



DEVELOPMENT SPRINT REVIEW

CALENDAR WEEK 6.21

OVERALL PROJECT SVC3

Key Milestones overview:

Shakedown finish SVC2.1 'Salt' car: 12.04.21

Shakedown finish SVC2.2 'Pepper' car: 26.04.21

HIGHLIGHTS: Successful shakedown at Continental Regensburg. Shakedown plans for chassis getting more concrete (testing ground etc.)

LOWLIGHTS: None

BLOCKER: None

RESTART

HIGHLIGHTS: Review ReStart Timing - done.

Recruiting - still ongoing.

New Frontend - Extension Package.

LOWLIGHTS: Review ReStart Timing & Recruiting more time consuming than expected.

BLOCKER: None

SUPPLY CHAIN MANAGEMENT

HIGHLIGHTS: Restart: Hiring of New Logistics Manager - done.

SOP: Implementation ERP-System - overall progress on track, initial scoping workshops done.

LOWLIGHTS: None

BLOCKER: None

HIGHLIGHTS: SOP: Logistics provider selection & evaluation criteria - done

LOWLIGHTS: None

BLOCKER: None

HIGHLIGHTS: SVC2: Seeing the vehicle driving after months of sourcing, developing, purchasing, logistics, engineering, assembly, troubleshooting. Considering what has been achieved during COVID restrictions is quite unbelievable. A good example to other partners. (Not withstanding their own countries COVID restrictions).

LOWLIGHTS: None

BLOCKER: None

HIGHLIGHTS: SVC2: Development of a channel for CIP-Inputs for the SVC2 vehicles and the following stages. Optimization of the procedure for the product audit for the SVC2.2

LOWLIGHTS: None

BLOCKER: None

HIGHLIGHTS: Restart: Hiring - On Track.

Set up a workshop with NEVS for BIW in advance to the restart - Done.

Organisational Concept defined - Done.

Group Sion Budget Manufacturing will be finish end of this week.

LOWLIGHTS: None

BLOCKER: None

BODY CLOSURE / EXTERIOR (1/2)

HIGHLIGHTS: SVC2: Planning of work packages SVC2.
RA planned solution for side door closing issues.

SVC3: HSL/lighting pre-development: meeting KO, agreed to resource ramp up/small styling changes.

Final confirmation front end extension 160mm.

RLE confirmed FE extension of 160mm has no additional development/design cost effect from 120 > PO can be kicked off.

Planning styling issue resolution for closures/exterior > better status for 2021 restart.

Hinge topic restart planning: solution in sight: requires budget.

BODY CLOSURE / EXTERIOR (2/2)

LOWLIGHTS: SVC2: Additional issues raised: directly series issues, hard to solve/investigate on SVC2.

BLOCKER: None

INTERIOR (1/2)

HIGHLIGHTS: SVC2: Next Vehicle Inspection of Interior related issues at Roding will take place on 01.03.2021.

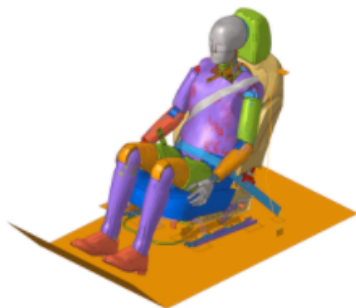
SVC3: Seat Concept Verification - Whiplash Assessment.

LOWLIGHTS: SVC3: Alignment with HR on Interior|Crash&Safety Positions- done, Personio entries to be done till the next Sprint. Engineering Scope of Work for RFQs - done. Pending remaining RFQs to be sent to suppliers. Cost Estimations were transferred to the Budget File.

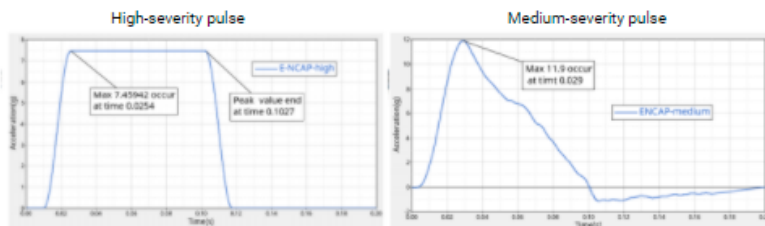
BLOCKER: SVC3: Progress in getting all of the suppliers onboard till April that will be important for Interior and Crash&Safety development.

EUNCAP (info only) - Whiplash

1st Row Seats



EUNCAP Whiplash – 2.7/3 Points, Pass
(Predicted Target – 2 Points)



Static Assessments				
Worst Backrest Geometry	Effective Height (mm)	Point	Average Backrest Incl.	Point
	838.6	1.000	9.5	1.000
Static Points		1.000		

Dynamic Assessments				
Parameters	Medium-severity pulse		High-severity pulse	
	Value	Point	Value	Point
NRG	14.00	0.000	12.00	1.000
Men	0.233	0.000	0.191	0.000
Rebound Velocity (m/s)	3.88	0.000	3.58	0.000
Upper Neck Shear Fx (N)	58.58	0.045	68.56	0.789
Upper Neck Shear Fz (N)	86.94	0.000	89.87	0.000
Upper Neck Tension Fz (N)	224.11	1.000	282.19	1.000
Upper Neck Extension My(N)	3.54	0.000	4.43	0.000
Upper Neck Flexion My(N)	16.18	0.000	11.48	0.000
Lower Neck Shear Fx (ABR) (N)	194.48	0.000	169.03	0.000
Lower Neck Extension My(N)	3.32	0.000	4.49	0.000
Lower Neck Flexion My(N)	5.70	0.000	6.96	0.000
T-FRC (mm) (ms)	58.6	0.000	63.9	0.000
T1 Acceleration Average (g)	11.18	0.000	11.58	0.000
Dynamic Points		2.503	3.432	2.789

Test is split in 2 Criteria:

1- Static Assessment meaning that seats are geometrically compatible with the EUNCAP requirements

2- Dynamic Assessment meaning with given pulses, simulating a rear-impact case, Occupant Injury Criteria especially for Neck and overall seat behavior should meet EUNCAP requirements

Worst Case Geometry Credit			
Driver	Effective Height(mm)	Average Backrest Incl.	Credit
Driver	838.6	9.5	3.5
Passenger	825.5	10.5	3.5

Whiplash Modifier		
High Severity Pulse	Maximal Deflection Angle (°)	Modify
Seatback Dynamic Deflection	11.5	0
Dummy Artefact Loading	Description	Modify
	No	0

Total Points (8)	7.422
Rating (3)	2.783

BODYSTRUCTURE (1/2)

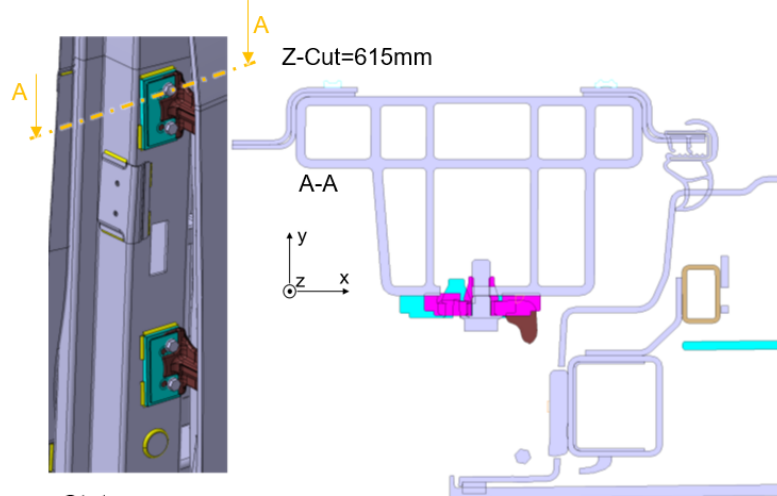
HIGHLIGHTS: SVC3: Decision Solving Strategy --> Hinge Issue.
Contact re-start with part suppliers (profiles and sheet metals).
Sign of contract for Position Senior Manager Automotive Body.
ARRK Start: Working access to 3DX & First technical discussions.

LOWLIGHTS: SVC3: Rejection by an applicant.

BLOCKER: None

BODYSTRUCTURE (2/2)

B-Pillar upper door hinge



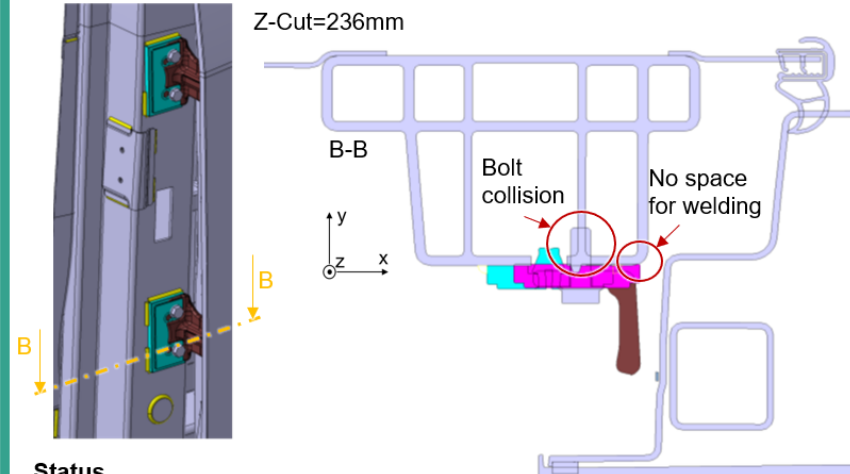
Status

Body Structure can solve the mismatch

- Body Structure hinge bracket can move to hinge position

Body Structure Hinge Bracket
Current body structure position
Needed position for current hinge position

B-Pillar lower door hinge



Status

Body Structure cannot solve the mismatch easy

- Collision of hinge bolt with profil bar
- No space for body structure hinge bracket welding

Next step

- Body Closures have to check, if hinge position can move

INFOTAINMENT

HIGHLIGHTS: SVC3: Supplier for USB interfaces will deliver products according to our specs (USB-C with power delivery / up to 18watt charging output).

LOWLIGHTS: SVC2: vehicle still not mature enough to do reliable Infotainment testing (mainly OBC and HV activation topics).

BLOCKER: SVC2: Infotainment testing not possible due to unstable systems in the car (OBC and high voltage). System integration just requires more time and focus for SVC2.

HIGHLIGHTS: SVC2: Sim-Fuse Testing planned WK8 at Roding.
SVC3: Working Students joining. Engineer agreed to join.
Plan for external support on EDS topics making progress (1 Head).
STS for SCCM complete and sent.

LOWLIGHTS: SVC2: BreSono hindering A_CAN, causing HV-Battery from operating intermittently (DTCs).
SVC3: Need to rework BCM STS from Schematic findings.
Progress being made on schematics/electrical interface/topology/device transmittals but falling behind schedule.

BLOCKER: SVC3: Need all technology decisions made ASAP so we don't have to deviate later.

HIGHLIGHTS: SVC2 : First solar charging with part of the roof panels was successfully witnessed on Vitesco's test track in low irradiance environment last week.
SVC3: Working Student Joining.

LOWLIGHTS: None

BLOCKER: SVC2: OBC sample in SVC2.2 is defective (not charging anymore).
Frequent travels to Roding could be avoided if vehicles could be maintained in our HQ.

HIGHLIGHTS: SVC2: Steering static calibration finished.

LOWLIGHTS: SVC2: Access to test tracks due Corona restrictions.

BLOCKER: None

HIGHLIGHTS: SVC3: Exterior CAS progressing. extended front design planned to be finished at the end of next week. + minor changes on rear bumper (styling).

Lighting concept supplier briefed and kicked off.

Interior CAS progressing. IP, Center Console basic data almost finished, doors ongoing, upper lower trim / headliner is starting. Planned to be finished at the end of March.

LOWLIGHTS: None

BLOCKER: None