange on the agile scale camp
  - Kick-off weekly meeting Sono Solar & Sono Sion

E/E (4/7)

IN PROGRESS:

- **E/E Integration**
  - Body electronics:
    - slow progress regarding LV-battery management (complication because of MCU CCCV charging strategy (12 V battery))
    - Charge lid motor control: closures changed the motor and is impacting the BCM hardware (new motor schematic)
    - PO for brake light switch: no supplier feedback on the new pricing → need this for design freeze

E/E (5/7)

- **CAD Integration**
  - PO for electrical licences for Catia will only send out this week (harness design)
  - Fuse box (doesn’t work) → Steering column motor is clashing with fuse box → Need to update the design of IP (instrument panel (Interior make this)) for fuse box fixings

- **Overall**
  - Good progress regarding prepare the overall timing E/E in road map

E/E (6/7)

LOWLIGHTS:

- **E/E Integration:**
  - Body electronics:
    - SCCM: supplier still not defined
    - Steering wheel buttons: not defined → supplier need the A-surfaces from Sono → Working with design to create A-surfaces
  - ADAS:
    - SVC3 parts and SW will come later
    - Cyber security: hiring an expert here!

E/E (7/7)

- **Wiring Harness**
  - Position for connection boxes for solar panels

- **CAD Integration**
  - CAD integration need connector CAD form supplier: steering column motor might have issues with location of BCM

- **Overall**
  - Detailed testing plan: testing requirements from other departments? (effects: test locations, headcount…..)

POWERTRAIN

HIGHLIGHTS:

- Driveshaft design changed to a nut (120.000 € tooling savings!)
- Correct EDU CAD received from supplier
- Engagement from VCU hardware from supplier

IN PROGRESS:

- Combination component release and sprint tasks is making progress slow

LOW LIGHTS:

- Headcount

BI-DIRECTIONAL (1/2)

HIGHLIGHTS:

- Applicant hired for OBC development engineer
- Final discussions in terms of requirement and project plan with supplier 1 x supplier 2, order to make a decision of a nomination
- OBC casing - lifting points & MCU mounting are finalized
- Hardware requirements for OBC finalized

IN PROGRESS:

- Requirements for wiring harness from PLC module to control pilot are unclear

BI-DIRECTIONAL (2/2)

LOWLIGHTS:

- Still no PO with supplier for PLC module
- No enough applicants yet for PLC development engineer bi-directional charging system
- Diagnosis specification open

PURCHASING

HIGHLIGHTS:

- SOP
  - Young company disclaimer has been removed
  - Moving forward with supplier nominations

IN PROGRESS:

- SOP
  - Reviewing all costs in the BOM which costs quite a lot of time

LOWLIGHTS: None

QUALITY (1/4)

HIGHLIGHTS:

SVC3/SOP

- ***SQA:***
  - SQA PPAP requirements with full technology suppliers ongoing for SVC3 - no concerns reported by our suppliers on this point.
  - PFD and PFMEA reviews planned for supplier battery pack wk47
  - Supplier (supplier of combi, e-call, speakers etc) DFMEA reviewed. The supplier DFMEA require considerable work to avoid failures.
  - Follow up DFMEA review with supplier planned this week for the EPB and floating brake caliper
  - D drawings to be started for BIW - this is critical as suppliers will not be able to supply PPAP with dimensional reports without a basic 2D drawing.

QUALITY (2/4)

- Foundation FMEA training is now run virtually to allow greater participation and will be ongoing until Christmas break
- Several engineers have requested for P-diagram training - I will arrange this in the new year

- **HR**
  - SQE recruiting process - job ad for SW SQA raised wk 44 however role will be amended to include SW testing to help encourage interest

- ***IMS***
  - Knowledge & experience for quality assurance competence cluster → DONE
  - Sono Solar - implementation of incoming inspection process → IN PROGRESS, to be moved to the next sprint

QUALITY (3/4)

    - Project handbook & development handbook - definition of necessary processes & stakeholders → IN PROGRESS, to be moved to the next sprint
    - Rearrangement of norms & standards confluence page (added child pages to norms where applicable) → DONE

- **COP / Homologation**
    - Initial assessment mandatory processes landscape → gap analysis DONE

- **Sustainability**
    - LCA2:
        - 2nd calculation Sion SEV → DONE

QUALITY (4/4)

IN PROGRESS:

SVC3/SOP

- Lack of design features on the drawing will be an impediment for SVC3

LOW LIGHTS: None

PRODUCTION (1/2)

HIGHLIGHTS:

- Hiring
  - First interviews are DONE
- Contracting
  - Preparation for SVC 3 offer by supplier will be finished on Friday this week
- Organization and Process
  - ME

PRODUCTION (2/2)

IN PROGRESS: None

LOW LIGHTS: None

SIMULATION (1/4)

HIGHLIGHTS:

VPP CAE Plannings

- Defining expectations of PM → mainly complete vehicle simulations
- Planning until 05/2022 created
  - Status: draft
  - Next steps [cw 44 & 45]
    - Alignment PO and attribute lead: scope and project timeline
    - Alignment ESP/supplier: execution

SIMULATION (2/4)

CAE Standardization

- Closures & exterior durability. Adding information/input on supplier

IN PROGRESS:

CAE Standardization

- NVH modelling guideline
  - due of high volume of activities could not fill up the guideline content
    → next sprint / no blocker currently

SIMULATION (3/4)

LCO Follow-Up

- Gathering information of the following modules
  - Thermal (done thermal team updated with latest results)
  - Chassis (sent follow-up mail on status, waiting for the response)
  - Complete vehicle durability (sent follow-up mail on status, waiting for the response)
  - Body structure (sent follow-up mail on status, waiting for the response)

    → Counter measure:
    - Creating LCO consolidation with reporting purpose
    - Setting up LCO review meeting

SIMULATION (4/4)

LOW LIGHTS:

Creating CAE cross meeting

- Rough/general agenda defined
- Participants identified
- Block: last alignments not feasible due to sickness of certain stakeholders

NVH (1/2)

HIGHLIGHTS:

- NVH testing on SVC2 reports> 90%
  - Final feedback given to
    - Thermal squad
    - Powertrain Squad (clonk)
- Final roadmap planning to SOP (resources, budget and scope)
- Weight reduction framework kicked off
- Steering design support (air tightness on lower cross member)
- Engine mounts development NVH support
- Cross-functional meetings with interior & exterior/body

NVH (2/2)

IN PROGRESS:

- Jira link to Requirement
- OBC/MCU vibration / design support
- AVAS system integration launched - sound package on going

LOWLIGHTS: None

HIGHLIGHTS:

SVC3

- Create rear window switch bezel → DONE
- Create windshield front camera bezel → DONE
- Update cap of center console (bigger gap) → DONE
- Create passenger window switch bezel → DONE
- Create window driver switch bezel → DONE

IN PROGRESS: None

LOW-LIGHTS: None

FUNCTIONAL SAFETY (1/2)

HIGHLIGHTS:

SVC3

- Management technical alignment
  - CTO is up to date on FuSa doing, challenges, blockers
  - Follow-up meeting to discuss next FuSa steps after design release
- FuSa Process
  - Alignment with quality and project management on documentation management, FuSa scope communicated and included
  - All 25 FuSa processes drafted and pushed to quality > quality will review all supporting processes to have a common supporting processes across Sono
  - Item definition [~95%]

FUNCTIONAL SAFETY (2/2)

IN PROGRESS: None

LOWLIGHTS:

SVC3

- Item definitions
  - Item definitions input still missing and finalizing not expected in this or upcoming sprint in the following squads > HV battery
- FuSa processes
  - The shown FuSa processes underneath will be parked, so that they can be reviewed/optimized while living these processes

CRASH & SAFETY

HIGHLIGHTS:

- PedPro updates for SVC3 are ongoing
- PAB, CAB, SAB bag shape iterations are ongoing

IN PROGRESS:

- Closures to deliver CAE models required for crash & safety assessments based on design

LOWLIGHTS:

- timing CAE models