DEVELOPMENT SPRINT REVIEW
CALENDAR WEEK 10.22

GENERAL (1/2)

HIGHLIGHTS:

- Infotainment: VCM V3 hardware shipped
- "Find my vehicle" command strategy → Done
- Chassis: freeze CAN matrix for first SWR for LabCar → Done
- ADAS: hired two people for test & validation engineering
- ADAS: cybersecurity kick-off internal alignment
- Kick-off Production of Wiring Harnesses
- Plastic brackets, all defined and ordered.
- Metal brackets, all defined and ordered.
- Powertrain: SVC4 half shaft design decision made to enable tooling kick off.
- Update charging lid Sono logo after community voting→ Done
- Update Sion tailgate logo after community voting → Done

GENERAL (2/3)

IN PROGRESS:

- Body Structure: SVC3 change actions blocks capacity in the body structure squad
- Chassis: align with supplier for ESC functions → In progress
- Chassis: detailed design confirmation for supplier booster & vacuum sensor → In progress
- E/E: good progress in SVC4 roadmap
- E/E: good progress in receiving and creating DT’s (not missing, but still incomplete)
- Fully defined SVC3 BOM split vs SVC4 needs to be created
- SVC3: ongoing risks of delayed supplies due to covid situation in China
- Battery: cell testing at supplier progressing (dimensions, capacity, charge times)

GENERAL (3/3)

LOWLIGHTS:

- Drawing upload in 3DX not possible
- Cybersecurity internal targets
- ADAS: only hardware with CAN communications with basic functionality (all ECUs) of ADAS in SVC3 → less time for testing
- FuSa driveshafts → update PPAP

BODY STRUCTURE (1/2)

HIGHLIGHTS: None

IN PROGRESS:

- SVC3 change actions blocks capacity in the body structure squad
- SVC3 data updates not finished yet
- Strategy change of E-Coating drain holes (Because of new know-how input, we changed from the opinion “We can have dry areas in the profiles” to “It is not possible to seal the inside of the profiles”)
- Ongoing body structure job interviews
- Additional PO needed for supplier, because body structure parts were missed in the sent data

BODY STRUCTURE (2/2)

LOWLIGHTS:

- Drawing upload in 3DX not possible
- Reduced activities on SVC4 topics, because of SVC3 workload
- Open positions not filed yet

INFOTAINMENT (1/4)

HIGHLIGHTS:

SVC3

- Engineer Service Provider (ESP) selected for Track 1 for head unit development

VCM

- VCM V3 hardware shipped
- VCM environment test phase 1 complete
  - Thermal cycling, low temperature storage and operation, high temperature endurance - PASS
- Tentative revision of SW release plan to include May 1st pre-release from Supplier to accommodate core functionality for Solstice Day.
  - Official SW release plan to be released on April 1st.

INFOTAINMENT (2/4)

- "Find my vehicle" command strategy → Done
- Change action for parent BOM items (for fasteners) → Done
- Check SVC3 product in 3DX → Done
- Cost analysis for rear USBs for consideration of removal → Done
- Define “Unlock/Lock Doors” remote commands → Done
- Define “Vehicle Preconditioning” on SION REQ → Done
- Draft VCM boundary diagram → Done
- eSIM shipping to supplier → Done
- Fix VCM SVC3 manufactured part error → Done
- GD&T concept for prototype → Done
- HU detailed design document → Done
- HVAC CAN messages → Done

INFOTAINMENT (3/4)

- Microphone DT updated → Done
- Organize and send over files/documentation to send to ESPs → Done
- Revise VCM SW release plan → Done
- Sprint cross-functional: recognize the current status of descriptions that can be used for the development handbook → Done
- SVC3 - System maturity levels → Done
- SVC3 expected delivery date → Done
- Update Antenna DT with correct part number & images → Done
- Vehicle Access & Start Workshop → Done

INFOTAINMENT (4/4)

IN PROGRESS:

- VCM
  - VCM functional requirement
    - 2 P0 commands still need to be finalized: stop charge & remote mobilization
- Create overview CTS, MTS, SSTS [for initial assessment] → In Progress

LOWLIGHTS: None

CHASSIS (1/8)

HIGHLIGHTS:

- 1 piece of CEPS needed for LabCar → Done
- 2D drawings for strut and shock absorber supplier - review and feedback → Done
- 3D models are missing → Done
- Adjust hole size in bracket → Done
- Body block test part of ECE R12 → Done
- BOM for sub frame - material alignment → Done
- Bracket design for hose → Done
- Bracket drawings→ Done
- Brackets → Done
- Brake connector pipe design → Done
- Brake hoses & pipes → Done

CHASSIS (2/8)

- CAE mesh of parts, unassigned → Done
- CEPS 2D release → Done
- Chassis test and validation time plan template → Done
- Clip design → Done
- Communicate change to supplier → Done
- Create bolted joint request sheet → Done
- Create vacuum hose → Done
- DFMEA software user's decision → Done
- DVP test numbers agreement with supplier development phase wise → Done
- Supplier coil spring drawing approval & MRD dates for SVC3 → Done
- Fastener spec → Done
- Feasibility check to add spring plastic sleeve → Done

CHASSIS (3/8)

- Freeze CAN matrix for first SWR for LabCar → Done
- Front sub frame DVP test numbers, sequence of tests & no. of samples definition. → Done
- Generate test loads based on VRLDA → Done
- Get 3x & 1x brake line clip → Done
- Get feedback from BIW team / supplier → Done
- Homologation drawings → Done
- Hose connector design → Done
- Implement brake line clips → Done
- Implement supplier models in 3DX - 2 → Done
- Intermediate shaft fastening strategy → Done
- Kickoff PO for parts → Done
- Kickoff spindle testing discussion → Done

CHASSIS (4/8)

- Knuckle testing-road load data → Done
- Pedal design for SVC3 → Done
- Provide updated bolt loads in vehicle coordinate system for chassis hard points → Done
- RACI chart OEM - supplier → Done
- Rear spring pad RFQ release → Done
- Refine T&D plan → Done
- RFQ release → Done
- Series timeline for spindle → Done
- Serviceable parts - EBOM update → Done
- Sign-Off list - steering → Done
- Spindle drawing approval for SVC3 definition. → Done
- Static loads Input → Done

CHASSIS (5/8)

- Steering gear part breakdown → Done
- Steering history → Done
- Sub frame GD&T model release to supplier → Done

IN PROGRESS:

- 2D drawings for strut and shock absorber supplier - review and feedback → In progress
- Align with supplier for ESC functions → In progress
- Brake lines readiness → In progress
- CAE rear axle to body bracket → In progress
- CEPS mechanical - 2 → In progress
- Chassis test and validation - 1 → In progress
- Define test method for rear twist beam → In progress

CHASSIS (6/8)

- Detailed design confirmation for supplier booster & vacuum sensor → In progress
- Finalize brake hoses & pipes → In progress
- Front coil spring design confirmation supplier → In progress
- Front strut & rear shock development-1 → In progress
- Front sub frame development -1 → In progress
- General steering - 3 → In progress
- Homologation - M → In progress
- K&C physical measurement -to fix agency & quotation → In progress
- L - E/E static and dynamic test for sign off - Brakes → In progress
- Longitudinal motion control alignment → In progress
- Nominate supplier for brackets → In progress
- Rear axle spindle mounting plate machining & welding sequence → In progress

CHASSIS (7/8)

- Rear coil spring development -1 → In progress
- Rear coil spring development with supplier → In progress
- Rear spring pad development -1 → In progress
- Rear spring pad supplier discussion and freeze proposal → In progress
- Rear twist beam development -1 → In progress
- Requirement and its management - M → In progress
- Requirements for interfaces → In progress
- S - align development of other ECUs and ESC → In progress
- Share priority joint request sheets → In progress
- Sion chassis history → In progress
- Software and functional timeline - S → In progress
- Steering fasteners → In progress

CHASSIS (8/8)

- Steering vehicle DVP to be confirmed → In progress
- Suspension tuning development plan-1 → In progress
- SVC 3 logistics confirmation → In progress
- SVC3 build-1 → In progress
- Test and LC development- L → In progress
- To get the booster quote from supplier → In progress
- VD inputs from supplier → In progress

LOWLIGHTS:

- Cybersecurity internal targets

E/E (1/4)

HIGHLIGHTS:

- ADAS:
  - Hired two people for test & validation engineering
  - ADAS provides status of individual DTs for SVC4
  - Cybersecurity kick-off internal alignment

- Wiring Harness:
  - Internal SVC3 design checklist refinement finished
  - Successful on-boarding (EDS Engineer)
  - Kick-off “Production of Wiring Harnesses”

E/E (2/4)

- CAD Integration:
  - Harness release process is defined
  - Supplier SVC3 box design is almost complete
  - Solved: new BLS switch may cause close contact / clash condition with thermal
  - Plastic brackets, all defined and ordered.
  - Metal brackets, all defined and ordered.

IN PROGRESS:

- Overall:
  - Good progress in SVC4 roadmap
  - Good progress in receiving and creating DT’s (no missing, but still incomplete)

E/E (3/4)

- E/E Integration:
  - ADAS:
    - Missing plan for first stage of integration in SVC3
    - Need for more communication in the squad

- CAD Integration:
  - SVC3 BOM split is confusing and stops working, because fixing SVC3 CAD data and meanwhile working on SVC4 → Fully defined SVC3 BOM split would help!
  - Difficulty in SVC3/SVC4 structure differentiation is causing issues with suppliers and slowing down 3D Design → it is still not defined from CAD competence cluster

E/E (4/4)

LOWLIGHTS:

- E/E Integration:
  - ADAS:
    - Only hardware with CAN communications with basic functionality (all ECUs) of ADAS in SVC3 → less time for testing
    - Software release plan from other ECUs is necessary to work
    - dbc file approach in Gid lab → alignment with all stakeholders (one format) → meeting with all stakeholder

POWERTRAIN (1/2)

HIGHLIGHTS:

- In person validation meeting with PTB at Munich site
- VCU series quotation received verbally
- Timing plan (strength targets, CAE, design freeze, validation) agreed with supplier for powertrain mounts and cast parts to support SVC3 and SVC4
- SVC4 half shaft design decision made to enable tooling kick off
- SVC3 - System maturity levels

POWERTRAIN (2/2)

IN PROGRESS:

- Tasks demand more time than planned (supplier work)
- Solution for missing chassis CAN on VCU still WIP (3 options being explored)
- Powertrain lifetime test duration driving high validation cost → exploring options to reduce duration/cost
- Working on solution for clash of EDU envelope with steering column gear

LOWLIGHTS:

- CAD license issues → need help here from PM standing in for HV Battery is taking up time FuSa driveshafts → update PPAP
- Define torque value is difficult, because need feedback from supplier

BI-DIRECTIONAL

HIGHLIGHTS:

- DTs finalized

IN PROGRESS:

- SVC3: Ongoing risks of delayed supplies due to COVID-19 situation in China
- SVC3: DC charging still to be confirmed by OBC supplier

LOWLIGHTS:

- Not mature requirements for diagnostic systems on vehicle level available
- Not mature requirements for cybersecurity on vehicle level available

HV BATTERY (1/2)

HIGHLIGHTS:

- New team members started as Powertrain Project Engineer and as BMS engineer in CW9 → onboarding and handovers in progress
- Supplier working on plan to provide 2 x BOMs for B sample beta packs to support first vehicle builds on time → SM team pushing hard on this
- Cell testing at supplier progressing (dimensions, capacity, charge times)
- HV battery pack DVP close to being finalized
- HV battery workshop being kicked off Friday CW11 to review key design issues and up train team
- Cell tab over temperature caused by supplier HV cables and not cell tab welds
- HV battery sprints using Jira board will restart properly from CW12

HV BATTERY (2/2)

IN PROGRESS:

- Latest timing from supplier does not meet build timing for 2 marketing vehicles and 6 other SVC3s (impacted by lockdowns in China): Working on plan with supplier to improve timing
- Cell temperature delta issue during charging and heating → In review

LOWLIGHTS:

- Headcount
- Diagnostic topics critical for SVC3 (DTC definition to supplier shall be provided by Sono)

WEIGHT

HIGHLIGHTS:

- Link to Jira sprint

IN PROGRESS:

- Jira link to the requirement board still ongoing (VTS related topics still open)
- Jira sprint view in weight management confluence page still ongoing
- PKGO related tickets were postponed to CW10.22 due to priority and current capacity

LOWLIGHTS:

- Input source: BOM attributes Part_Source and estimated weight

NVH (1/2)

HIGHLIGHTS:

- Prototype build planning alignment for NVH ongoing
- Detailed NVH test plan writing started
- Design support NVH topics (brackets and Mounts)
- Interior support for NVH package prototypes and series
- Procuring of dedicated materials in progress (1/2)
- NVH dedicated equipment procurement started (1/2)

NVH (2/2)

IN PROGRESS:

- Jira link to requirement - WIP
- DVP update with new vehicle planning
- POs for NVH equipment in negotiations

LOWLIGHTS: None

DESIGN (1/2)

HIGHLIGHTS:

- Interior grains → Done
- Moss plexiglass for SVC3 → Done
- Progress on design quality template → Done
- Sprint cross-functional: recognize the current status of descriptions that can be used for the development handbook → Done
- Start steering wheel switch surfaces → Done
- Update Charging Lid Sono logo → Done
- Update Sion Tailgate logo → Done

DESIGN (2/2)

IN PROGRESS:

- Gap bumper front light → In progress
- Freeze color & trim for interior SVC3 vehicles → In progress
- Update grille styling → In progress

LOWLIGHTS: None

CRASH & SAFETY (1/5)

HIGHLIGHTS:

- Abolition of HVAC and interior air ducts for IPs intended to be used in sled testing → In review
- Accessibility issue on B-pillar weld → In review
- CAE models for IAC/MOLD → In review
- Crash vehicle usage - crash sensing - SVC3-11 + 12 → In review
- Crash/safety CAE - SVC3 status review - Low Speed → In review
- Crash/safety CAE - SVC3 status review - PedPro → In review
- DEBUG passenger seat model → In review
- Headcount plan update interior → Done
- Side crash - pole - structural integrity of rocker → In review
- SVC3 ECE R-14 2SR → In review

CRASH & SAFETY (2/5)

- SVC3 ECE R-145 2SR → In review
- SVC3 ECE R-17 2SR → In review
- SVC3 integration 1SR model → In review
- SVC3 integration 2SR model → In review
- Tack weld (Heftnaht) on z-bar → In review
- Vehicle and buck availability → In review

CRASH & SAFETY (3/5)

IN PROGRESS:

- Alternative seat attachment concept → In progress
- Assessment of new weld line pattern on rear CMS → In progress
- Charger Lid - requirement "functional after ls crash" → In progress
- Crash/Safety - results to LCO → In progress
- Crash/Safety - SVC3 DR status reporting → In progress
- Crash/Safety CAE - SVC3 status review - Occ. Safety → In progress
- Crash/Safety CAE - SVC3 status review - OccSafety - PMCS Issue list → In progress
- Crash/Safety CAE - SVC3 status review - Seats & Restraints → In progress
- Crash/Safety CAE - SVC3 status review - Sensoring → Backlog
- ECE R-14 Safety belt anchorage points → Backlog
- Front Crash - all - general improvement of front crash results → In progress

CRASH & SAFETY (4/5)

- General - weight reduction → In progress
- Headliner clip resistance - evaluation of current development state → In progress
- Homologation issue - seats → In progress
- Keyhole opening for headliner clip in roof header → In progress
- Material & joining validation → In progress
- Material card creation EH227AE and JSP Arpro 30gl foam → In progress
- RCAR optimization exterior → Backlog
- Rear crash - ECE R-34 - reduce door cut shortening → In progress
- Seat lever - requirement and evaluation → To be done
- Side crash - barrier - integrity lower B-Pillar patch → In progress
- Side crash - barrier load cases - failure in DIW → In progress
- Side crash - pole - failure in DIW → In progress
- Update door-in-white → In progress

CRASH & SAFETY (5/5)

- Side crash - pole - failure upper B-Pillar patch → In progress
- SM-6-220 - stress/strain-curve from supplier → Backlog
- Status update with body structures release 0.1 → In progress
- SVC3 body structure component testing → In progress
- SVC3 CMT welding validation → In progress
- SVC3 crash/safety status available on confluence → Backlog
- SVC3 ECE R-14 1SR → In progress
- SVC3 ECE R-145 1SR → In progress
- SVC3 ECE R-17 1SR → In progress
- SVC3 O'S Status with updated firing times (TTF) → In progress
- SVC3 point joining technology validation → Backlog

LOWLIGHTS: None