

CAViT | Status.E

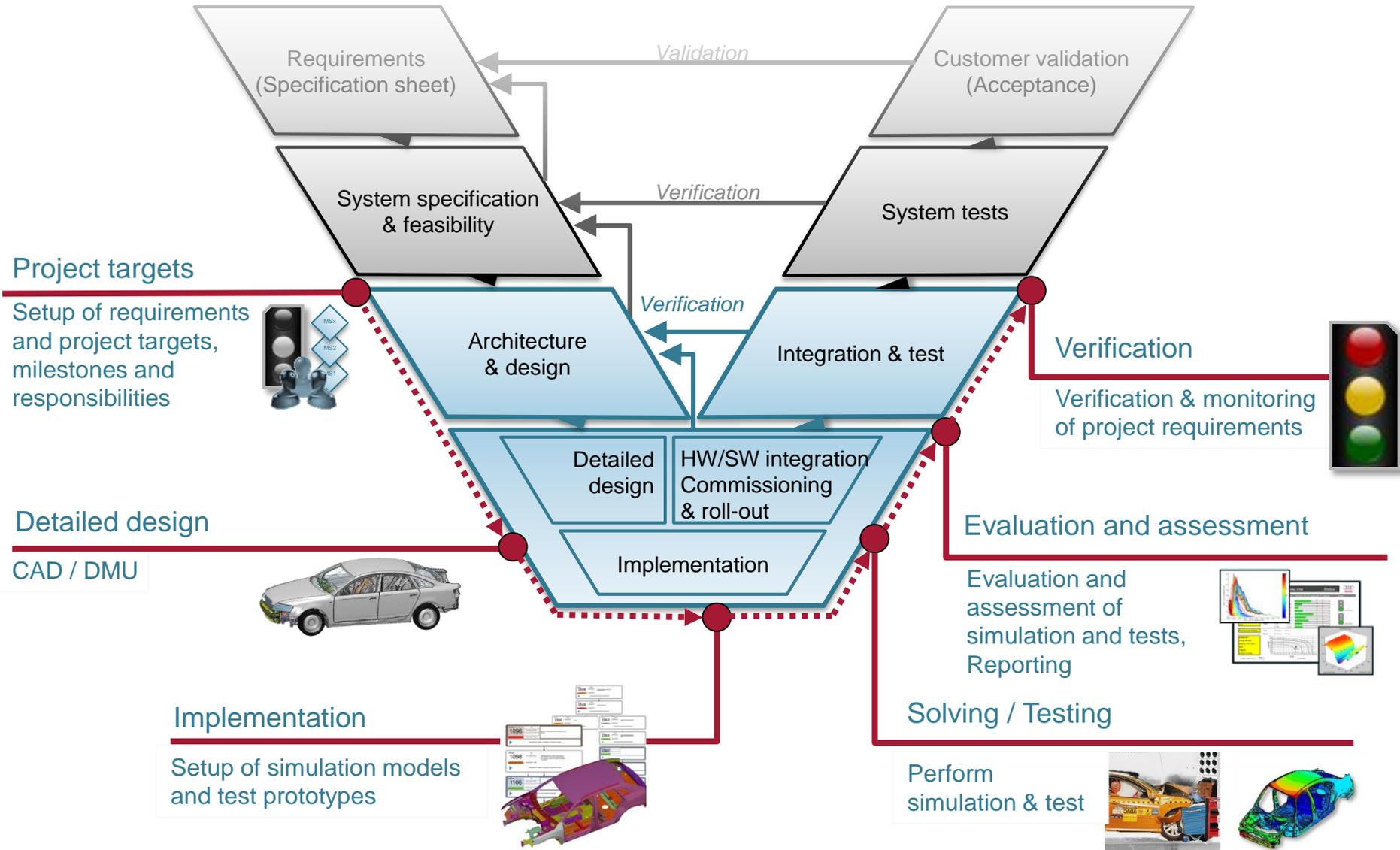
Evaluation, comparison and validation of CAT & CAE data

Martin Liebscher
Gordon Geissler
Rainer Hausdorf

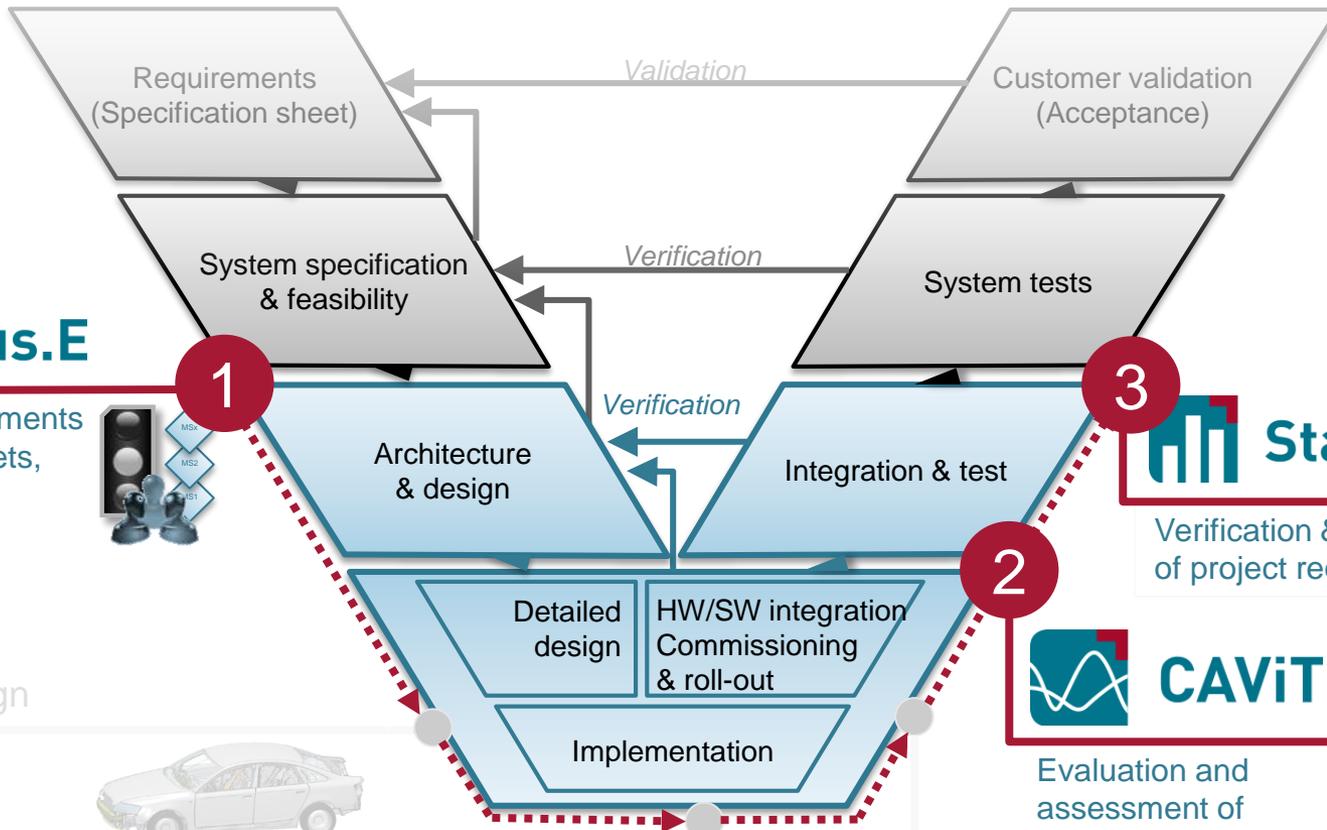
SDM Infotag, Mai 2016

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Introduction - Systems Engineering Process



Introduction - Systems Engineering Process



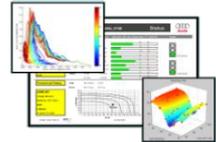
Setup of requirements and project targets, milestones and responsibilities



Verification & monitoring of project requirements



Evaluation and assessment of simulation and tests, Reporting



Detailed design

CAD / DMU



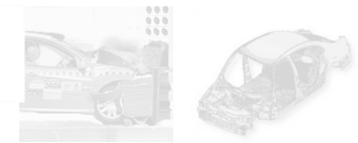
Implementation

Setup of simulation models and test prototypes

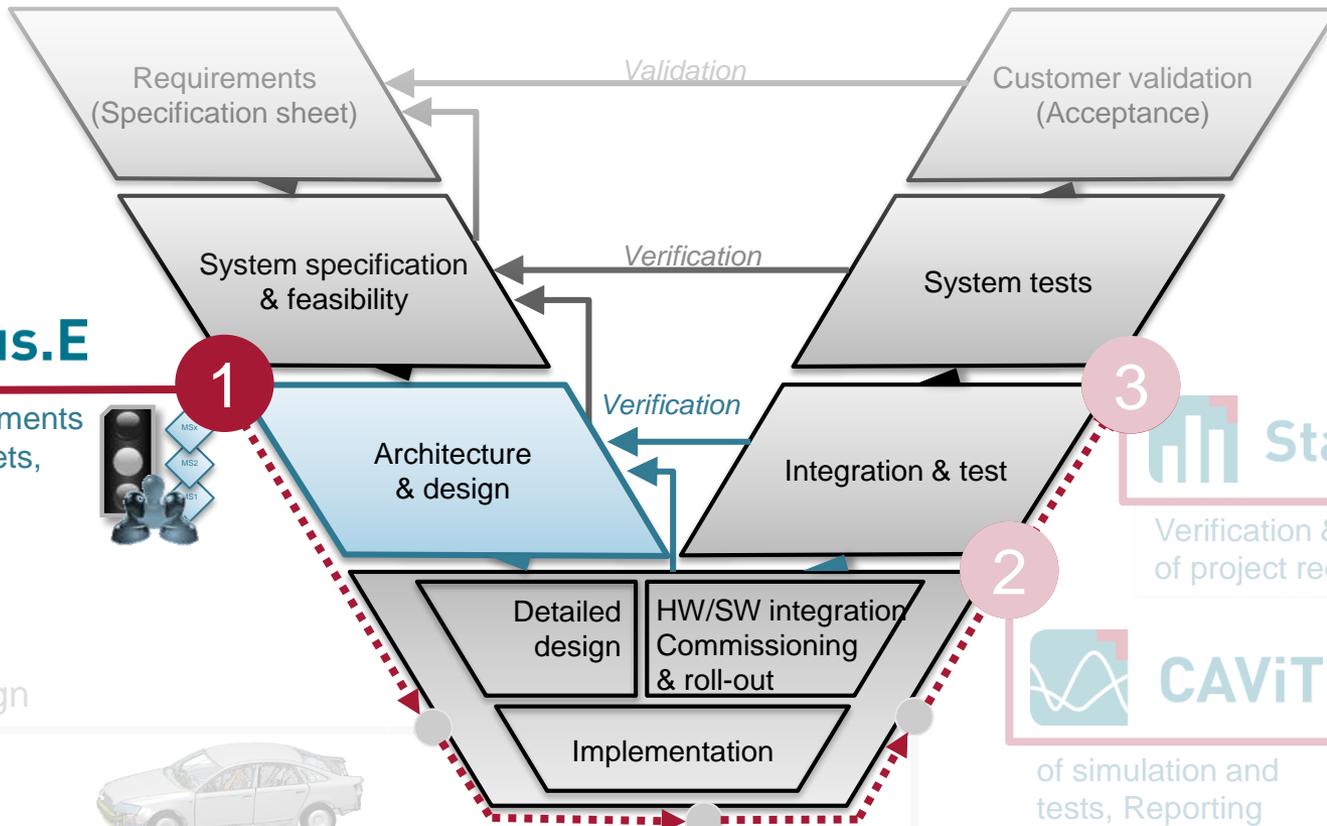


Solving / Testing

Perform simulation & test



Introduction - Systems Engineering Process



Setup of requirements and project targets, milestones and responsibilities



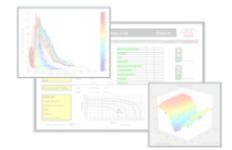
Verification & monitoring of project requirements



Detailed design
CAD / DMU



of simulation and tests, Reporting



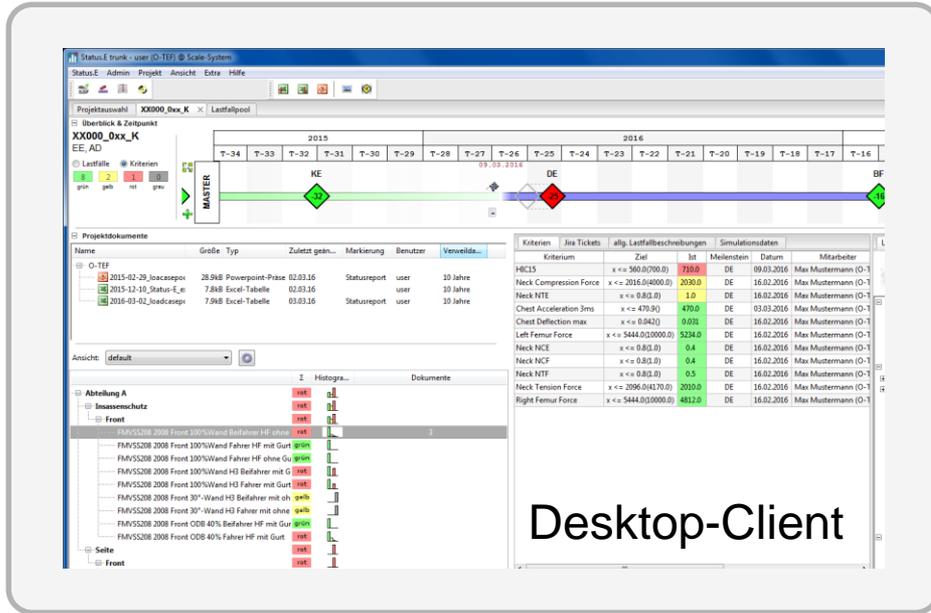
Implementation
Setup of simulation models and test prototypes



Solving / Testing

Perform simulation & test





Characterization

- Requirement and Test Case Management
- Status Monitoring
 - Track fulfillment of project targets / requirements with respect to project milestones
 - Status aggregation for projects
- Reporting - generation of status reports (ppt, doc, pdf)
- Documentation - Integrated document management system



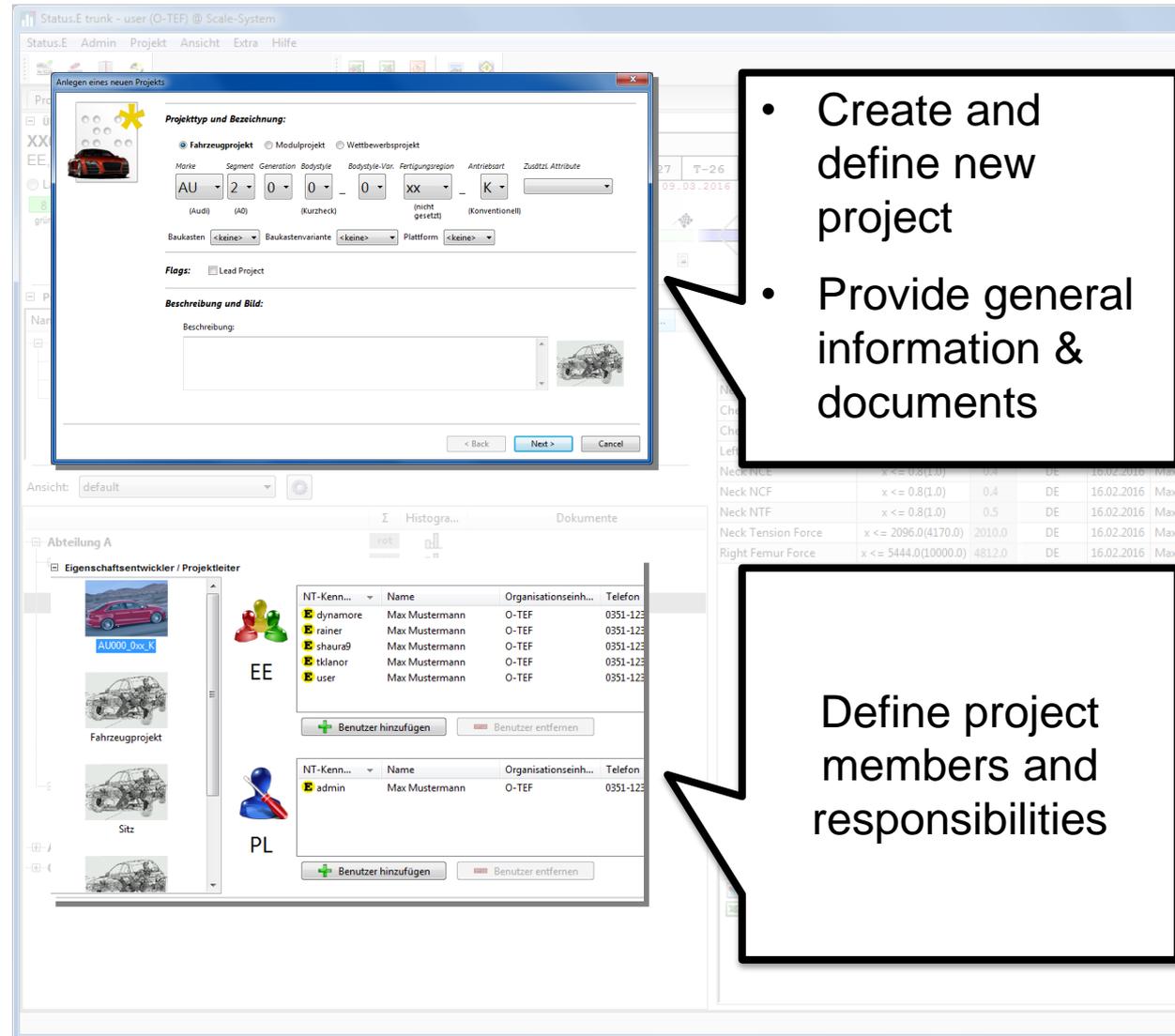
Define Project



Project Milestones



Test Cases
(Load Cases)



The screenshot displays the 'Anlegen eines neuen Projekts' (Create new project) dialog box and the user management interface. The dialog box is titled 'Anlegen eines neuen Projekts' and contains the following sections:

- Projekttyp und Bezeichnung:** Includes radio buttons for 'Fahrzeugprojekt' (selected), 'Modulprojekt', and 'Wettbewerbsprojekt'. Below are dropdowns for 'Marke' (AU), 'Segment' (2), 'Generation' (0), 'Bodystyle' (0), 'Bodystyle-Var.' (XX), 'Fertigungsregion' (K), and 'Antriebsart' (K). There are also dropdowns for 'Baukasten' (keine), 'Baukastenvariante' (keine), and 'Plattform' (keine).
- Flags:** Includes a checkbox for 'Lead Project'.
- Beschreibung und Bild:** Includes a text area for 'Beschreibung' and a small image of a car.

The user management interface below shows a table of users:

NT-Kenn...	Name	Organisationseinh...	Telefon
dynamore	Max Mustermann	O-TEF	0351-123
rainer	Max Mustermann	O-TEF	0351-123
shaura9	Max Mustermann	O-TEF	0351-123
tklanor	Max Mustermann	O-TEF	0351-123
user	Max Mustermann	O-TEF	0351-123

Buttons for '+ Benutzer hinzufügen' and '- Benutzer entfernen' are visible below the table.

Two callout boxes provide additional information:

- Top Callout:**
 - Create and define new project
 - Provide general information & documents
- Bottom Callout:**
 - Define project members and responsibilities

Project Setup: Milestones



Define Project



Project Milestones



Test Cases

The screenshot shows the Status.E software interface. The top part displays a Gantt chart for a project named 'XX000_0xx_K' spanning from 2015 to 2016. A green bar represents the project duration, with a green diamond milestone labeled 'KE' (32) and a red diamond milestone labeled 'DE' (26). The bottom part shows a dialog box titled 'Anlegen eines neuen Projekts' for a 'Produktentwicklungsplan'. It includes a list of milestones with their names, plan dates, and references.

Name	Plan-Datum	Referenz
SOP:	KW 10/2016	-
PVS:	KW 37/2015	SOP
VFF:	KW 28/2015	SOP
BF:	KW 37/2014	SOP
DF:	KW 15/2014	SOP
DE:	KW 49/2013	SOP
KE:	KW 23/2013	SOP

General product milestones and sub milestones for disciplines

Project Setup: Test Cases and Project Targets



Define test cases and aggregation scheme

Lastfälle zum Projekt hinzufügen - OE-Auswahl

An dieser Stelle haben Sie die Möglichkeit, die Organisationseinheit der in das Projekt hinzuzufügenden Lastfälle einzustellen sowie sich für mehrere Varianten eines Lastfalls zu entscheiden. Des Weiteren können Kriterien per Rechtsklick markiert werden, um diese nicht ins Projekt zu übernehmen.

Lastfall / Kriterium	Template-OE	OE im Projekt	Varianten
FMVSS208 OOP HF-Driver	Abteilung B	O-TEF	Variante A, Variante B
FMVSS208 OOP Y2-Passenger	Abteilung B	O-TEF	Variante A, Variante B
FMVSS208 OOP Y6-Passenger	Abteilung B	O-TEF	Variante A, Variante B
FMVSS208 OOP Y7-Passenger	Abteilung B	O-TEF	Variante A, Variante B

Alle Lastfälle auf folgende Organisationseinheit setzen:

Alle Lastfälle mit folgenden Varianten ausdragen:

[OE's der Templates für Projekt beibehalten](#)

Abbrechen OK

Lastfallbewertung zum 01.02.2017

FMVSS208 2008 Front 100%Wand Beifahrer HF ohne C

Kriterium	Ampel rot untere Grenze	Ampel gelb untere Grenze	Ist	Ampel gelb obere Grenze
Chest Acceleration 3ms			490.0	470.9
Neck Compression Force			2030.0	2016.0
Neck NTE			1.0	0.8
Chest Deflection max			0.031	0.042

Define single test cases criterias and project targets & techn. criteria ids for automatic tracking

Project Setup

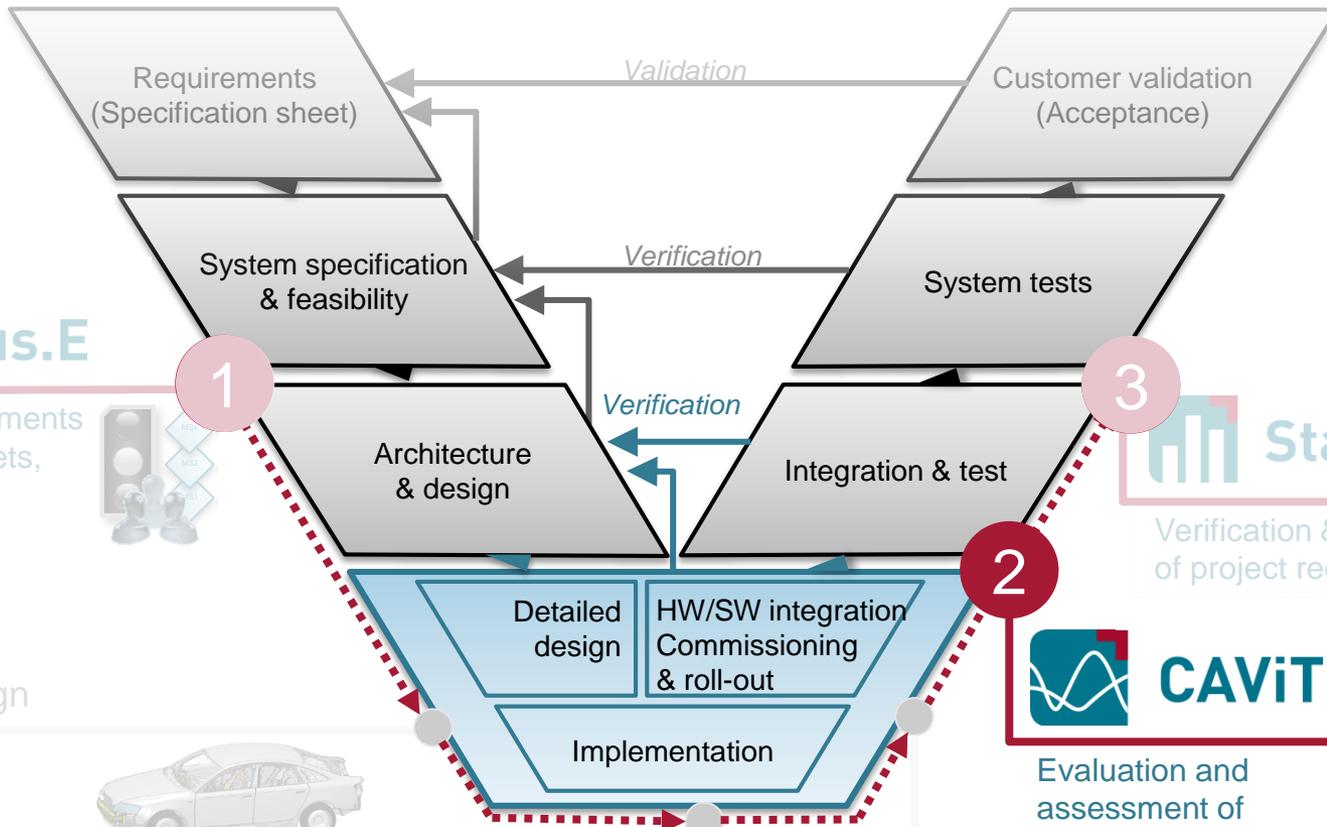


The screenshot displays the Status.E software interface for project management. The main window shows a Gantt chart for the project 'XX000_0xx_K' with milestones 'KE' (32) and 'DE' (26) plotted against a timeline from 2015 to 2016. Below the Gantt chart, the 'Projektdokumente' section lists documents such as 'O-TEF' and '2015-02-29_loacasepor'. The 'Abteilung A' section shows a hierarchical tree of test cases, including 'Insassenschutz' and 'Seite'. The 'Abteilung B' section shows 'O-TEF'. The 'Kriterien' table on the right lists various criteria with their target values, current values, and due dates. The 'Lastfalldokumente' table at the bottom right lists documents like 'criterium_plot.jpg' and '2016-03-02_14-25-00_status-e'.

Kriterium	Ziel	Ist	Meilenstein	Datum	Max
HIC15	$x \leq 560.0(700.0)$	710.0	DE	09.03.2016	Max
Neck Compression Force	$x \leq 2016.0(4000.0)$	2030.0	DE	16.02.2016	Max
Neck NTE	$x \leq 0.8(1.0)$	1.0	DE	16.02.2016	Max
Chest Acceleration 3ms	$x \leq 470.9(0)$	470.0	DE	03.03.2016	Max
Chest Deflection max	$x \leq 0.042(0)$	0.031	DE	16.02.2016	Max
Left Femur Force	$x \leq 5444.0(10000.0)$	5234.0	DE	16.02.2016	Max
Neck NCE	$x \leq 0.8(1.0)$	0.4	DE	16.02.2016	Max
Neck NCF	$x \leq 0.8(1.0)$	0.4	DE	16.02.2016	Max
Neck NTF	$x \leq 0.8(1.0)$	0.5	DE	16.02.2016	Max
Neck Tension Force	$x \leq 2096.0(4170.0)$	2010.0	DE	16.02.2016	Max
Right Femur Force	$x \leq 5444.0(10000.0)$	4812.0	DE	16.02.2016	Max

Name	Größe	Typ	Zuletzt geändert am
criterium_plot.jpg	548.1kB	Bild	02.03.16
2016-03-02_14-25-00_status-e	33.0kB	Excel-Tabelle	02.03.16

Introduction - Systems Engineering Process



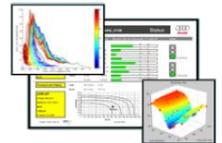
Setup of requirements and project targets, milestones and responsibilities



Verification & monitoring of project requirements



Evaluation and assessment of simulation and tests, Reporting



Detailed design

CAD / DMU



Implementation

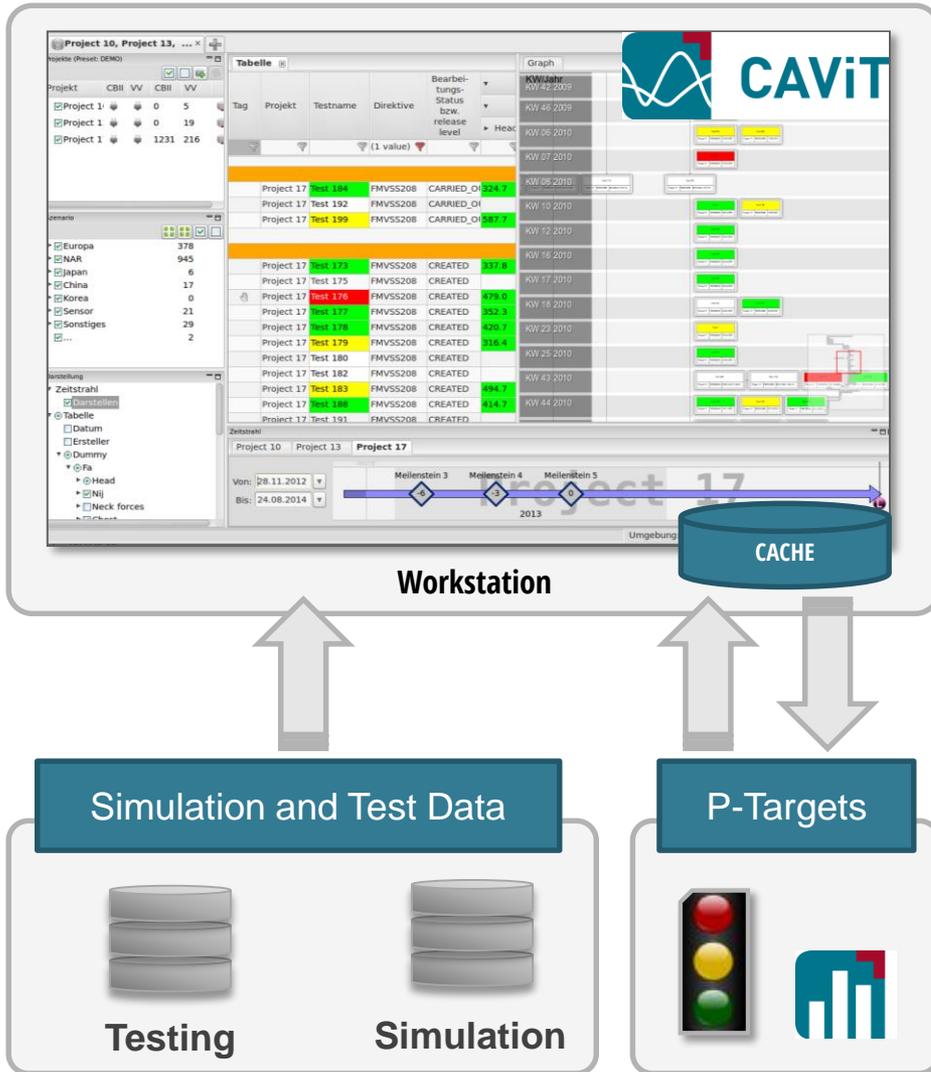
Setup of simulation models and test prototypes



Solving / Testing

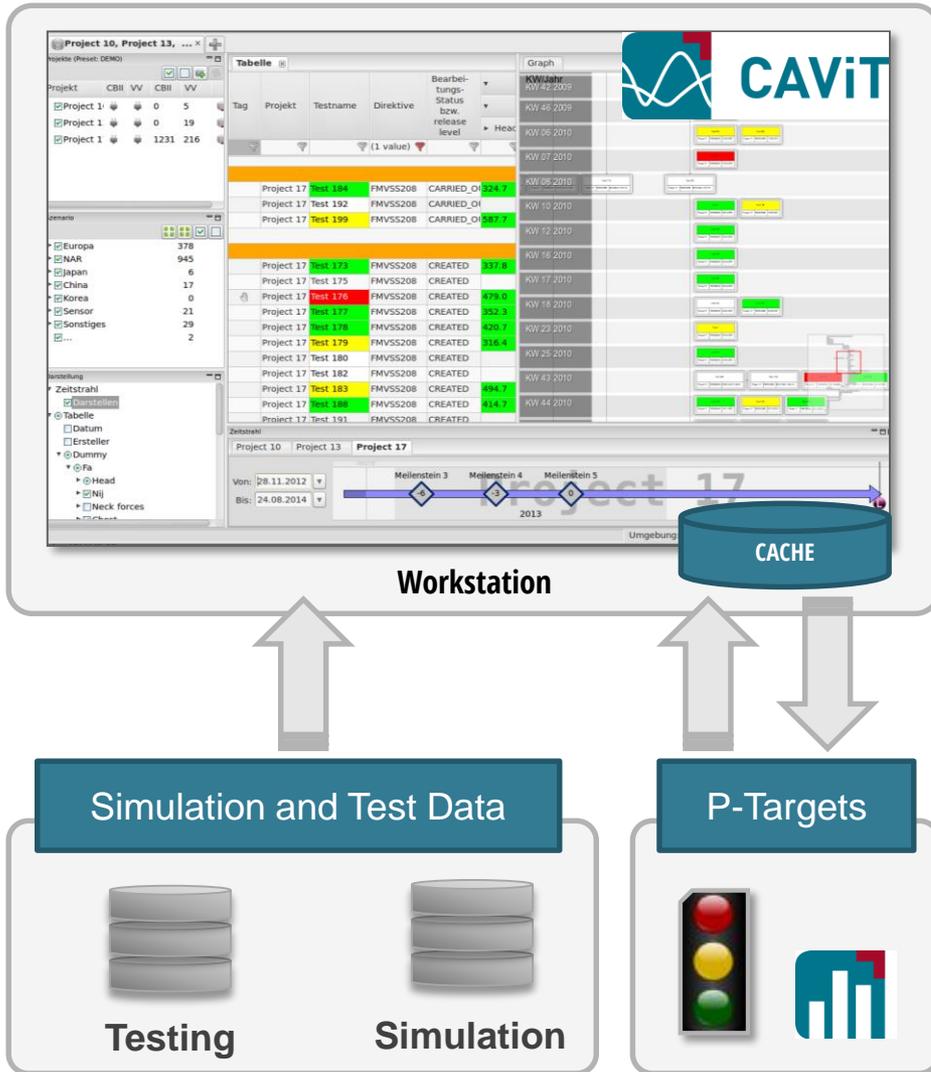
Perform simulation & test





Characterization

- Provide easy and fast access to test and simulation results
- Uniform handling of test and simulation data
- Seamless integration of existing post processors, scripts, ... **not (!)** replacing them
- Provide workflow automation and reporting capabilities



Characterization

- Data collection from several backend systems
- Cache of data for fast local access, particular important for bulk data
- Offline capabilities [Caching]
- Interfacing with Status.E for test cases and assessment criteria
- Assessment based on project targets

CAViT: GUI Overview



Project 10, Project 13, ...

Projekte (Preset: DEMO)

Projekt	CBII	VV	CBII	VV
<input checked="" type="checkbox"/> Project 1			0	5
<input checked="" type="checkbox"/> Project 1			0	19
<input checked="" type="checkbox"/> Project 1			1231	216

Szenario

- Europa 378
- NAR 945
- Japan 6
- China 17
- Korea 0
- Sensor 21
- Sonstiges 29
- ... 2

Darstellung

- ▼ Zeitstrahl
 - Darstellen
 - ▼ Tabelle
 - Datum
 - Ersteller
 - ▼ Dummy
 - Fa
 - Head
 - Nij
 - Neck forces
 - Chest

Tabelle

Tag	Projekt	Testname	Direktive	Bearbeitungs-Status bzw. release level	
(1 value)					
	Project 17	Test 184	FMVSS208	CARRIED_OI	324.7
	Project 17	Test 192	FMVSS208	CARRIED_OI	
	Project 17	Test 199	FMVSS208	CARRIED_OI	587.7
(1 value)					
	Project 17	Test 173	FMVSS208	CREATED	337.8
	Project 17	Test 175	FMVSS208	CREATED	
	Project 17	Test 176	FMVSS208	CREATED	479.0
	Project 17	Test 177	FMVSS208	CREATED	352.3
	Project 17	Test 178	FMVSS208	CREATED	420.7
	Project 17	Test 179	FMVSS208	CREATED	316.4
	Project 17	Test 180	FMVSS208	CREATED	
	Project 17	Test 182	FMVSS208	CREATED	
	Project 17	Test 183	FMVSS208	CREATED	494.7
	Project 17	Test 188	FMVSS208	CREATED	414.7
	Project 17	Test 191	FMVSS208	CREATED	

Graph

KW/Jahr

KW 42 2009

KW 46 2009

KW 06 2010

KW 07 2010

KW 08 2010

KW 10 2010

KW 12 2010

KW 16 2010

KW 17 2010

KW 18 2010

KW 23 2010

KW 25 2010

KW 43 2010

KW 44 2010

Zeitstrahl

Project 10 | Project 13 | **Project 17**

Von: 28.11.2012 | Bis: 24.08.2014

Meilenstein 3 (-6) | Meilenstein 4 (-3) | Meilenstein 5 (0)

2013 | 2014

Umgebung: Unknown | Offline Modus



Projects
displayed projects and contextual actions

Test cases / Filter
test cases selection of tests and simulations

View settings
settings of table, graph and time line

Tag	Projekt	Testname	Direktive	Bearbeitungs-Status	Wert
Project 17	Test 199	FMVSS208	CARRIED_OI		587.7
Project 17	Test 173	FMVSS208	CREATED		337.8
Project 17	Test 182	FMVSS208	CREATED		
Project 17	Test 183	FMVSS208	CREATED		494.7
Project 17	Test 188	FMVSS208	CREATED		414.7

KW/Jahr	Graph
KW 42 2009	Test 199
KW 46 2009	Test 199
KW 06 2010	Test 199, Test 173
KW 07 2010	Test 199
KW 08 2010	Test 199, Test 173
KW 10 2010	Test 199, Test 173
KW 12 2010	Test 199
KW 16 2010	Test 199
KW 17 2010	Test 199
KW 18 2010	Test 199
KW 23 2010	Test 199
KW 25 2010	Test 199
KW 43 2010	Test 199, Test 173, Test 182, Test 183, Test 188
KW 44 2010	Test 199, Test 173, Test 182, Test 183, Test 188

Umgebung: Unknown Offline Modus



The screenshot displays the CAViT GUI interface. On the left, there are panels for 'Projekte' (Projects) and 'Szenario' (Scenario). The 'Projekte' panel lists Project 10, Project 13, and Project 17. The 'Szenario' panel shows a tree view with categories like Europa, NAR, Japan, China, Korea, Sensor, and Sonstiges. The main area is divided into three views: 'Tabelle' (Table), 'Graph', and 'Zeitstrahl' (Gantt chart). The 'Tabelle' view shows a list of tests with columns for Tag, Projekt, Testname, Direktive, and Bearbeitungs-Status bzw. release level. The 'Graph' view shows a calendar-like grid of tests across quarters (KW/Jahr). The 'Zeitstrahl' view shows a timeline for Project 17 from 2012 to 2014, with milestones at -6, -3, and 0. A blue callout box points to the 'Graph' view, and another points to the 'Tabelle' view. A third callout box points to the 'Zeitstrahl' view.

Graph view
of tests and simulations

Tabular view
of tests and simulations

Milestones

Tag	Projekt	Testname	Direktive	Bearbeitungs-Status bzw. release level
Project 17	Test 184	FMVSS208	CARRIED_OI	324.7
Project 17	Test 192	FMVSS208	CARRIED_OI	
Project 17	Test 199	FMVSS208	CARRIED_OI	587.7
Project 17	Test 173	FMVSS208	CREATED	337.8
Project 17	Test 175	FMVSS208	CREATED	
Project 17	Test 176	FMVSS208	CREATED	
Project 17	Test 177	FMVSS208	CREATED	
Project 17	Test 178	FMVSS208	CREATED	
Project 17	Test 179	FMVSS208	CREATED	
Project 17	Test 180	FMVSS208	CREATED	
Project 17	Test 182	FMVSS208	CREATED	
Project 17	Test 183	FMVSS208	CREATED	
Project 17	Test 188	FMVSS208	CREATED	414.7
Project 17	Test 191	FMVSS208	CREATED	

Zeitstrahl: Von: 28.11.2012, Bis: 24.08.2014. Meilenstein 3 (-6), Meilenstein 4 (-3), Meilenstein 5 (0).



Tabelle													
Tag	Projekt	Testname	Direktive	Bearbeitungs-Status bzw. release level	Dummy								
					Fa				Bf				
					Head	Nij	Chest	Femur forces	Head	Nij	Neck forces	Chest	Femur f
			(1 value)										
Project 17	Test 169	FMVSS208	RESULTS_LIS	341.3	0.358	225.9	-136.398	159.5	0.088	368.672	132.0	-146.225	
Project 17	Test 170	FMVSS208	RESULTS_LIS	265.5	0.259	199.6	-3663.381	298.4	0.209	1331.546	295.0	-3137.337	
Project 17	Test 181	FMVSS208	RESULTS_LIS	488.0	0.374	418.8	-1570.725	401.3	0.511	818.66	363.0	-1221.459	
Project 17	Test 185	FMVSS208	RESULTS_LIS	368.3	0.404	385.7	-5123.01	395.5	0.478	1220.203	329.3	-3406.665	
Project 17	Test 186	FMVSS208	RESULTS_LIS	376.8	0.965	383.3	-3676.409	448.3	0.292	1426.87	461.6	-4588.675	
Project 17	Test 187	FMVSS208	RESULTS_LIS	461.0	0.336	414.8	-2070.42	519.7	0.254	694.058	418.4	-2456.158	
Project 17	Test 190	FMVSS208	RESULTS_LIS	414.9	0.313	401.7	-2057.361	409.2	0.233	791.317	348.6	-2101.654	
Project 17	Test 195	FMVSS208	RESULTS_LIS	421.8	0.387	452.0	-2920.323	521.9	0.197	1105.227	403.1	-2212.525	
Project 17	Test 196	FMVSS208	RESULTS_LIS	357.9	0.594	352.3	-3852.632	471.2	0.315	1393.98	523.2	-5675.077	
Project 17	Test 197	FMVSS208	RESULTS_LIS	275.2	0.527	349.9	-3654.675	417.0	0.424	1184.988	329.3	-3395.39	
Project 17	Test 200	FMVSS208	RESULTS_LIS	581.2	0.413	497.8	-2875.21	720.7	0.362	1362.665	570.5	-3030.944	
Project 17	Test 202	FMVSS208	RESULTS_LIS										
Project 17	Test 206	FMVSS208	RESULTS_LIS	407.1	0.544	450.1	-6005.892	394.5	0.263	1342.658	495.0	-5791.279	
Project 17	Test 208	FMVSS208	RESULTS_LIS	333.9	0.299	373.4	-1701.184	379.9	0.199	564.18	353.3	-1666.115	
Project 17	Test 213	FMVSS208	RESULTS_LIS	388.0	0.338	380.0	-1898.346	440.2	0.21	715.672	356.8	-1834.536	
Project 17	Test 0	FMVSS208	SCHEDULED	318.1	0.657	177.2	-842.122	243.1	0.201	342.251	177.2	-1023.332	
Project 17	Test 168	FMVSS208	SCHEDULED	191.8	0.216	199.4	-3410.745	274.7	0.313	1095.316	212.1	-2788.526	
Project 17	Test 171	FMVSS208	SCHEDULED	344.4	0.853	415.5	-3296.156	453.1	0.221	667.155	420.6	-1767.151	
Project 17	Test 172	FMVSS208	SCHEDULED	225.5	0.255	229.9	-3386.386	225.5	0.255	229.9	225.5	-3386.386	

rows: tests & simulations

columns / subcolumns: test data / key results



Tabelle					Dummy								
Tag	Projekt	Testname	Direktive	Bearbeitungs-Status bzw. release level	Fa				Bf				
			(1 value)		Head	Nij	Chest	Femur forces	Head	Nij	Neck forces	Chest	Femur f
Project 17	Test 169	FMVSS208	RESULTS_LIS	341.3									
Project 17	Test 170	FMVSS208	RESULTS_LIS	265.5									
Project 17	Test 181	FMVSS208	RESULTS_LIS	488.0									
Project 17	Test 185	FMVSS208	RESULTS_LIS	368.3									
Project 17	Test 186	FMVSS208	RESULTS_LIS	376.8									
Project 17	Test 187	FMVSS208	RESULTS_LIS	461.0									
Project 17	Test 190	FMVSS208	RESULTS_LIS	414.9									
Project 17	Test 195	FMVSS208	RESULTS_LIS	421.8									
Project 17	Test 196	FMVSS208	RESULTS_LIS	357.9									
Project 17	Test 197	FMVSS208	RESULTS_LIS	275.2									
Project 17	Test 200	FMVSS208	RESULTS_LIS	581.2									
Project 17	Test 202	FMVSS208	RESULTS_LIS										
Project 17	Test 206	FMVSS208	RESULTS_LIS	407.1									
Project 17	Test 208	FMVSS208	RESULTS_LIS	333.9									
Project 17	Test 213	FMVSS208	RESULTS_LIS	388.0									
Project 17	Test 0	FMVSS208	SCHEDULED	318.1	0.657	177.2	-842.122	243.1	0.201	342.251	177.2	-1023.332	
Project 17	Test 168	FMVSS208	SCHEDULED	191.8	0.216	199.4	-3410.745	274.7	0.313	1095.316	212.1	-2788.526	
Project 17	Test 171	FMVSS208	SCHEDULED	344.4	0.853	415.5	-3296.156	453.1	0.221	667.155	420.6	-1767.151	
Project 17	Test 172	FMVSS208	SCHEDULED										

Filter

Filter für Direktive

Enthält Zeichenkette:

Erfüllt Bedingung:

Ausgewählte Werte:

Werteliste für Direktive ▲

- EuroNCAP
- FMVSS 208
- FMVSS 301
- FMVSS208
- IIHS
- LKW-Unterfahrt
- Sensor

rows: tests & simulations

columns / subcolumns: test data / key results

CAViT: GUI Overview

Tag	Projekt	Testname	Direktive	Bearbeitungs-Status bzw.	Fa			
					Head	Nij	Chest	Femur forces
Project 17	Test 181	FMVSS208	RESULTS_LIS	488.0	0.374	118.8	-1570.725	
Project 17	Test 185	FMVSS208	RESULTS_LIS	368.3	0.404	185.7	-5123.01	
Project 17	Test 186	FMVSS208	RESULTS_LIS	376.8	0.965	183.3	-3676.409	
Project 17	Test 187	FMVSS208	RESULTS_LIS	461.0	0.336	114.8	-2070.42	
Project 17	Test 190	FMVSS208	RESULTS_LIS	414.9	0.313	101.7	-2057.361	
Project 17	Test 195	FMVSS208	RESULTS_LIS	421.8	0.387	152.0	-2920.323	
Project 17	Test 196	FMVSS208	RESULTS_LIS	357.9	0.594	152.3	-3852.632	
Project 17	Test 197	FMVSS208	RESULTS_LIS	275.2	0.527	349.9	-3654.675	
Project 17	Test 200	FMVSS208	RESULTS_LIS	581.2	0.413	497.8	-2875.21	
Project 17	Test 202	FMVSS208	RESULTS_LIS					
Project 17	Test 206	FMVSS208	RESULTS_LIS	407.1	0.544	450.1	-6005.892	
Project 17	Test 208	FMVSS208	RESULTS_LIS	333.9	0.299	373.4	-1701.184	
Project 17	Test 213	FMVSS208	RESULTS_LIS	388.0	0.338	380.0	-1998.346	
Project 17	Test 0	FMVSS208	SCHEDULED	318.1	0.657	177.2	-842.122	
Project 17	Test 168	FMVSS208	SCHEDULED	191.8	0.216	199.4	-3410.745	
Project 17	Test 171	FMVSS208	SCHEDULED	344.4	0.853	415.5	-3296.156	
Project 17	Test 172	FMVSS208	SCHEDULED	651.7	0.303	454.3	-3201.094	

value and rating aggregation

expanded view

Nij			
Nij CE	Nij CF	Nij TE	Nij TF
0.065	0.001	0.358	0.191
0.033	0.066	0.208	0.259
0.296	0.008	0.359	0.374
0.028	0.083	0.404	0.313
0.818	0.131	0.965	0.129
0.085	0.074	0.149	0.336
0.062	0.003	0.213	0.313
0.005	0.081	0.238	0.387
0.252	0.110	0.594	0.133
0.000	0.130	0.527	0.133

CAViT: GUI Overview

The screenshot displays the CAViT GUI interface. On the left, there is a sidebar with a 'Szenario' section containing a list of categories and their counts: Europa (378), NAR (945), Japan (6), China (17), Korea (0), Sensor (21), Sonstiges (29), and ... (2). Below this is a 'Darstellung' section with a tree view for 'Zeitstrahl' and 'Tabelle'.

The main area shows a hierarchical structure of tests. A vertical axis on the left is labeled 'KW/Jahr' with values: KW 33 2009, KW 35 2009, KW 36 2009, KW 4, and KW 46 2009. The tests are represented as boxes with the following data:

- Test 602: Project 17, FMVSS208, 2009-08-17 17:00:49
- Test 1152: Project 17, FMVSS208, 2009-08-18 17:13:15
- Test 1239: Project 17, FMVSS208, 2009-08-17 17:13:18
- Test 1282: Project 17, FMVSS208, 2009-08-17 17:12:43
- Test 1285: Project 17, FMVSS208, 2009-08-31 16:37:15
- Test 958: Project 17, FMVSS208, 2009-08-31 16:38:59
- Test 1313: Project 17, FMVSS208, 2009-09-07 16:03:26
- Test 1409: Project 17, FMVSS208, 2009-09-07 15:59:28
- Test 186: Project 17, FMVSS208, 19.11.2009

Four callout boxes provide additional information:

- rank e.g. time**: Points to the 'KW/Jahr' axis.
- relations: parent / child**: Points to arrows indicating dependencies between tests.
- simulation / test with details**: Points to a test box (Test 1313).
- graph overview**: Points to a small thumbnail graph in the bottom right corner.

At the bottom of the window, the status bar shows 'Umgebung: Unknown' and 'Offline Modus'.

CAViT - V2.

CAViT Ansicht Extra Hilfe

Sitzungen Mitteilungs-Konsole

Project106 Project106 x Project106

Seitenschutz (ver. 1.1.9)

- Projekte 71
 - Project106 71
 - CAE-Bench 25
 - VisVerdi/Falcon 46
 - Ordner

Szenario

- RdW Gesetz 5
 - ECER95 Barriere 5
- RdW Consumer 24
 - EuroNCAP 2014 18
 - EuroNCAP 2015 2
 - JapanNCAP 1
 - ChinaNCAP 2
 - KoreaNCAP 0
 - AE-MDB Barriere 1
- NAR Gesetz 6
 - FMVSS214 Barriere 1
 - FMVSS214 Pfahl E52re 3
 - FMVSS214 Pfahl SID2s 1
 - FMVSS214 Pfahl WS 50% 0
 - FMVSS214 Pfahl WS 5% 0

Tabellenkonfiguration

- Name
- Versuchsgrund
- Label
- Datum
- Allgemeine-Info
- Versuchs-Info
- Simulations-Info
- Insassen
 - vorne
 - DUMMY Typ

Property panel

Visualization of simulation / test data

- Attributes / Key results
- Channels
- Images
- Movies/Solver output files
- Documents
- Measure data

Eigenschaften

Test_5134 (93 Elemente)

Isocode	Name	Wert
	B_Saeule_mitte.picture.png	2,5 kB
	B_Saeule_oben.picture.png	37,5 kB
	B_Saeule_unten.picture.png	42,7 kB
	C_Saeule_ob.picture.png	31,8 kB
	C_Saeule_un.picture.png	20,6 kB
	Fersenblech.picture.png	19,7 kB
	Rear_Occupant_Rating.picture.png	132,7 kB
	Schweller_SQT.picture.png	17,3 kB
	Sitz_vo_Lehne.picture.png	41,7 kB

Name	Wert	Wert	Wert	Wert
Test_5281				
Test_5274				
Test_5250	42.7	19.2	675.3	
Test_5251	34.0	1.2	676.8	
Test_5270				
Test_5252	429.2	1276.1	1227.0	51.4
Test_5253				
377	23.0	314.8	15.9	261.5

CAViT: Evaluation, Assessment and Reporting

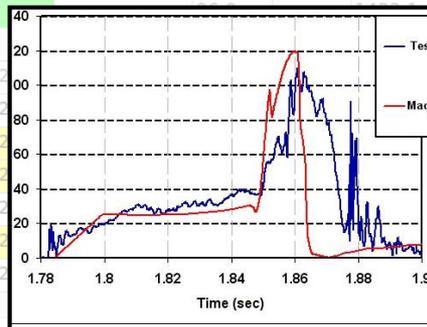
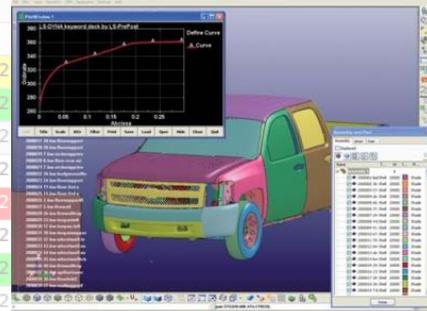


2

Access and open movies and media data with external viewers

Integration of Postprocessors: Analyze simulation results

Quick preview of curves and measure data and documents



Eigenschaften

Search

Isocode	Name	Wert
Test_5134 (93 Elemente)		
	B_Saeule_mitte.picture.png	32,5 kB
	B_Saeule_oben.picture.png	37,5 kB
	B_Saeule_unten.picture.png	42,7 kB
	C_Saeule_ob.picture.png	31,8 kB
	C_Saeule_un.picture.png	20,6 kB
	Fersenblech.picture.png	19,7 kB
	Front_Occupant_Rating.picture.png	131,7 kB
	Rear_Occupant_Rating.picture.png	132,7 kB
	Schweller_SQT.picture.png	17,3 kB
	Sitz_vo_Lehne.picture.png	41,7 kB

Extensive support for Reporting

- Generation of Word documents based on docx templates
- Dedicated support for Reporting via GNS Animator

Extendable via plugins

Flexible customization

CAViT - V2.

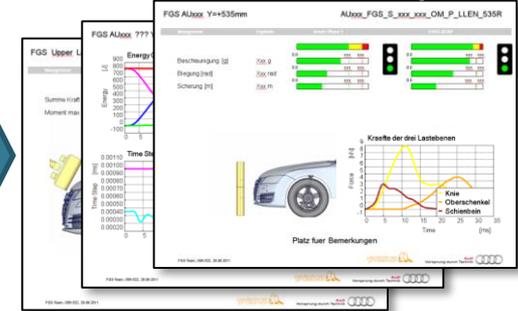
ct106 +

Table

Tag	Variante	Bewertung	Kopf	Hals	Schulter	Rippen
	Test_5258					
	Test_5497					
★	377	69.0		314.9	18.6	402.6
	377	222.4				40.5
	Test_5244	244.0	811.6	654.5		31.1
	Test_5245					
	Test_5283					
	Test_5269					
	Test_5246	521.5			28.4	170.0
	Test_5265					
	Test_5247					24.5
	Test_5282					
	Test_5264					
	377			1	25.1	562.1
	377					30.1
	Test_5281					
	Test_5274					
	Test_5250					19.2
	Test_5251					1.2
	Test_5270					
	Test_5252	429.2	1276.1	1227.0		51.4
	Test_5253					
	377	23.0		314.8		15.9

Werkzeuge...
Kennzeichnen als...
Bewerten
Auswahl neu laden...
Ausblenden...
Zu Ordner hinzufügen...

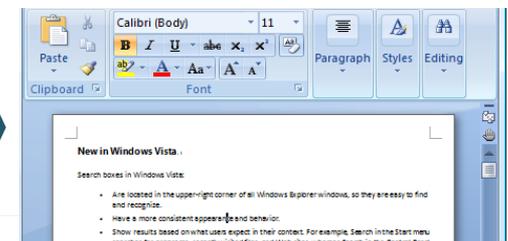
[PDF/PPTs Reports]



[Video Overlay]



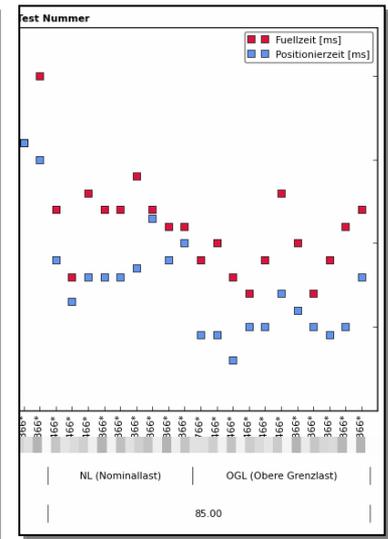
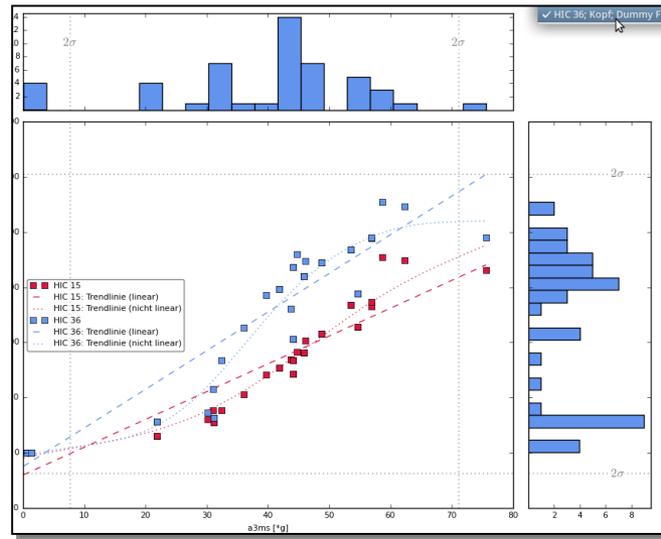
[docx Reports]



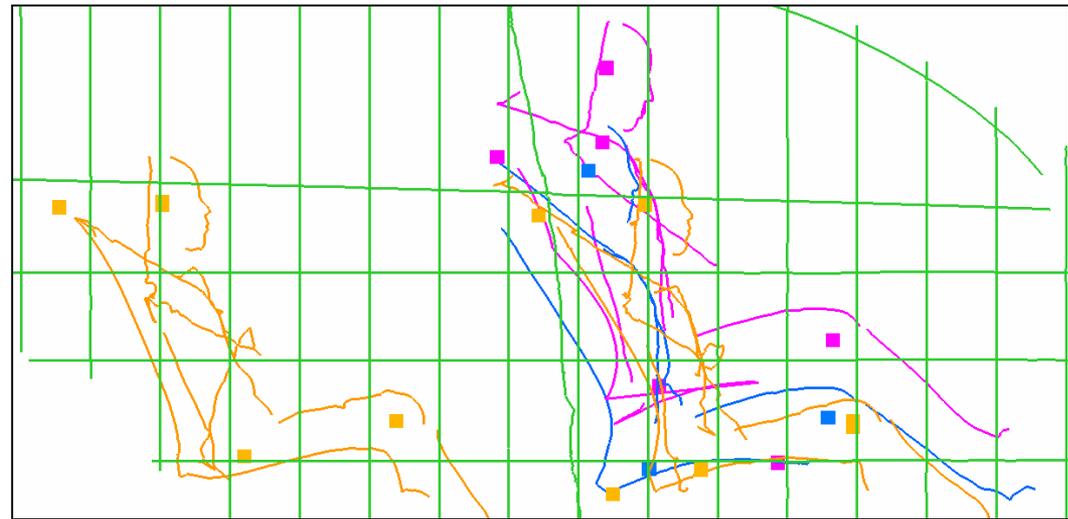


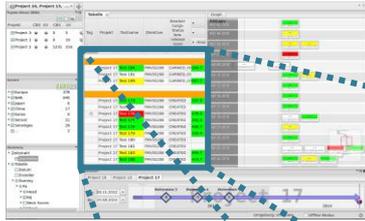
PlugIn Example #1 Plotting

- Trend analysis
- Statistical parameters



PlugIn Example #2 Compare Dummy Positioning test vs. simulation





Automatic assessment of test key results based on test cases and criteria targets

Lastfallbewertung zum 01.02.2017

FMVSS208 2008 Front 100%Wand Beifahrer H

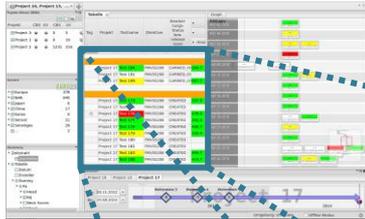
Kriterium	Ampel rot untere Grenze	Ampel gelb untere Grenze	Ist	Ampel o Gr
Chest Acceleration 3ms			490.0	4
Neck Compression Force			2030.0	20
Neck NTE			1.0	
Chest Deflection max			0.031	0

Tabelle

Tag	Projekt	Testname	Direktive	Bearbeitungs-Status bzw. release level	Dummy									
					Fa				Bf					
					Head	Nij	Chest	Femur forces	Head	Nij	Neck forces	Chest	Femur f	
			(1 value)											
Project 17		Test 169	FMVSS208	RESULTS_LIK	341.3	0.358	225.9	-136.398	159.5	0.088	368.672	132.0	-146.225	
Project 17		Test 170	FMVSS208	RESULTS_LIK	265.5	0.259	199.6	-3663.381	298.4	0.209	1331.546	295.0	-3137.337	
Project 17		Test 181	FMVSS208	RESULTS_LIK	488.0	0.374	418.8	-1570.725	401.3	0.511	818.66	363.0	-1221.459	
Project 17		Test 185	FMVSS208	RESULTS_LIK	368.3	0.404	385.7	-5123.01	395.5	0.478	1220.203	329.3	-3406.665	
Project 17		Test 186	FMVSS208	RESULTS_LIK	376.8	0.965	383.3	-3676.409	448.3	0.292	1426.87	461.6	-4588.675	
Project 17		Test 187	FMVSS208	RESULTS_LIK	461.0	0.336	414.8	-2070.42	519.7	0.254	694.058	418.4	-2456.158	
Project 17		Test 190	FMVSS208	RESULTS_LIK	414.9	0.313	401.7	-2057.361	409.2	0.233	791.317	348.6	-2101.654	
Project 17		Test 195	FMVSS208	RESULTS_LIK	421.8	0.387	452.0	-2920.323	521.9	0.197	1105.227	403.1	-2212.525	
Project 17		Test 196	FMVSS208	RESULTS_LIK	357.9	0.594	352.3	-3852.632	471.2	0.315	1393.98	523.2	-5675.077	
Project 17		Test 197	FMVSS208	RESULTS_LIK	275.2	0.527	349.9	-3654.675	417.0	0.424	1184.988	329.3	-3395.39	
Project 17		Test 200	FMVSS208	RESULTS_LIK	581.2	0.413	497.8	-2875.21	720.7	0.362	1362.665	570.5	-3030.944	
Project 17		Test 202	FMVSS208	RESULTS_LIK										
Project 17		Test 206	FMVSS208	RESULTS_LIK	407.1	0.544	450.1	-6005.892	394.5	0.263	1342.658	495.0	-5791.279	
Project 17		Test 208	FMVSS208	RESULTS_LIK	333.9	0.299	373.4	-1701.184	379.9	0.199	564.18	353.3	-1666.115	
Project 17		Test 213	FMVSS208	RESULTS_LIK	388.0	0.338	380.0	-1898.346	440.2	0.21	715.672	356.8	-1834.536	

Every single line represents a simulation or test data set with its key results

CAViT: Evaluation, Assessment and Reporting



Automatic assessment of test key results based on test cases and criteria targets

Lastfallbewertung zum 01.02.2017

FMVSS208 2008 Front 100%Wand Beifahrer H

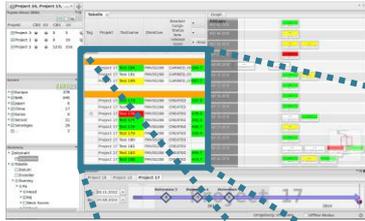
Kriterium	Ampel rot untere Grenze	Ampel gelb untere Grenze	Ist	Ampel o Gr
Chest Acceleration 3ms			490.0	4
Neck Compression Force			2030.0	20
Neck NTE			1.0	
Chest Deflection max			0.031	0

Tabelle

Tag	Projekt	Testname	Direktive	Bearbeitungs-Status bzw. release level	Dummy															
					Fa					Bf										
					Head	Nij	Chest	Femur forces	Head	Nij	Neck forces	Chest	Femur f							
		(1 value)																		
Project 17	Test 169	FMVSS208	RESULTS_LI	341.3	0.358	225.9	-136.398	159.5	0.088	368.672	132.0	-146.225								
Project 17	Test		SULTS_LI	265.5	0.259	199.6	-3663.381	298.4	0.209	1331.546	295.0	-3137.337								
Project 17	Test		SULTS_LI	488.0	0.374	418.8	-1570.725	401.3	0.511	818.66	363.0	-1221.459								
Project 17	Test		SULTS_LI	368.3	0.404	385.7	-5123.01	395.5	0.478	1220.203	329.3	-3406.665								
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Project 17	Test		SULTS_LI	414.9	0.313	401.7	-2057.361	409.2	0.233	791.317	348.6	-2101.654								
Project 17	Test		SULTS_LI	421.8	0.387	452.0	-2920.323	521.9	0.197	1105.227	403.1	-2212.525								
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Project 17	Test		SULTS_LI	581.2	0.413	497.8	-2875.21	720.7	0.362	1362.665	570.5	-3030.944								
Project 17	Test		SULTS_LI																	
Project 17	Test		SULTS_LI	407.1	0.544	450.1	-6005.892	394.5	0.263	1342.658	495.0	-5791.279								
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Project 17	Test		SULTS_LI	388.0	0.338	380.0	-1898.346	440.2	0.21	715.672	356.8	-1834.536								



CAViT: Evaluation, Assessment and Reporting



Automatic assessment of test key results based on test cases and criteria targets

Lastfallbewertung zum 01.02.2017

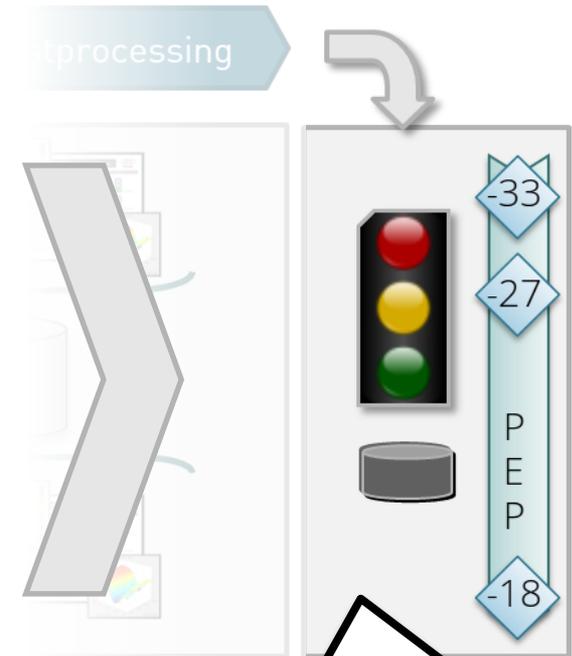
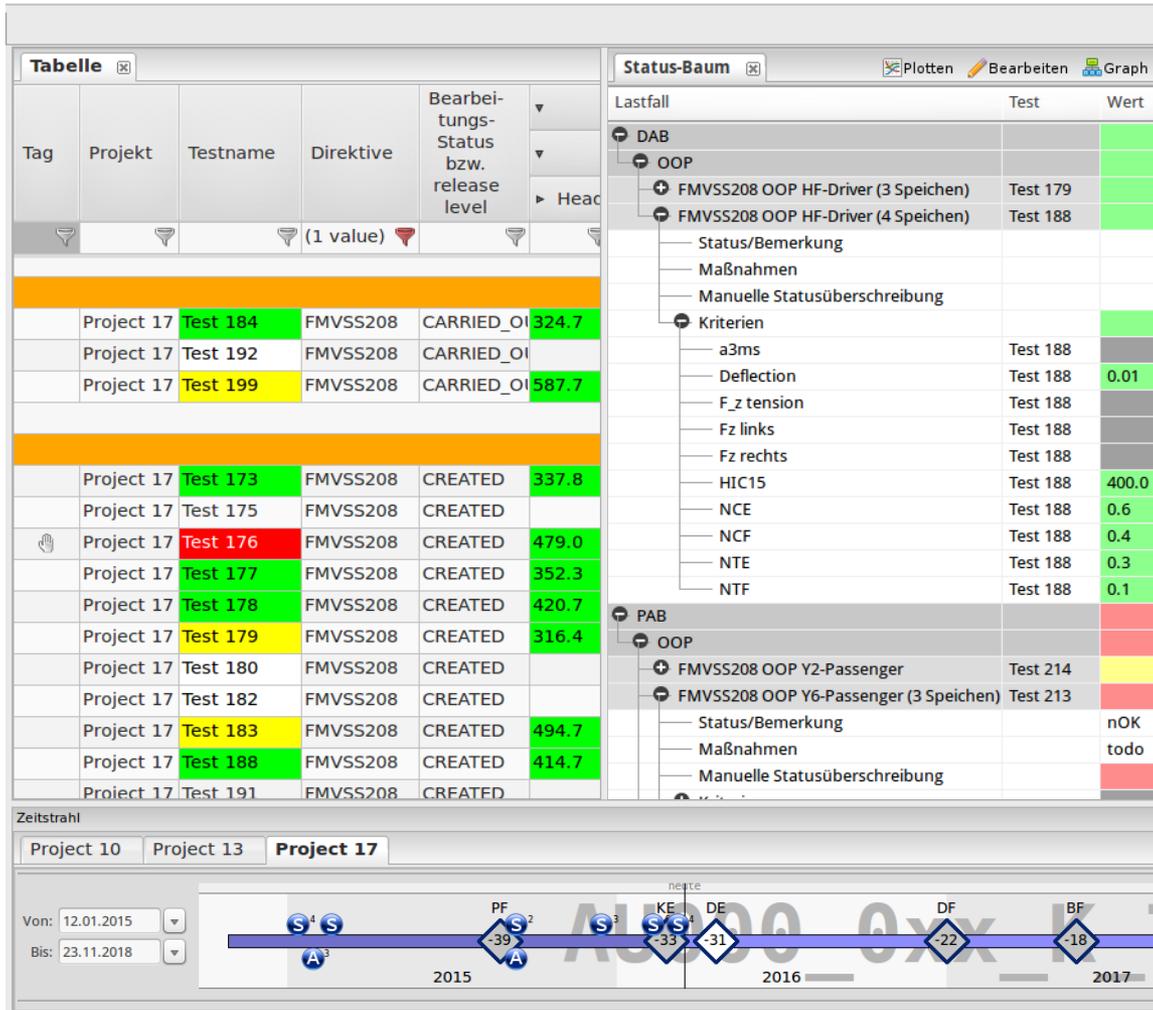
FMVSS208 2008 Front 100%Wand Beifahrer H

Kriterium	Ampel rot untere Grenze	Ampel gelb untere Grenze	Ist	Ampel o Gr
Chest Acceleration 3ms			490.0	4
Neck Compression Force			2030.0	20
Neck NTE			1.0	
Chest Deflection max			0.031	0

manual rating of test or simulation

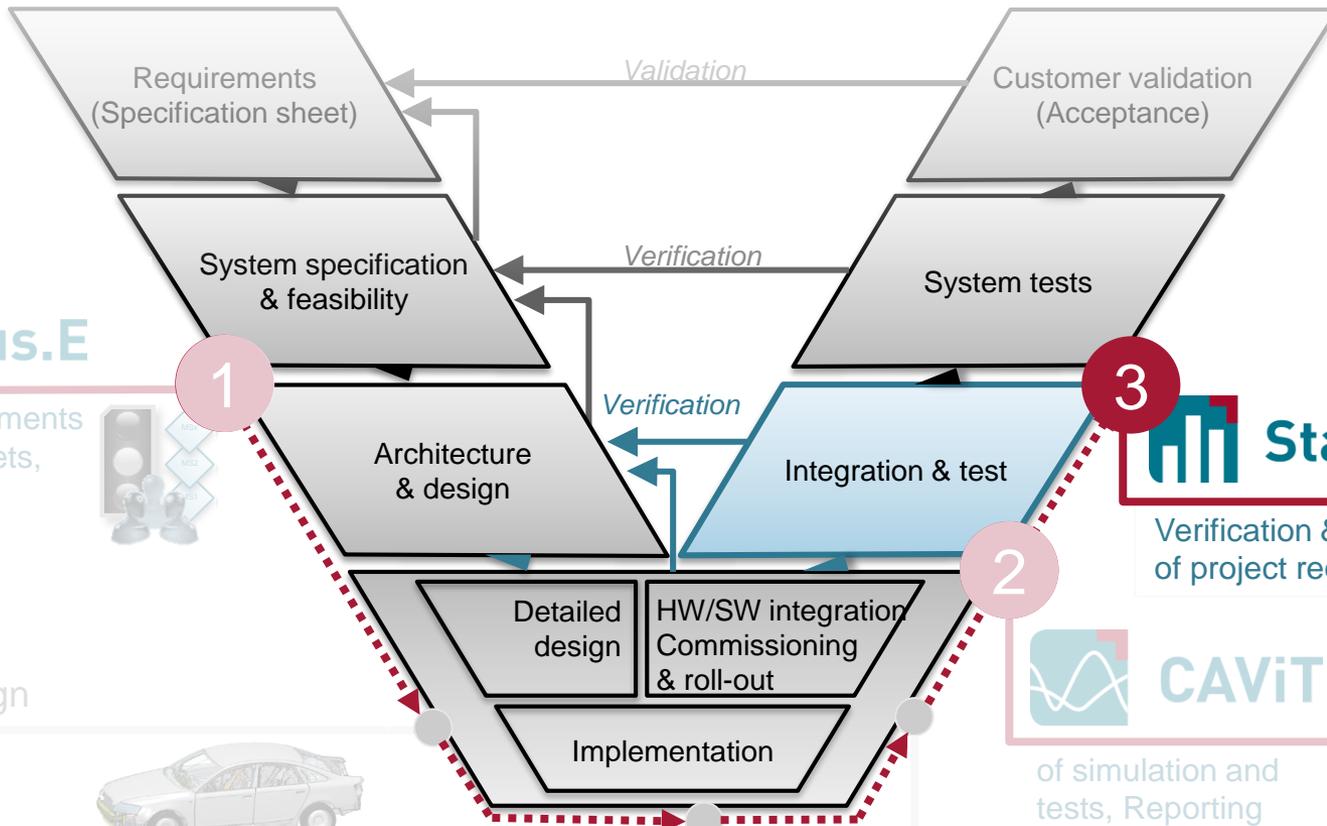
suggested rating (aggregated) rating

Tag	Projekt	Testname	Direktive	Bearbeitungs-Status bzw. release level	Dummy									
					Fa					Bf				
					Head	Nij	Chest	Femur forces	Head	Nij	Neck forces	Chest	Femur f	
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Project 17		Test 213	FMVSS208	RESULTS_LI	388.0	0.338	380.0	-1898.346	440.2	0.21	715.672	356.8	-1834.536	



Report to Monitoring Application

Introduction - Systems Engineering Process



Setup of requirements and project targets, milestones and responsibilities



Detailed design

CAD / DMU



Implementation

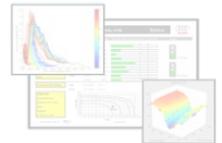
Setup of simulation models and test prototypes



Verification & monitoring of project requirements



of simulation and tests, Reporting

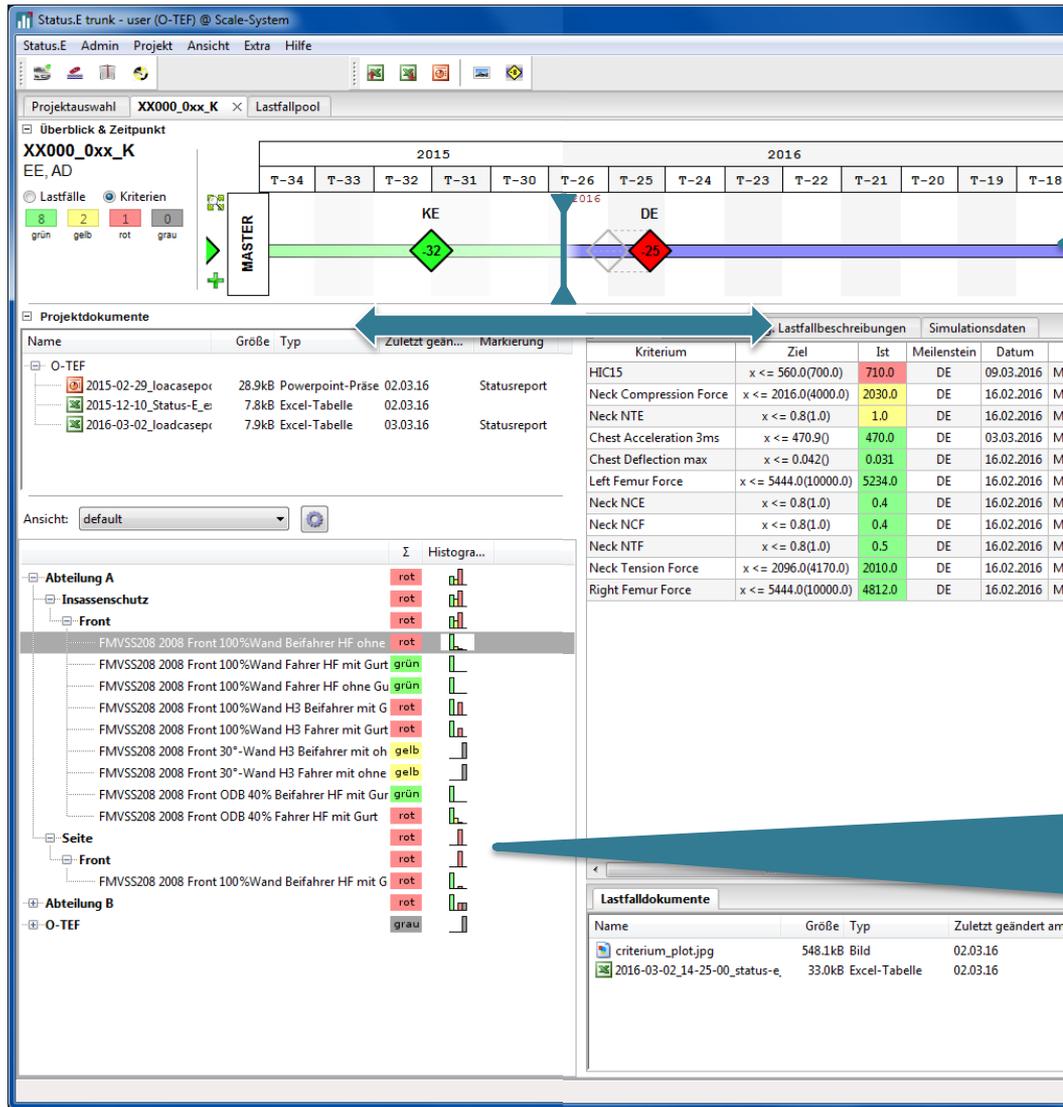


Solving / Testing

Perform simulation & test



Status.E: Monitor and Report Project Status

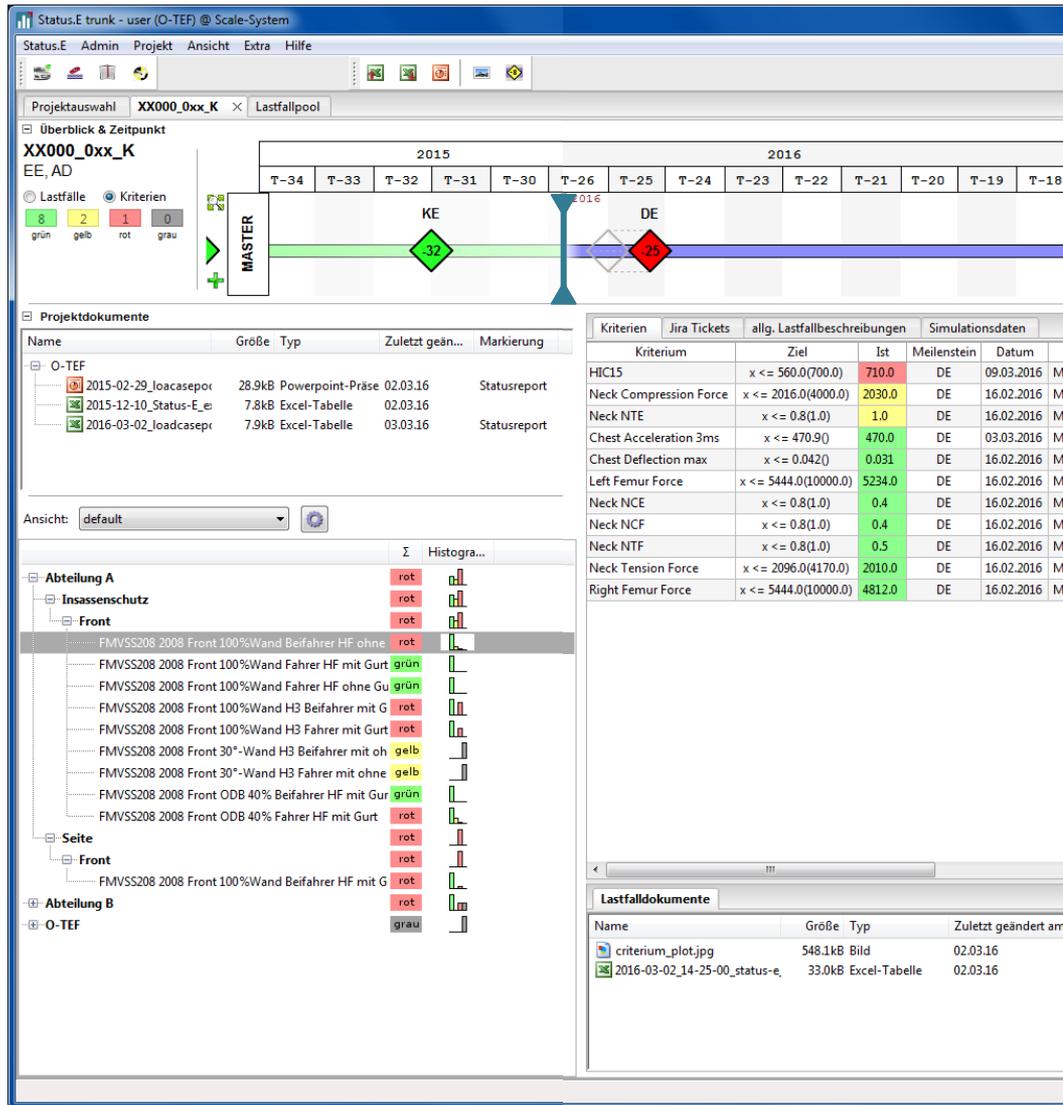


Report status for project milestone or date

Detailed view of individual test case criteria reported by CAViT

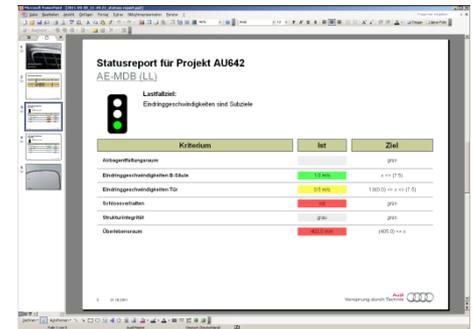
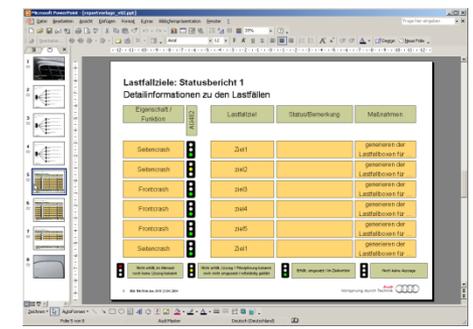
- Fulfillment of test cases at selected date
- Hierarchical status aggregation

Status.E: Monitor and Report Project Status

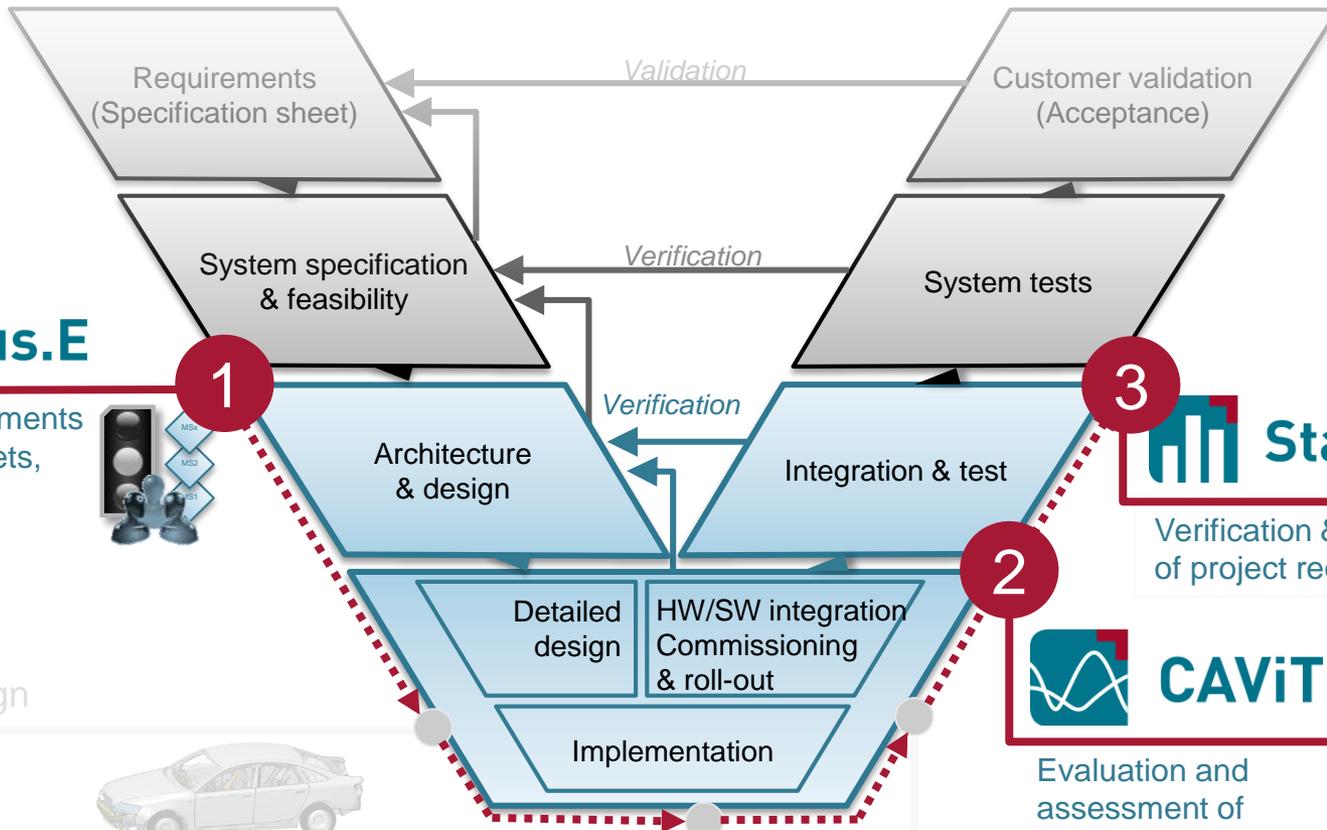


Generation of project status slides

[PPTX]



Introduction - Systems Engineering Process



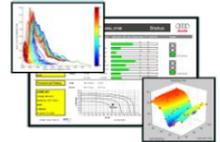
Setup of requirements and project targets, milestones and responsibilities



Verification & monitoring of project requirements



Evaluation and assessment of simulation and tests, Reporting



Detailed design

CAD / DMU



Implementation

Setup of simulation models and test prototypes



Solving / Testing

Perform simulation & test





Status.E

Project Monitoring & Test Case Management

- Defining test cases, project targets and responsibilities
- monitoring and reporting the product development status



CAViT

Workbench for simulation and test engineers

- Integrated view of CAT and CAE post data
- Evaluation and assessment of simulation and tests
- Reporting capabilities
- Process automation via scripts and plugins

SCALE 

<http://www.scale.eu>