ENGINEERING IN NEW DIMENSIONS

www.3dcs.com

Leader in Dimensional Engineering & SPC Quality Management

With more than 20 years of providing quality SPC and tolerance analysis solutions to manufacturers, DCS has been influential in helping manufacturers reduce their Cost of Quality and execute model based enterprise.

With clients across multiple industries – automotive, aerospace, medical device, electronics, machinery, and more, DCS has successfully helped hundreds of companies achieve their quality vision.

More information:

3DCS VARIATION ANALYST

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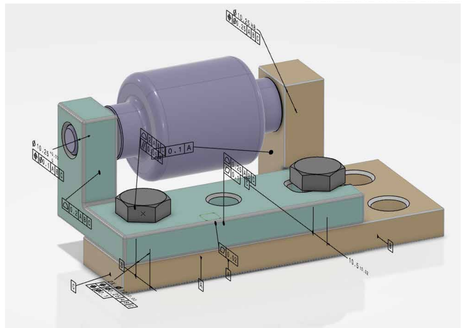


Principle

3DCS Variation Analyst for NX is an integrated software solution integrated into Siemens NX CAD that simulates product assembly and part tolerance 3D stack-ups.

3DCS for NX gives outputs based on part and process variation. These can be input in a variety of ways, from CAD-based PMI (GD&T) to selecting from applicable feature or point-based options in 3DCS. The final results are shown as statistical (Monte Carlo) and mathematics (GeoFactor) based outputs with toggle-able metrics like Cpk, Ppk, ranges, percent out of specification, and a variety more.

Advantages

1. Fully Integrated into CAD Platform for easy adoption, PLM integration, and use.
2. Multiple analysis methods for reliable results including FEA and Kinematics.
3. Incorporate assembly processes, manufacturing processes, and part tolerances to account for all influencing factors of variation
4. Optimize your design to loosen non-critical tolerances, reducing costs, and identifying areas critical to quality to monitor in production.
5. Test solutions digitally, and utilize measurement data to root cause production problems instead of using trial and error.

Disadvantages

Advanced analysis requires some training to get started

Good results require good inputs. Understanding how to use GD&T, and taking a structured approach to model creation provide better results than using old drawings, general callouts, and guesswork. Having some training and experience with the process greatly improves the efficiency of model creation, the quality of the results, and the understanding of how to apply the results to see real improvements in cost and quality.

DCS and its partner CENIT provide training and support to help manufacturers get up to speed on their skills, and provide modelling, mentoring, and GD&T services to help keep programs on schedule.

Production boundaries and limits

Process Integration
- In order to see the greatest value, companies should integrate 3DCS software into their standard processes. This provides an understanding of when the analysis takes place, and who is responsible. It also provides instructions for the outputs and their use to realize the benefits.

Specialist Role vs Designer/Engineer
- As a CAE tool, 3DCS is best used by a specialist, or engineering team who have experience in this area. Simplified versions are available for upstream use by design teams, and complex analysis can then be passed to the specialists for more advanced modelling.

Installation
- 3DCS software is installed on workstations, and can use server licenses or computer locked (node locked) licenses.

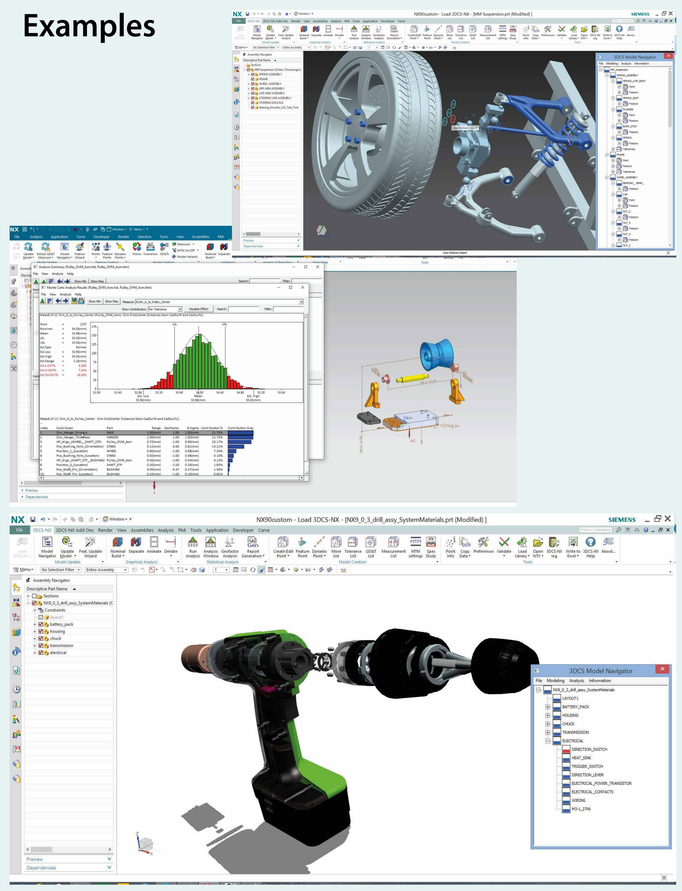
Support
- DCS has multiple support tools, as well as 24 hour support teams both at the headquarters and in local regions to help companies adopt, apply, and succeed with the technology.

Ongoing Modeling
- 3DCS is best used as an ongoing activity in order to foment continuous process improvement by revising models, testing solutions, and root causing production problems.

Cost

- Comparable cost with other CAE platforms.
- Ask us for details.

Examples



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