

# 3DCS Variation Analyst CAA V5 Based Tolerance Analysis fully integrated into CATIA V5



## The World's Most Used Variation Analysis Software

3DCS Variation Analyst is used by the world's leading manufacturing OEM's to reduce their costs of quality. By controlling variation and optimizing designs to account for inherent process and part variation, engineers reduce non-conformance, scrap, rework and warranty costs.

### The Leading Variation Analysis Solution - The What

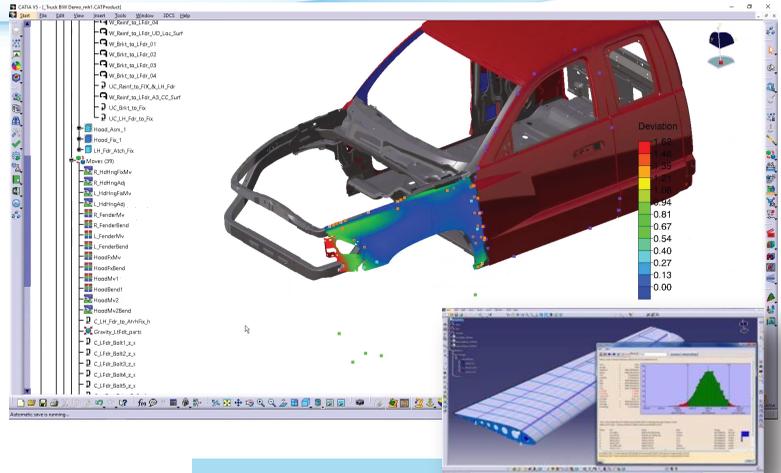
3DCS Variation Analyst CAA V5 Based is an integrated solution for CATIA V5. This gives users the ability to activate 3DCS workbenches from within CATIA, as well as use many of CATIA's innate functionality to support their modeling.

### Model Part and Process Variation - The How

Using three methods of simulation, the software highlights the sources of variation, as well as the potential build issues of the product. By accurately modeling the build process, the user can accurately simulate the product in a virtual environment, essentially creating digital prototypes to test and validate design objectives.

### Gain New Insight Into Your Design - The Why

By simulating products in a digital environment, engineers are able to account for variation in key areas, reducing rework, non-conformance and scrap at final assembly. In addition to this, specifications deemed less critical can be relaxed, increasing tolerances and allowing the use of less expensive manufacturing processes and thus reducing costs without affecting overall quality. 3DCS software has automatic report generation for fast, effective communication of analysis results, and easy collaboration with peers and managers.



## Key Product Highlights:

**Three Analysis Methods -**  
Monte Carlo Analysis, High-Low-Mean (Sensitivity Analysis) and GeoFactor Analysis (Equation Based)

**What-If Studies -**  
Test design changes using simulation to reduce the need for prototypes.

**Identify the Source of Variation -**  
Find the true source of your problem to root cause build issues and non-conformance.

**Apply Plant and Measurement Data -**  
Incorporate physical or actual measurements to validate products and trouble shoot production.

**Account for Processes and Tooling -**  
Model assembly process, tooling, fixtures, clamping, Datums, Locators and account for their added variation.

**Customize Your Setup -**  
Use Add-on modules to quickly upgrade your system to utilize FEA Finite Element Analysis, Mechanical Kinematic Assemblies and more.

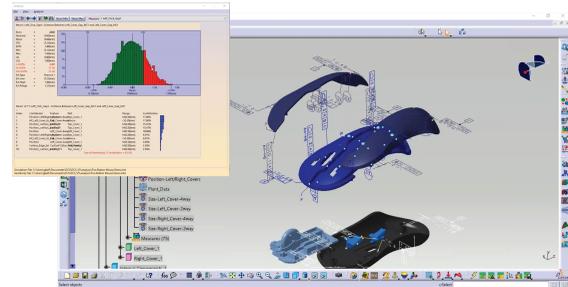
**Test and Optimize GD&T & FTA -**  
Move from general tolerances to more specific tolerances that reflect your processes and manufacturing capability.



## Control Variation Through Design Optimization

### Simulate Manufacturing Processes and Part Tolerances in Catia

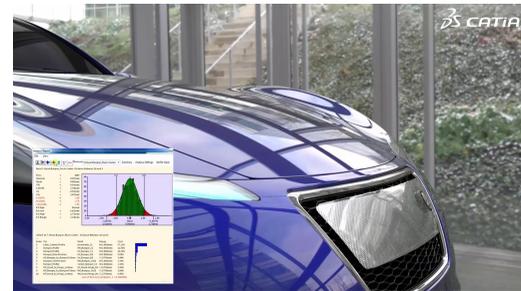
Turn your Creo CAD models into Digital Twins by using 3DCS to add part tolerances, assembly sequences, and manufacturing processes to make your model a true digital prototype. Simulate true to life measurements and run Monte Carlo simulations to find problem areas, determine risk of failure, and test design configurations.



Create Digital Twins with Manufacturing Process and Part Tolerances

### Incorporate FTA and Model Based Definition

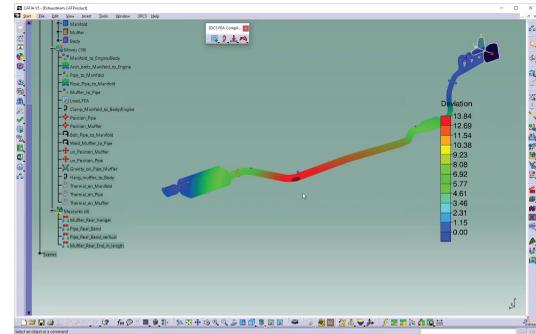
With fully integrated Tolerance Analysis, users can pull Functional Tolerance Annotations, FTA, straight from their model and validate, optimize, and test it for the most optimal outcomes. Hone in on over-engineered tolerances that can be loosened to save money, while testing different options to sensitive tolerances as alternatives to tightening them.



Reduce Prototyping with Life-Like Simulation

### Assembly Your Product Digitally Before Manufacturing It

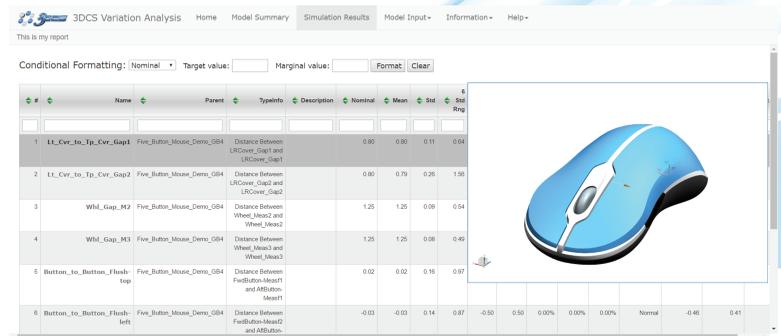
See how your parts locate and index while validating your assembly sequence. Determine the amount of variation in your assembly from manufacturing processes and assembly processes before including part tolerances. Change and modify your manufacturing process to reduce the risk of bad parts while it is still inexpensive in the digital phase, before parts are manufactured at the plant.



Use FEA to Determine Variation from Heat, Force, and Bolting/Clamping

### Create Reports and Collaborate Across the Organization in ENOVIA and PLM Systems

With push-button reporting, instantly create html and Excel reports from your analysis results to share with colleagues and present to managers. Collaborate with teams in different regions while effectively communicating your results. Store the tolerance analysis data in your model files to easily manage with PLM systems like Windchill, Teamcenter, 3DEXPERIENCE, ENOVIA, and SOLIDWORKS Enterprise PDM.



Use Reports to Quickly Share and Collaborate on Tolerance Stack Results

DCS is a software developer providing tolerance analysis and quality inspection solutions to the automotive, aerospace, medical device, electronics and energy industries. With more than 20 years' experience, DCS has grown to include clients from every region of the globe including companies like Airbus, BMW, GM, LG, Jaguar Land Rover, Phillips, Sony, Textron Aviation and Volkswagen. As a quality solution provider, DCS prides itself on providing clients not just software, but services, staffing and dedicated support to guarantee the success of their quality initiatives.