

CAViT | Status.E

Evaluation, comparison and validation of CAT & CAE data

Martin Liebscher

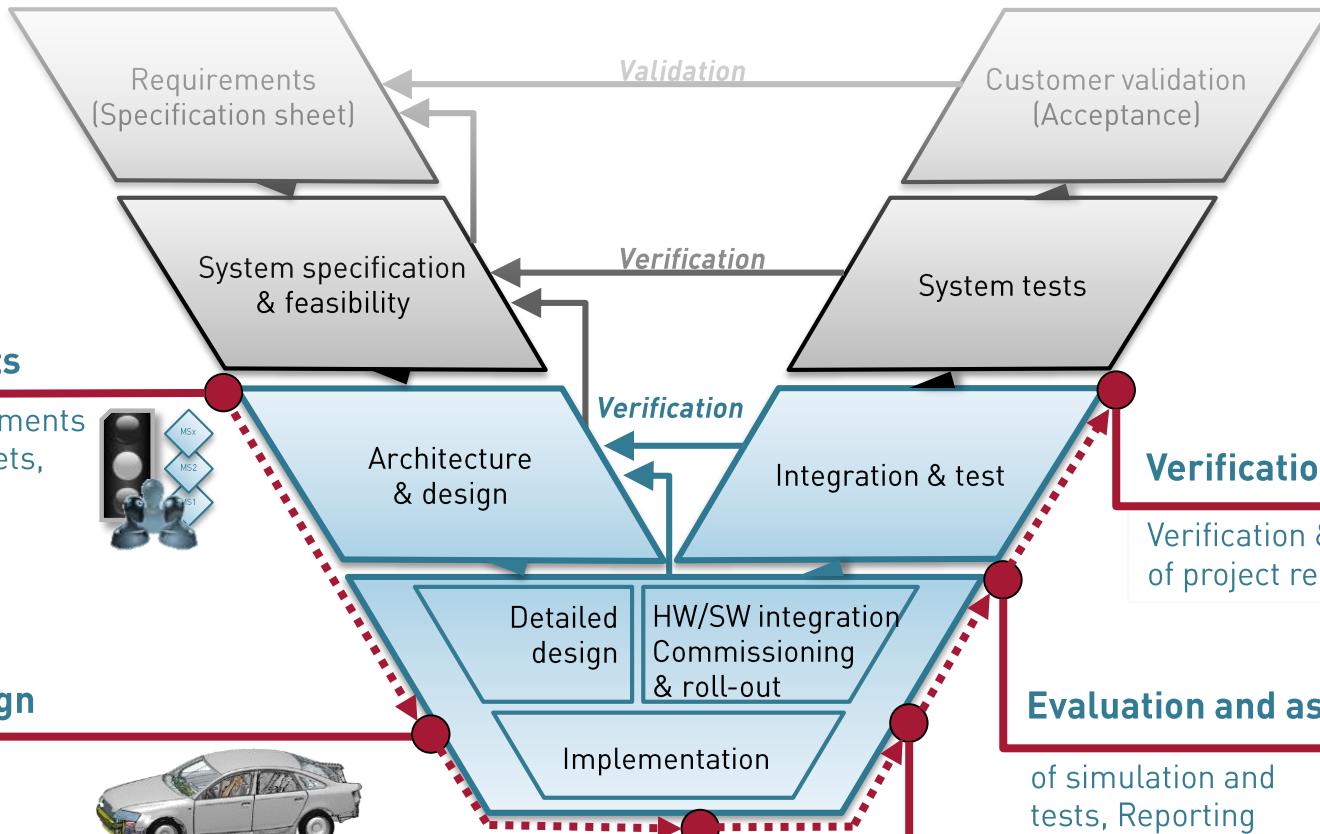
Gordon Geissler

Rainer Hausdorf

Automotive CAE Grand Challenge, April 2016

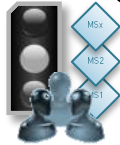
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Introduction - Systems Engineering Process



Project targets

Setup of requirements and project targets, milestones and responsibilities



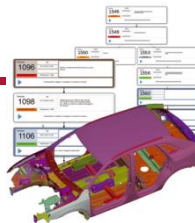
Detailed design

CAD / DMU



Implementation

Setup of simulation models and test prototypes



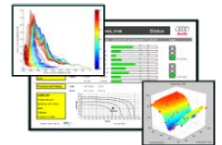
Verification

Verification & monitoring of project requirements



Evaluation and assessment

of simulation and tests, Reporting

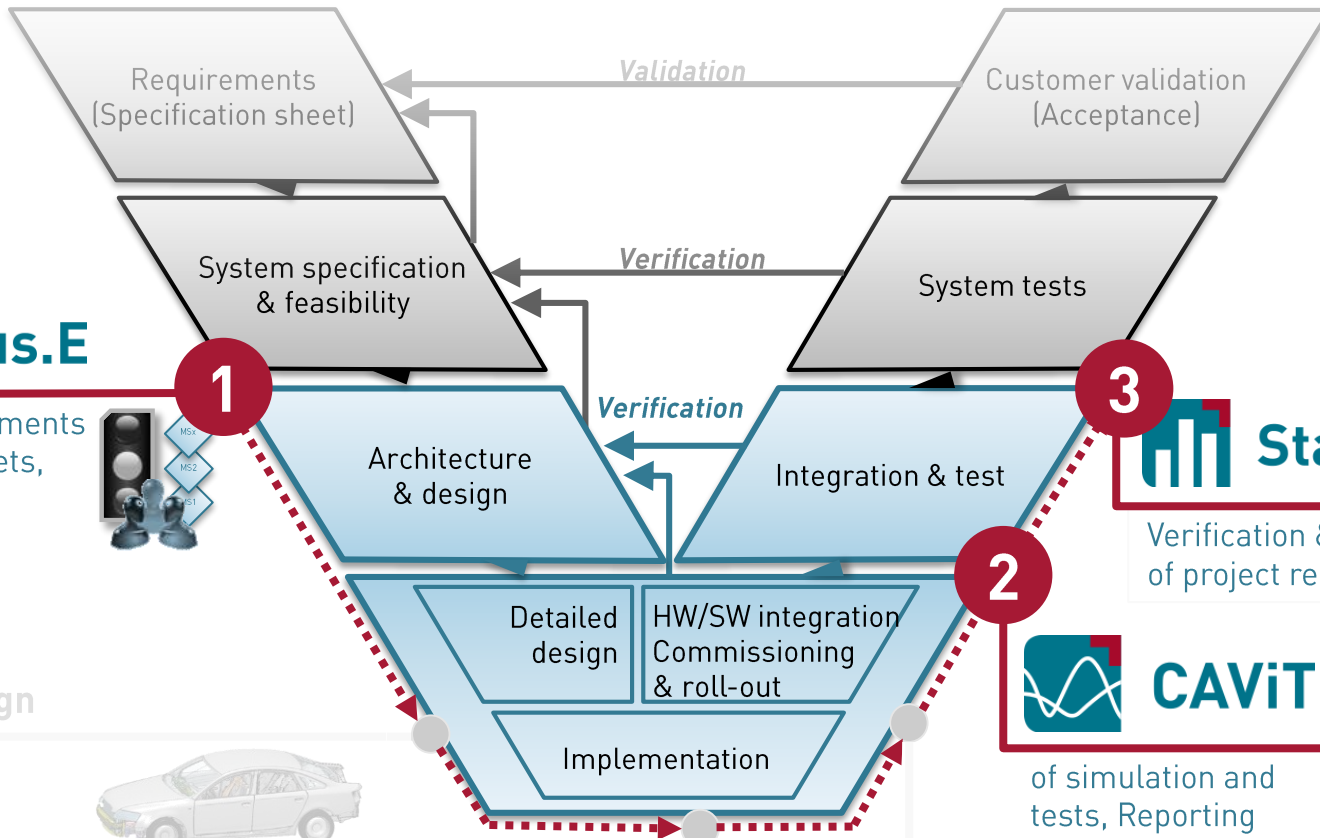


Solving / Testing

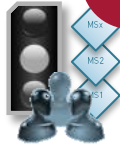
Perform simulation & test



Introduction - Systems Engineering Process



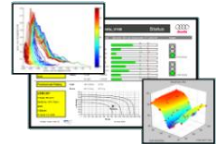
Setup of requirements and project targets, milestones and responsibilities



Verification & monitoring of project requirements



of simulation and tests, Reporting



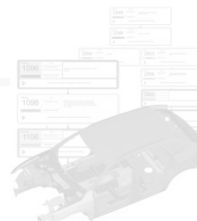
Detailed design

CAD / DMU



Implementation

Setup of simulation models and test prototypes

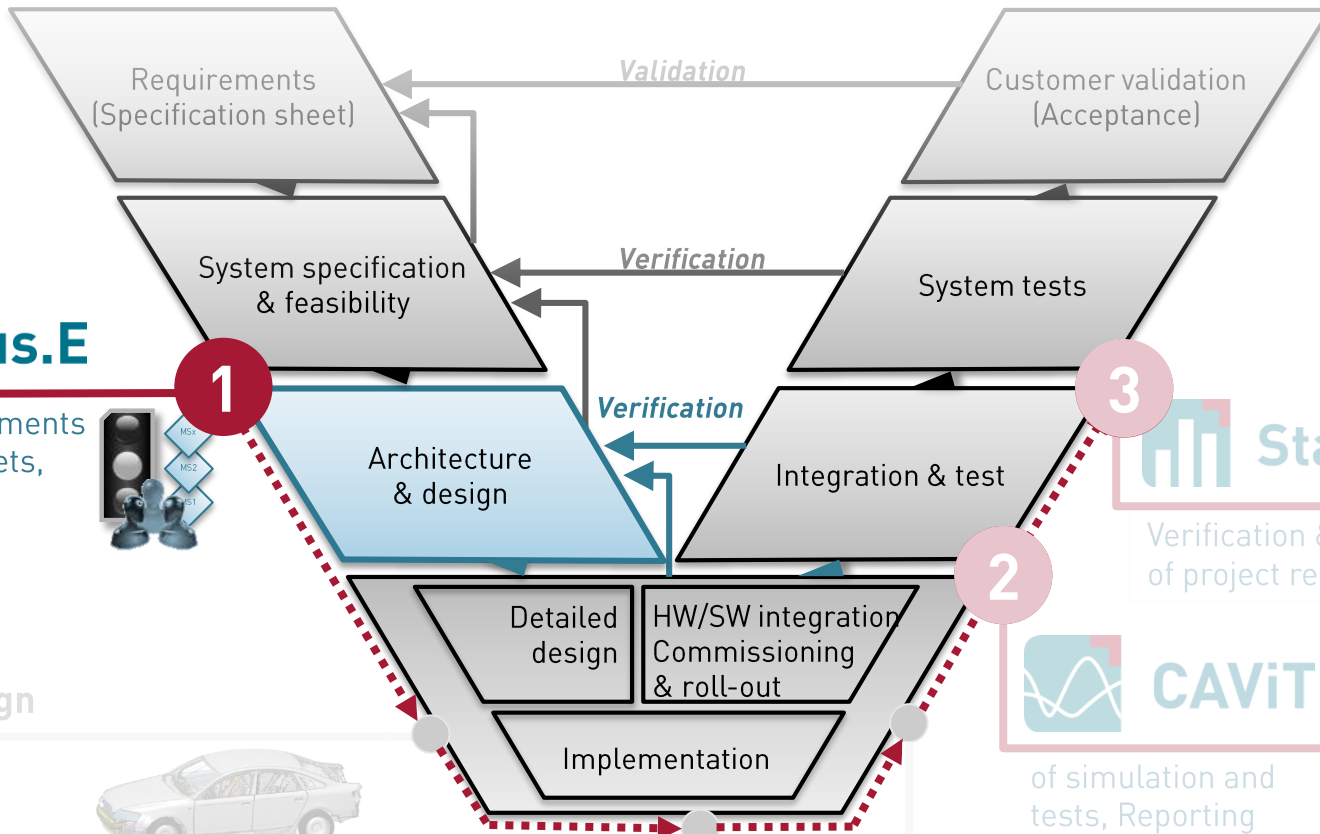


Solving / Testing

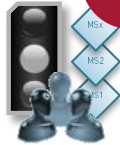
Perform simulation & test



Introduction - Systems Engineering Process



Setup of requirements and project targets, milestones and responsibilities



Detailed design

CAD / DMU



Implementation

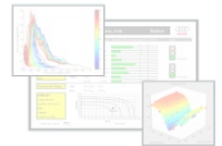
Setup of simulation models and test prototypes



Verification & monitoring of project requirements



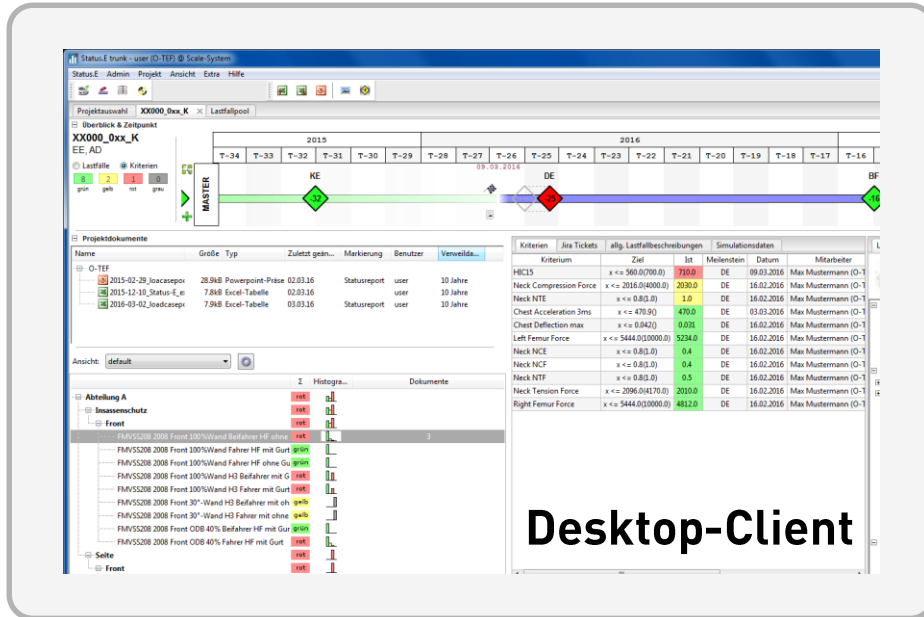
of simulation and tests, Reporting



Solving / Testing

Perform simulation & test





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



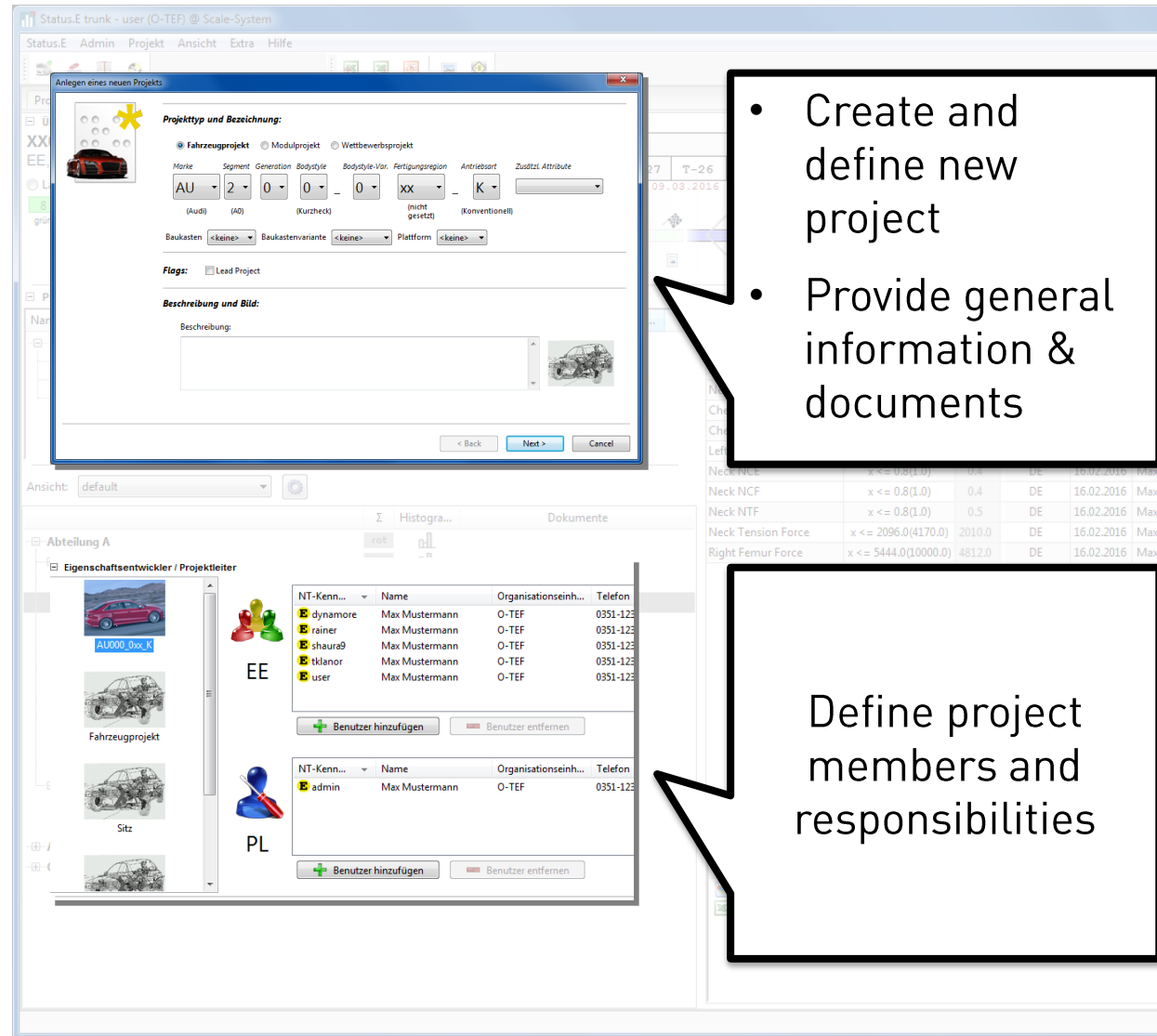
Define Project



Project Milestones



Test Cases (Load Cases)



- Create and define new project
- Provide general information & documents

Define project members and responsibilities

Project Setup: Milestones



Define Project



Project Milestones



Test Cases

The screenshot displays the Status.E software interface. The top part shows a Gantt chart for project 'XX000_0xx_K' spanning from 2015 to 2016. A green bar represents a task with a diamond milestone labeled 'KE' (32) and a red diamond milestone labeled 'DE' (26). Below the Gantt chart is a table of project documents. A dialog box titled 'Anlegen eines neuen Projekts' is overlaid, showing a 'Produktentwicklungsplan' with a list of milestones and their dates.

Name	Größe	Typ	Zuletzt geän...	Markierung	Benutzer	Versi...
2015-02-29_Joacasepor	28.9kB	Powerpoint-Präse	02.03.16	Statusreport		
2015-12-10_Status-E_e	7.8kB	Excel-Tabelle	02.03.16			
2016-03-02_Loadcasepr	7.9kB	Excel-Tabelle	03.03.16			

Kriterium	Ziel	Ist	Meilenstein	Datum	Max
HIC15	$x \leq 560.0(700.0)$	710.0	DE	09.03.2016	Max
Compression Force	$x \leq 2016.0(4000.0)$	2030.0	DE	16.02.2016	Max
	$x \leq 0.8(1.0)$	1.0	DE	16.02.2016	Max
	$x \leq 470.90$	470.0	DE	03.03.2016	Max
	$x \leq 0.0420$	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

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

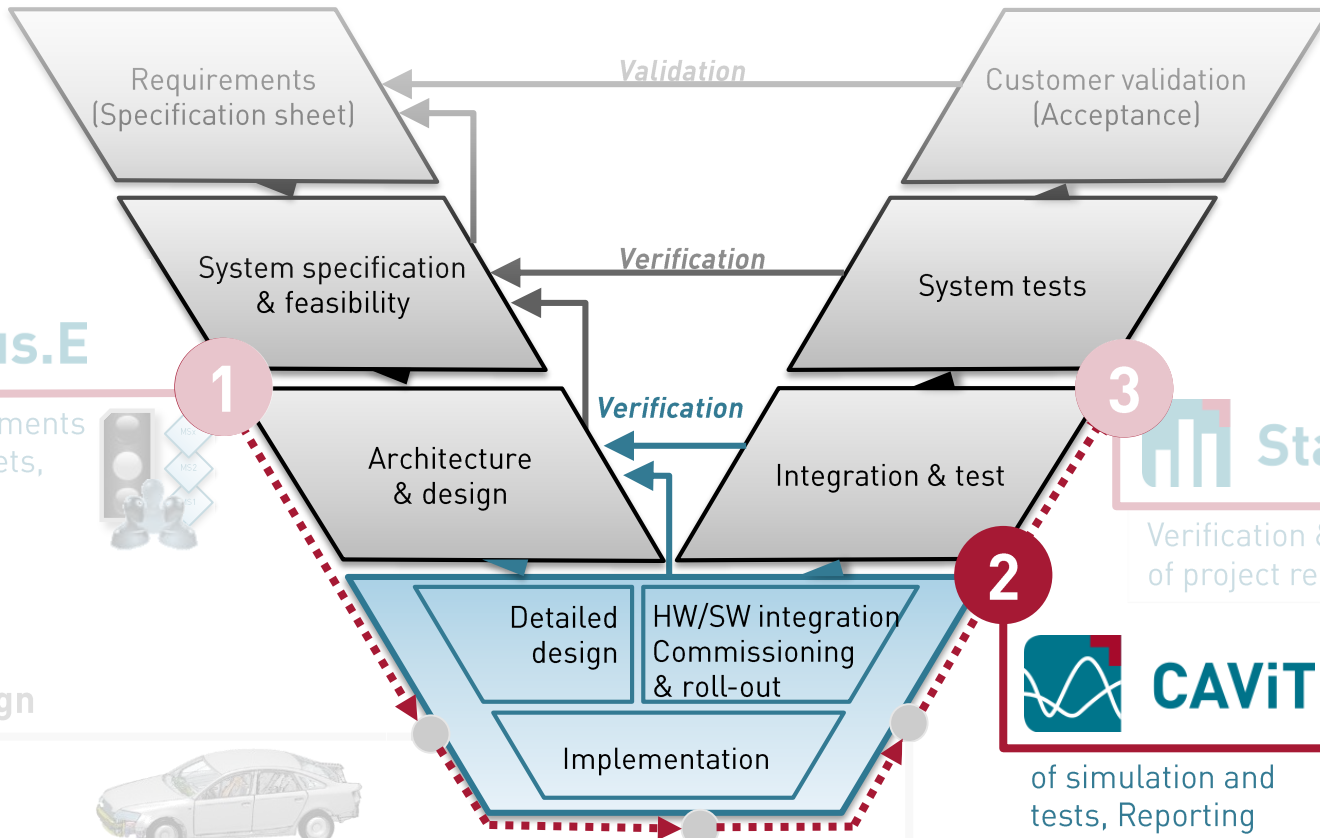
Project Setup



The screenshot displays the Status.E software interface for project management. The main window shows a Gantt chart for project 'XX000_0xx_K' with milestones 'KE' (32) and 'DE' (26) across a timeline from 2015 to 2016. Below the Gantt chart is a 'Projektdokumente' table listing documents like '2015-02-29_loacasepor' and '2015-12-10_Status-E_e'. A tree view on the left shows a hierarchy of 'Abteilung A', 'Insassenschutz', 'Front', and 'Seite'. On the right, a table lists 'Kriterien' (criteria) such as 'HiC15' and 'Neck Compression Force' with their respective 'Ziel' (target), 'Ist' (actual), and 'Meilenstein' (milestone) data.

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

Introduction - Systems Engineering Process



Setup of requirements and project targets, milestones and responsibilities



Verification & monitoring of project requirements

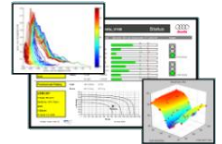


Detailed design

CAD / DMU



of simulation and tests, Reporting



Implementation

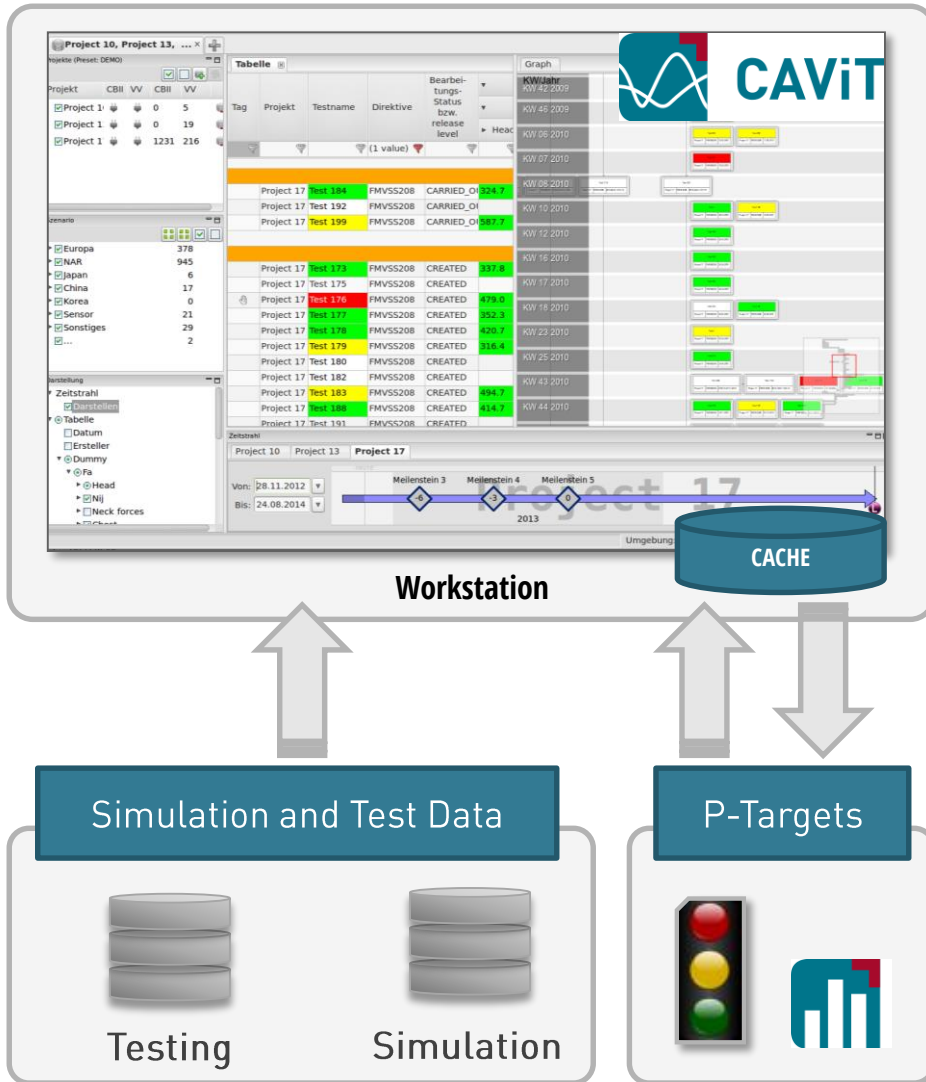
Setup of simulation models and test prototypes



Solving / Testing

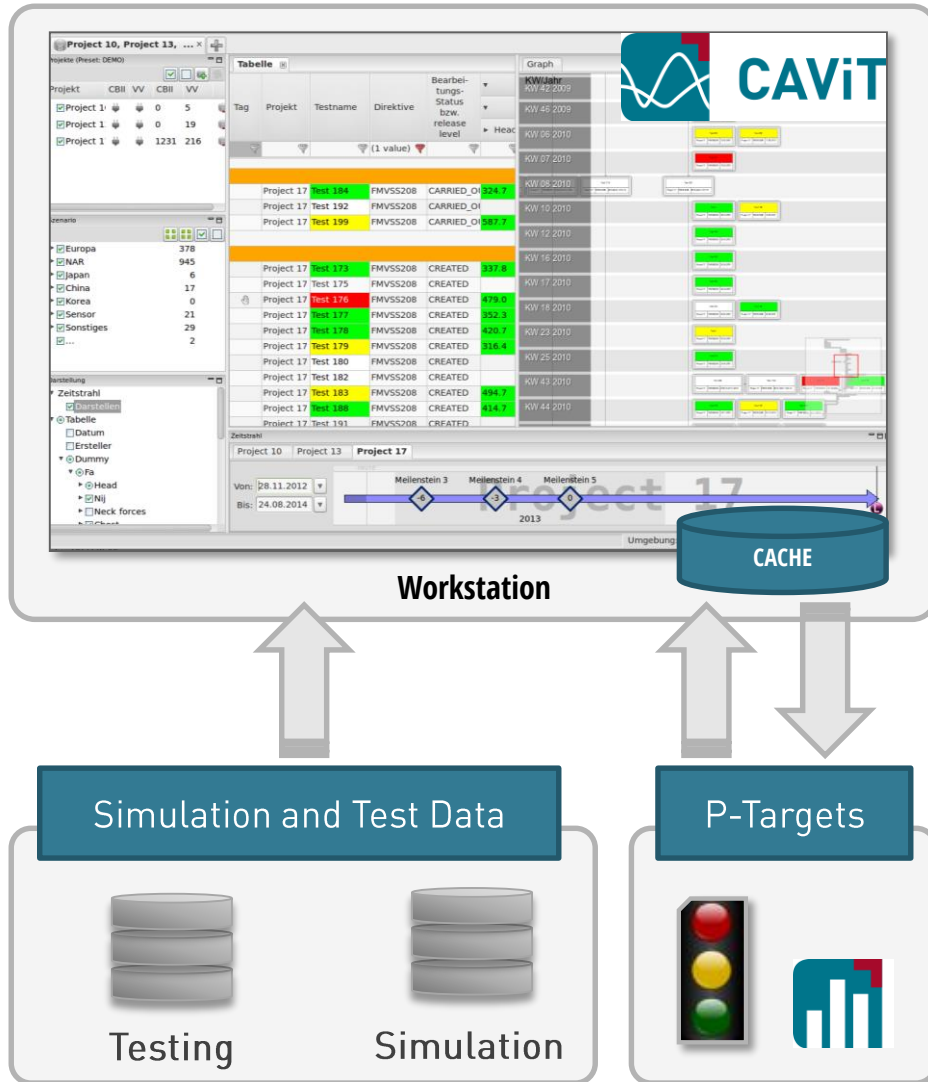
Perform simulation & test





Characterization

- 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, particularly important for bulk data
- Offline capabilities [Caching]
- Interfacing with Status.E for test cases and assessment criteria
- Assessment based on project targets



The screenshot displays the SCALE GUI interface with several key components and annotations:

- Projects Panel (Top Left):** Lists projects with columns for 'Projekt', 'CBII', and 'VV'. A blue arrow points to the 'VV' column.
- Szenario Panel (Middle Left):** Shows a tree view of scenarios like 'Europa', 'NAR', 'Japan', etc., with associated counts. A blue arrow points to the 'Sensor' scenario.
- Darstellung Panel (Bottom Left):** Contains view settings for 'Zeitstrahl' (Timeline) and 'Tabelle' (Table). A blue arrow points to the 'Tabelle' view.
- Table View (Center):** A table with columns: 'Tag', 'Projekt', 'Testname', 'Direktive', and 'Bearbeitungs-Status'. It lists test cases such as 'Test 199', 'Test 173', 'Test 182', 'Test 183', and 'Test 188'. A blue arrow points to the 'Testname' column.
- Graph View (Right):** A Gantt chart showing test case execution over time, with colored bars representing different test cases.
- Timeline (Bottom):** A horizontal timeline for 'Project 17' showing milestones (Meilenstein 4, Meilenstein 5) and dates (2013, 2014). A blue arrow points to the timeline.

Three blue callout boxes provide additional context:

- 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



Graph view
of tests and simulations

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	

Tabular view
of tests and simulations

Milestones

Zeitstrahl: Von: 28.11.2012 Bis: 24.08.2014

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

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

Search

Isocode Name Wert

Test_5134 (93 Elemente)

- 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
- ont_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

Name	Value 1	Value 2	Value 3	Value 4	Value 5
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

Evaluation: Access Result Data

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

CAViT - V2.0

Graph Zeitstrahl

Rippen Abdomen

18.6 402.6

40.5

31.1

1702.6

873.4

25.1 1

30.1

19.2 675.3

1.2 676.8

51.4

15.9 261.5

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
ont_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.

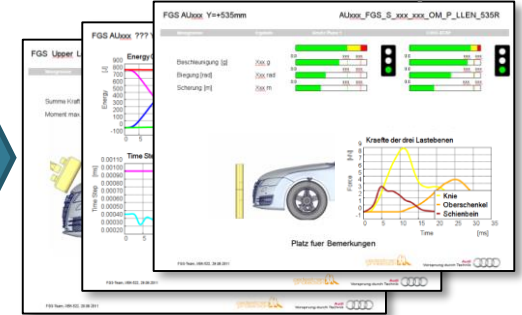
ct106

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
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...

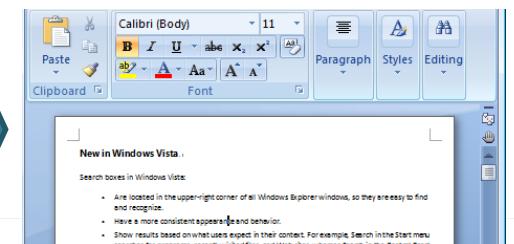
[PDF/PPTs Reports]



[Video Overlay]



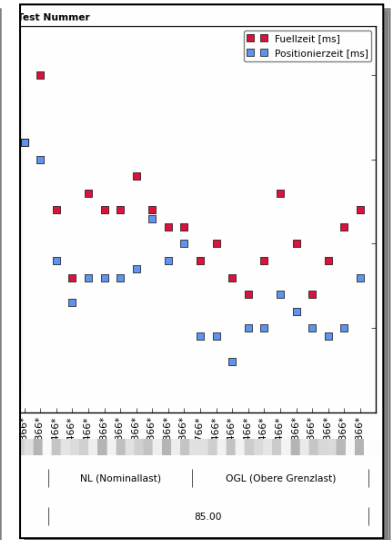
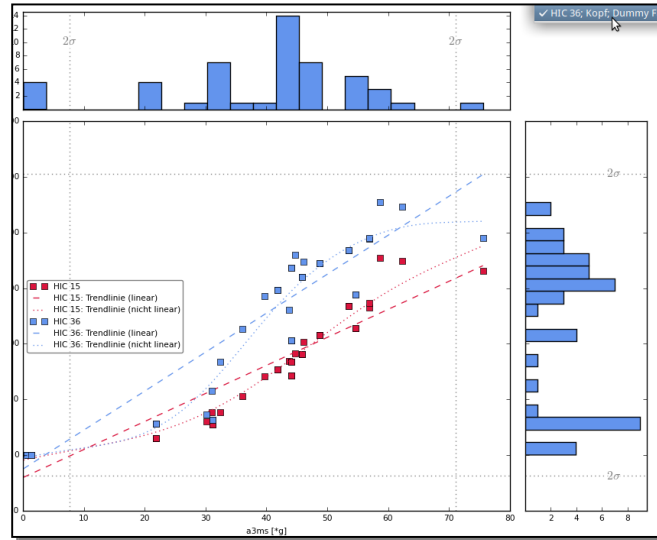
[docx Reports]





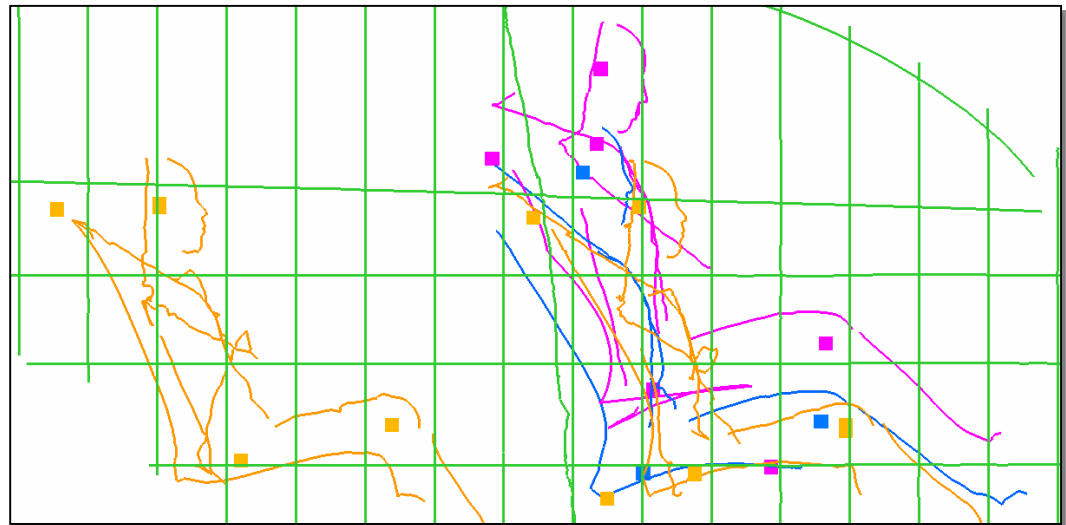
PlugIn Example #1 Plotting

- 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
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

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								
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Project 17	Test		SULTS_LI	376.8	0.965	383.3	-3676.409	448.3	0.292	1426.87	461.6	-4588.675								
Project 17	Test		SULTS_LI	461.0	0.336	414.8	-2070.42	519.7	0.254	694.058	418.4	-2456.158								
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								
Project 17	Test		SULTS_LI	357.9	0.594	352.3	-3852.632	471.2	0.315	1393.98	523.2	-5675.077								
Project 17	Test		SULTS_LI	275.2	0.527	349.9	-3654.675	417.0	0.424	1184.988	329.3	-3395.39								
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								
Project 17	Test		SULTS_LI	333.9	0.299	373.4	-1701.184	379.9	0.199	564.18	353.3	-1666.115								
Project 17	Test		SULTS_LI	388.0	0.338	380.0	-1898.346	440.2	0.21	715.672	356.8	-1834.536								



Evaluation, Assessment and Reporting



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

Lastfallbewertung zum 01.02.2017

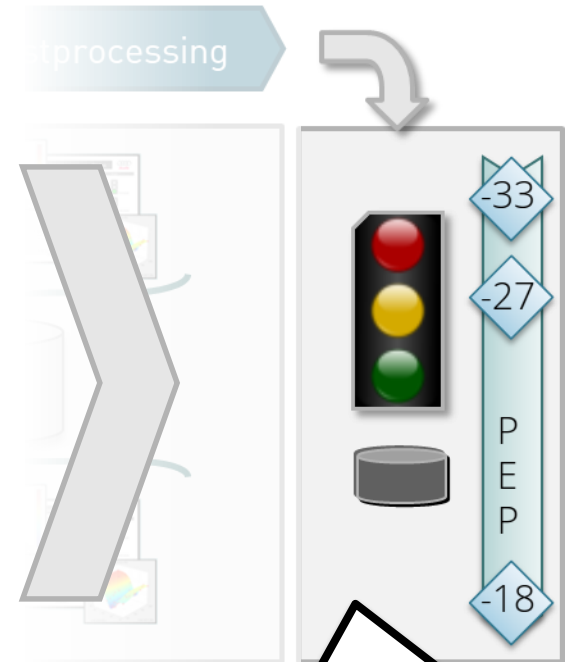
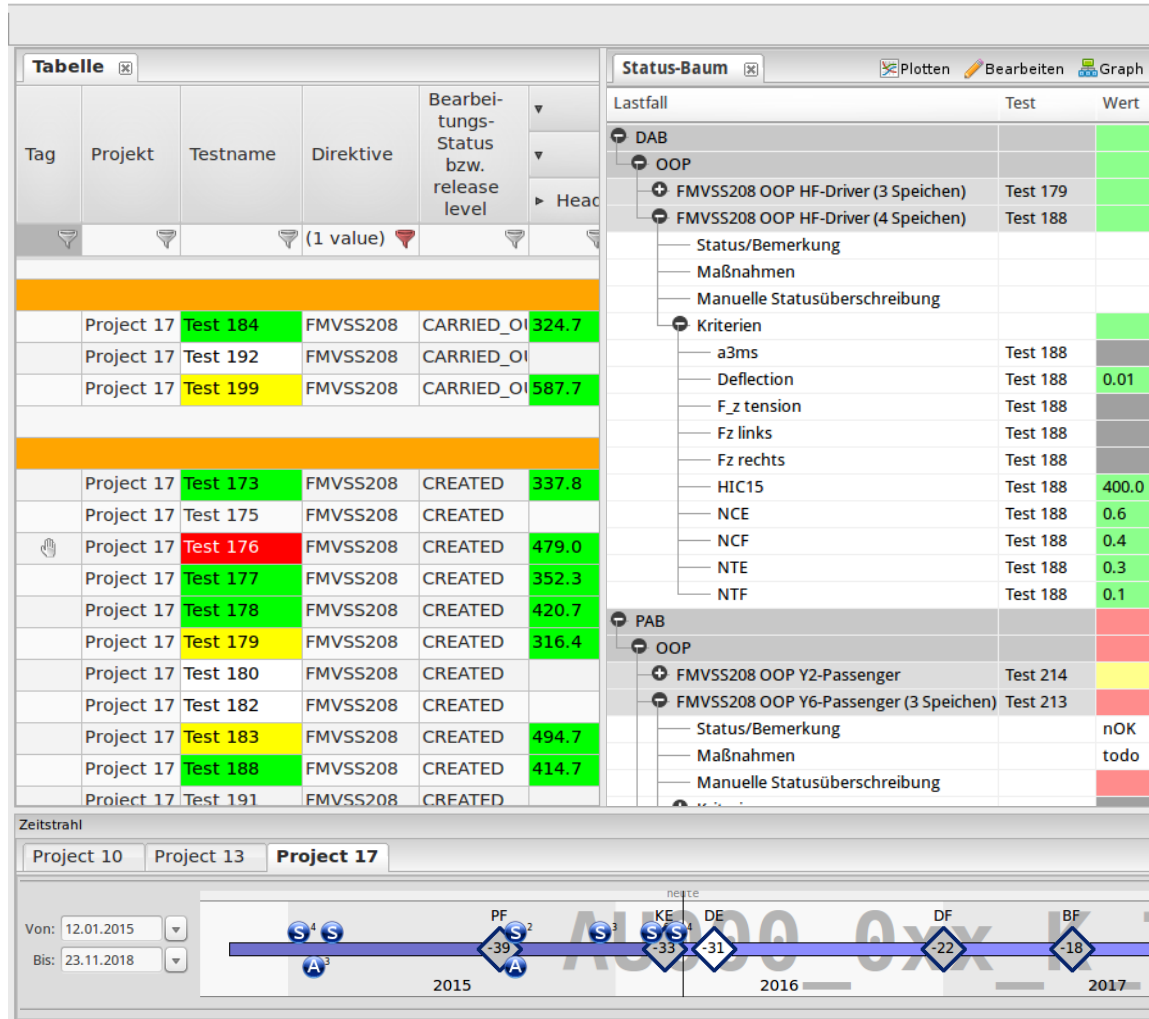
FMVSS208 2008 Front 100%Wand Beifahrer H

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

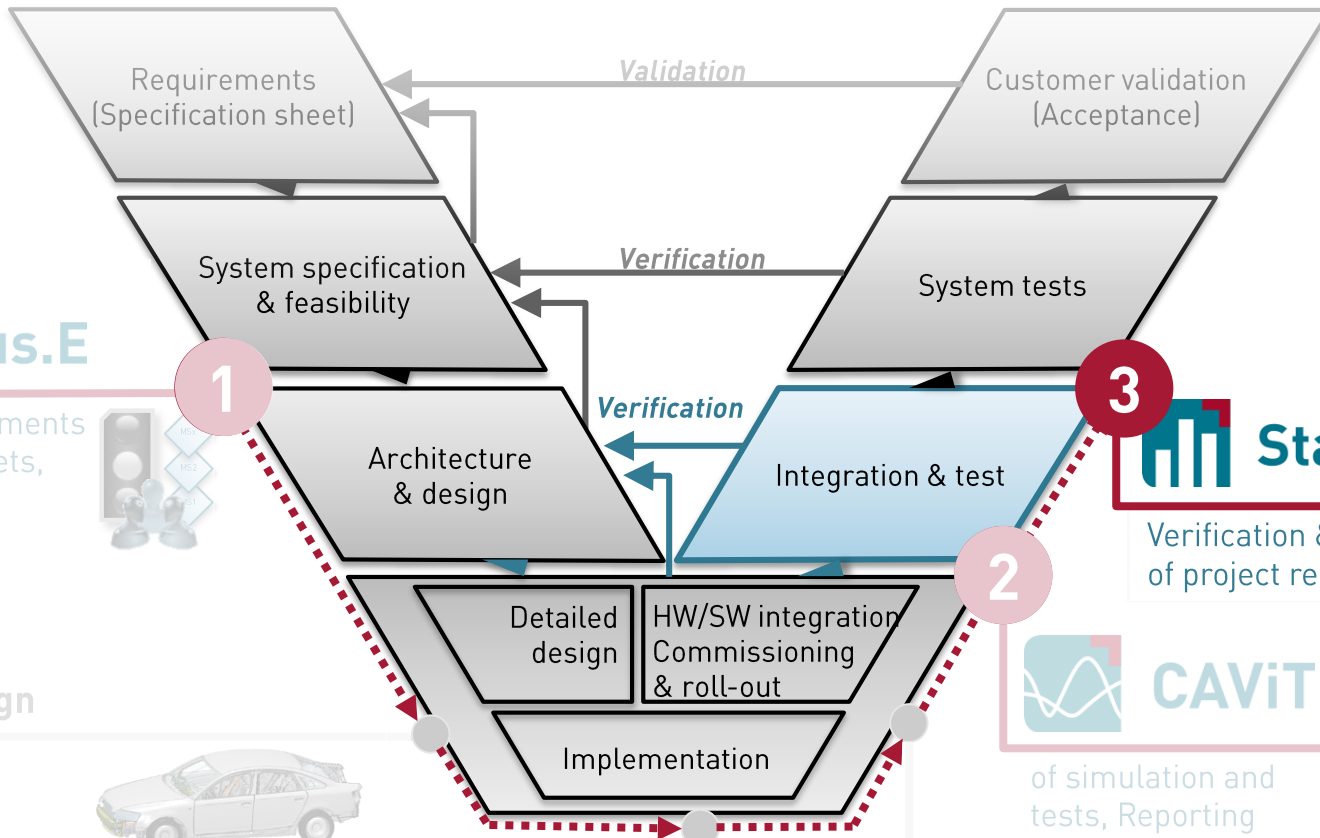
suggested rating (aggregated) rating

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



Status.E

Setup of requirements and project targets, milestones and responsibilities



Detailed design

CAD / DMU



Implementation

Setup of simulation models and test prototypes



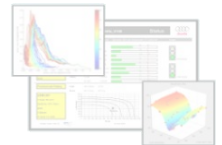
Status.E

Verification & monitoring of project requirements



CAViT

of simulation and tests, Reporting

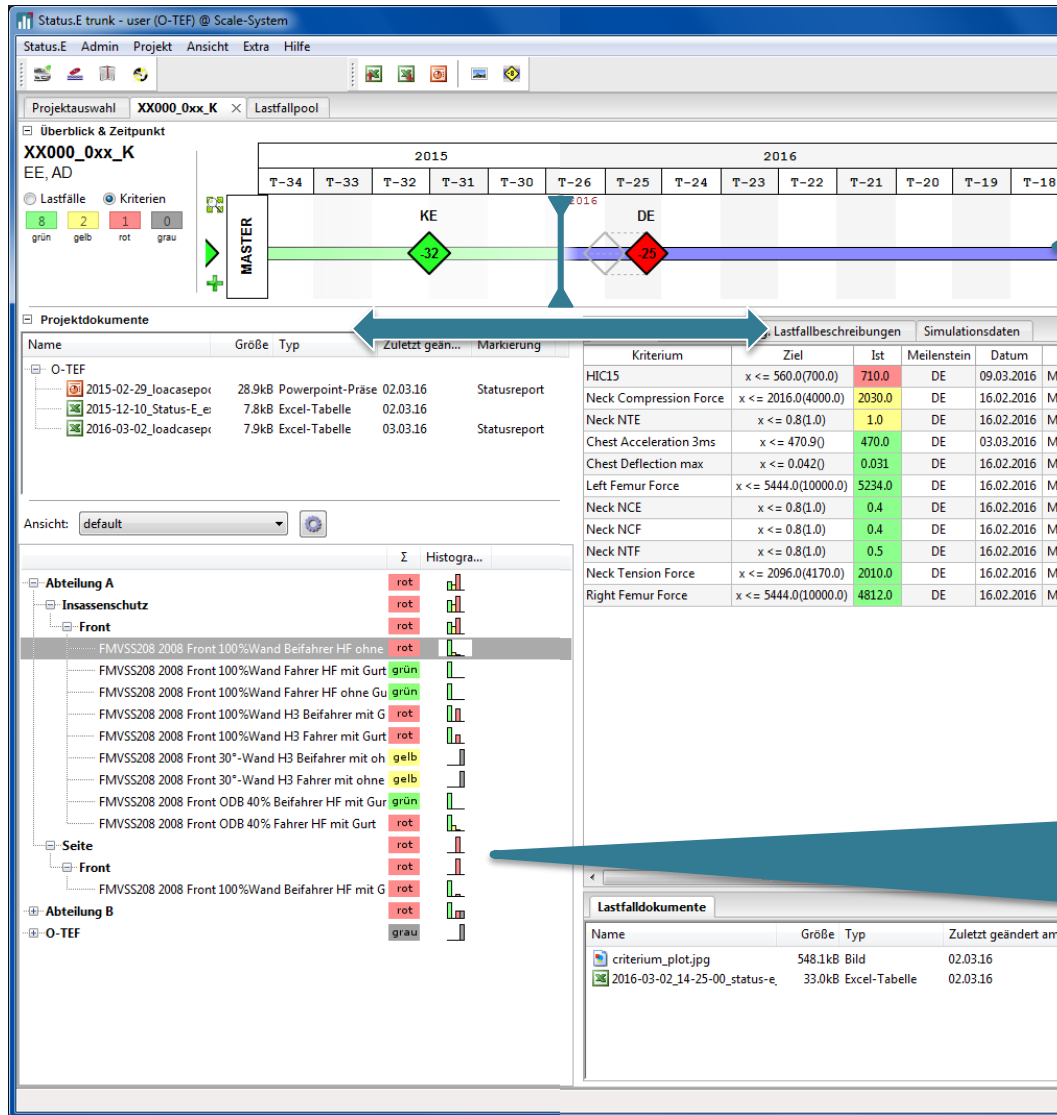


Solving / Testing

Perform simulation & test



Verification: Monitor & Report Project Status

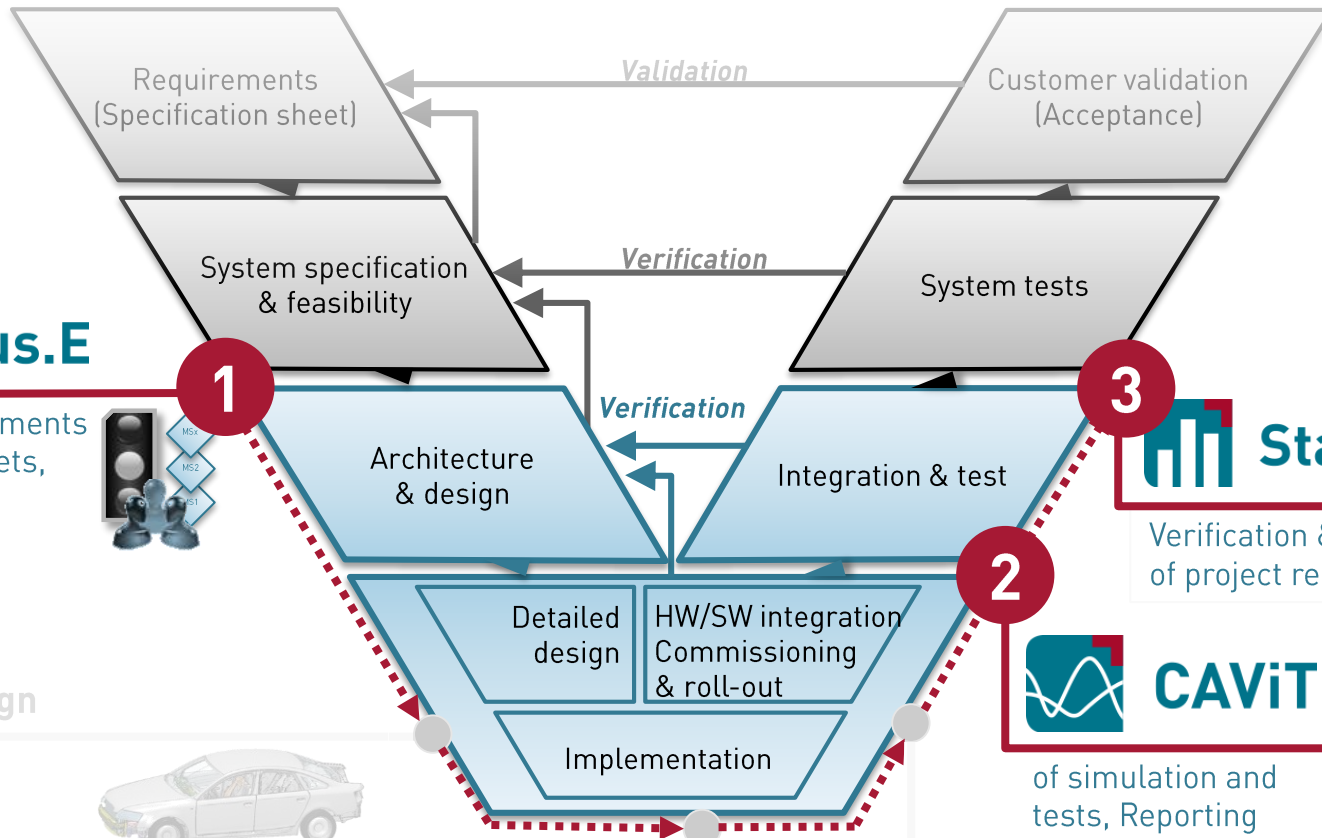


Report status for project milestone or date

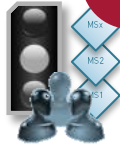
Detailed view of individual test case criteria reported by CAViT

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

Introduction - Systems Engineering Process



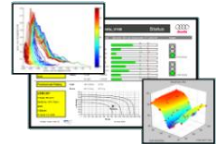
Setup of requirements and project targets, milestones and responsibilities



Verification & monitoring of project requirements



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>