




3Shape Convince™ 2011
3D Scanning and Quality Control

3shape 

About 3Shape

Digitally moving the world of 3D scanning and 3D software



- **Global provider of innovative 3D technology**

Established in 2000 in Copenhagen, Denmark

- **200 employees**

More than 100 developers (+35% 2010)

- **Headquarters in Copenhagen (Denmark)**

Offices in Kiev (Ukraine), Stettin (Poland), New Providence (USA), Shanghai (China) and Milano (Italy)

- **Leading supplier in the Hearing Aid Segment**

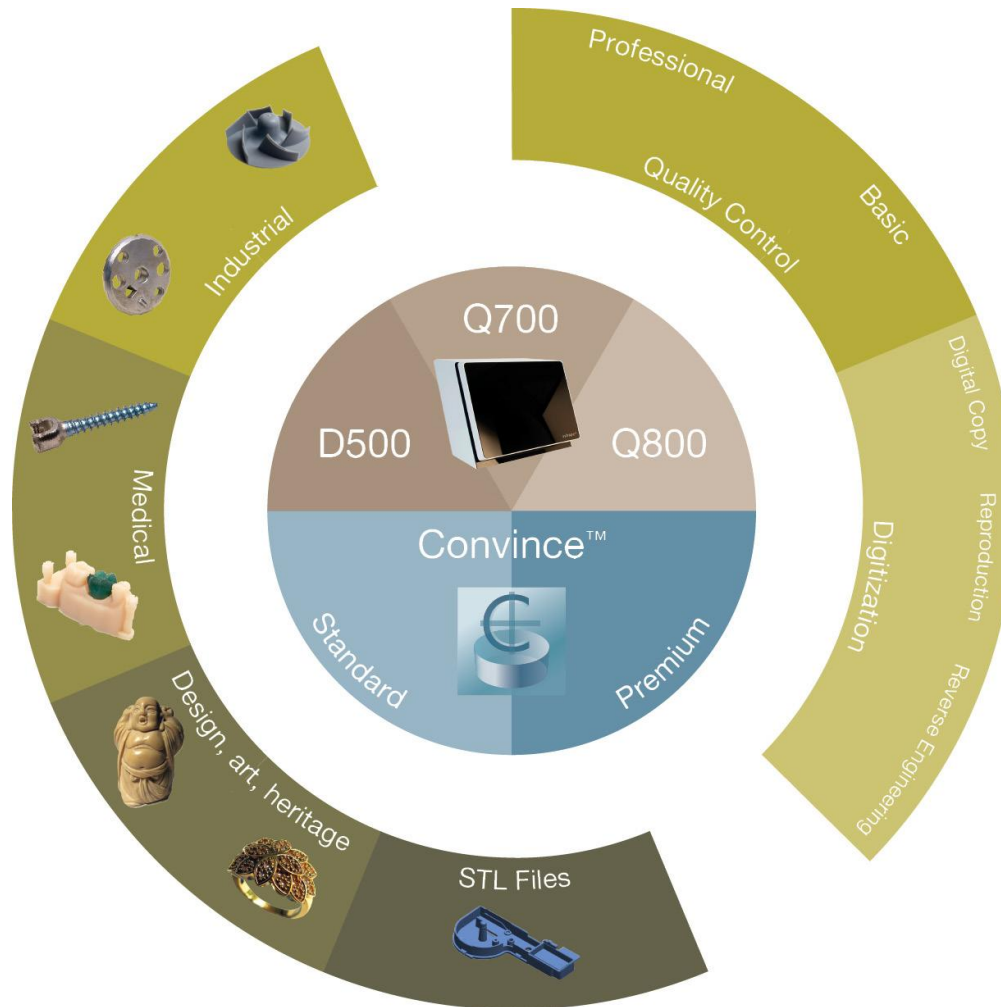
70-80% of the world's hearing aids are produced using our systems.

- **Global market leader for Dental CAD System for the lab**

Thousands of installations in more than 60 countries.

3Shape Convince™ solution for your business

Optimal solution for every application and budget



A wide range of configuration solutions allow perfect matching to your application, your business, and your budget. Choose from 3 different scanner models and either Convince™ Standard or Premium software!

3Shape Convince™ Testimonials

What users say about Convince™...



"We use our 3Shape 3D scanner every day as part of our production. The system's high speed, high level of automation and ability to create a complete 3D scan measurement of our products make it a perfect tool for optimizing our production workflows. 3Shape's 3D scanner is the perfect addition to our existing CMM machines."

Mr. Oliver Romano

PRAE-TURBO GmbH & Co. KG.

Germany



"3shape Convince™ is an ideal complement to the D700 and D800 Dental CAD systems and allows us to apply 3D quality control of manufactured dental restorations using our existing scanners. The system's remarkable ease of use and rapid generation of reports helps us to validate and improve our manufacturing process nearly in time with on-going production of milled, 3D printed and laser sintered parts."

Mr. Carsten Marunde

R+K CAD/CAM Technologie GmbH & Co. KG

Germany

3Shape Convince™ Testimonials

What users say about Convince™...



"We use the 3Shape Convince system for our joint research projects with industrial partners. We enjoy huge benefits from the systems ability to generate fast and complete 3D inspection of injection moulded parts. The high accuracy is crucial in order to validate the influence of different process parameters during the injection moulding process and the resulting effect on the final part geometry and part dimension variation- and Convince delivers every time."

Mr. Andreas Kürten,
ISK Iserlohn GmbH, Germany



"Convince enables us to capture any object with all its details, such as shells, leaves, or clay-models, to use as the foundation for our jewelry designs. Many tedious and slow manual processes, such as replicating rings in various sizes or jewelry reproduction, have now turned into automatic workflows without sacrificing the quality and creativity required in our line of business."

Mr. Jan Thuesen
RP Factory, Jewelry design and production
Denmark

3Shape 3D Scanners

A scanner for everyone – choose 1.3 or 5.0MP resolution



D500

Cost efficient scanners designed for general scan applications such as object digitization, jewelry and art.

- 2 cameras with 1.3 megapixels
- Accuracy: 20 microns
- Only with Convince™ Standard



Q700

More than 30% faster in relation to the D500 models and provides an optimal balance between accuracy and speed.

- 2 cameras with 1.3 megapixels
- High accuracy: 16 microns
- With Convince™ Standard or Premium



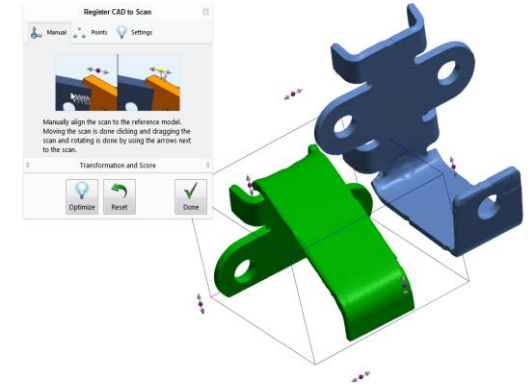
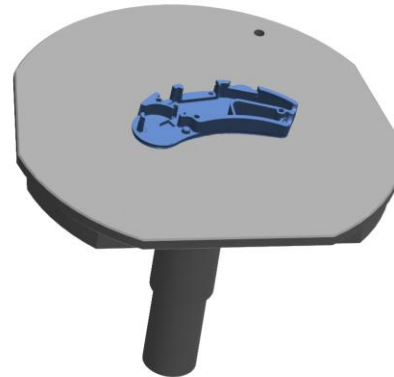
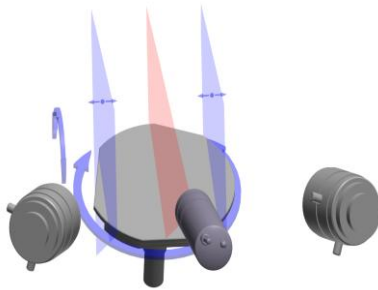
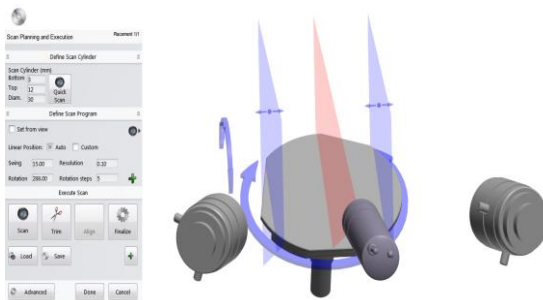
Q800

High resolution scanner with 5.0 MP cameras for accuracy and capture of small details

- 2 cameras with 5.0 megapixels
- High accuracy: 16 microns
- With Convince™ Standard or Premium

3Shape 3D Scanners

Scanning made easy – intuitive, automated and repeatable



Intuitive scan sequence definition

Define, simulate, customize, save, and repeat automatically the optimal scan sequence for each object for the optimal scan quality.

Optimal scan setting for each object

Optimized settings to find the best trade between time, quality and coverage.

Typical workflow times for diff. objects:

Preparation & planning	0,5 - 2 min
Scan process	2 - 10 min
<u>Post-processing</u>	<u>1 - 5 min</u>
TOTAL	3,5 - 17 min

Complete scan-capture of objects

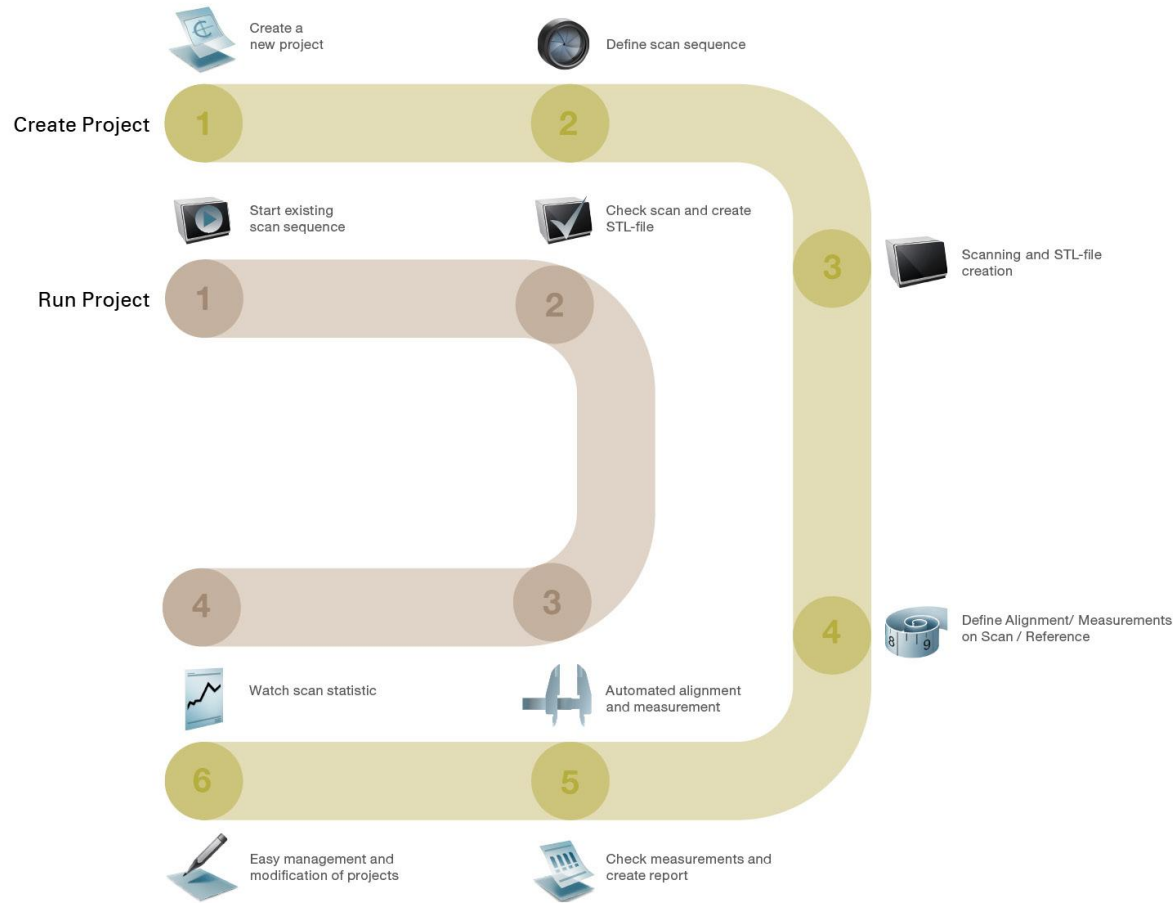
Create complete 3D scans by scanning from all user-defined viewpoints and combining the different scans into one scan using Best-Fit registration.

Other Specifications

Scanning volume	Cylindrical: 80mm Diameter x 80mm Height
Accuracy	MPE = 16 µm over 60 mm (Maximum Permissible Probing Error of Size according to VDI/VDE 2617 Part 6.2)
Output formats	STL, VRML, ASC, XYZ, PTS (open formats)
Easy calibration	Simple and hassle-free within 5 minutes
Easy maintenance	No special maintenance or periodic calibration services needed
Compact and plug-and-play	Small footprint with installation of USB cable

3Shape Convince™ Workflow

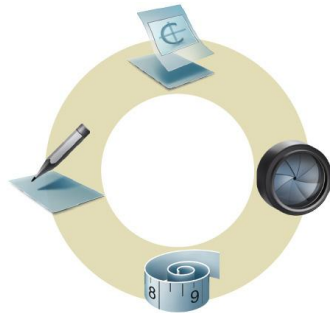
Scan, measure, report in just a few steps



It has never been so easy - From creating a project based on a reference to defining scan and measurement sequences. Once established, scanning and measuring require only a few clicks.

3Shape Convince™ Standard Software

Your easy entry into the world of 3D scanning and measuring



Project creation and management made easy

Easy creation of new projects using dedicated windows for scanning and for measurement.

Clear overview of existing projects with access to scans sequences and measurements.

Our entry solution!

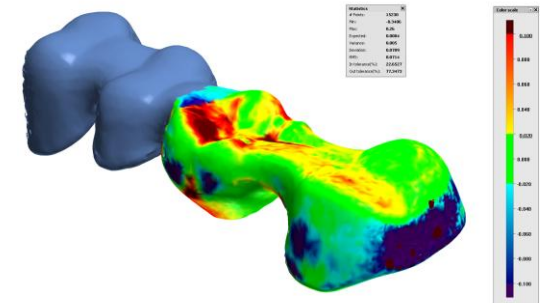
Ideal solution for users who want mainly to scan and perform basic quality control, e.g. 3D manufactured parts such as in dental or hearing aids.



Automated scanning - Fast, easy, repeatable, consistent

Convince™ allows existing projects to be scanned and measured automatically without additional user interaction.

Convince™ makes your daily scan routines operable for all users incl. operators on the shop floor.



Basic measurement & quality control

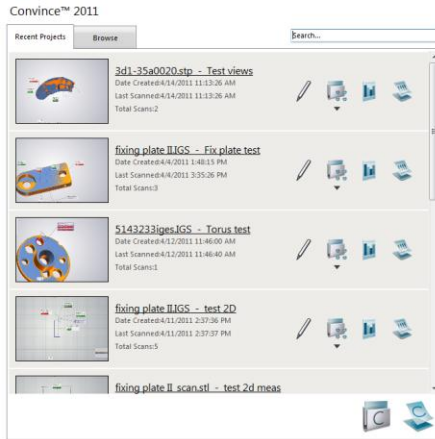
Compare scans against the original STL-file using Best-Fit alignment.

2D measurements include 2D sections, whisker plot, and point-to-point.

Supported 3D measurements are point-to-point distance and difference maps incl. region-of-interest (ROI) maps.

3Shape Convince™ Premium Software

Professional quality control made easy



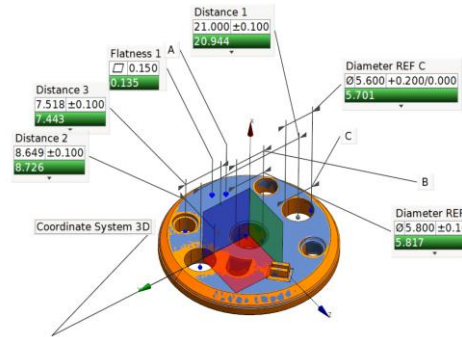
Automate your workflows

Prepare scan and measurement projects with/ without a reference file - including off-line and on-the-CAD-programming.

Apply automated execution of previously created project macros for running QC processes even by a shop floor operator.

The ultimate QC tool

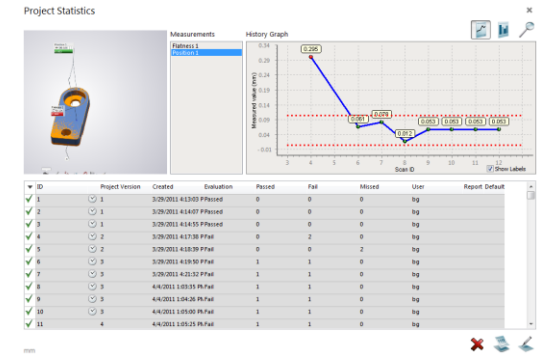
Our full-featured professional quality control software providing the full range of metrology measurement tools.



The complete range of measurement tools

Convince™ allows users to easily evaluate all 2D / 3D dimensions and GD&T measurements.

The Virtual Geometry creation tool allows the full range of measurements without the need for a reference.



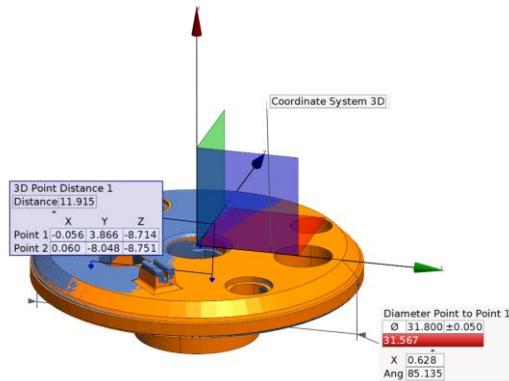
Scan history, statistics and reporting

Instant overview of executed scans and completed measurement projects.

Statistical tools for quick overview of trends and variations in tolerance and dimensions.

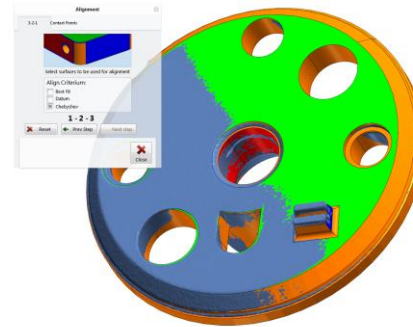
Automatically create and store reports in a single click.

3Shape Convince™ Premium Software New Features and Highlights



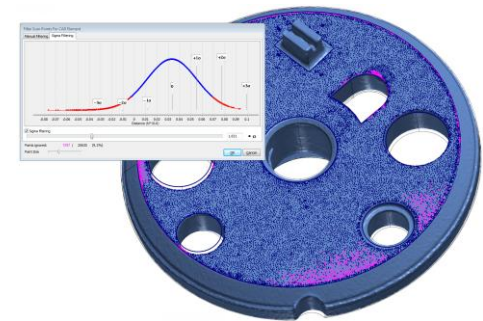
Customized multiple coordinate systems in 3D

Easy definition of multiple coordinate systems for direct measuring on a CAD-file or using self-defined virtual geometries.



Virtual measuring in 2D/ 3D and GD&T in 3D

Perform measurements directly on a scan using virtual surfaces without the need for a reference.



Optimized measurement by point filtering

Achieve optimal measurement accuracy by fine-selecting the relevant data points using point filtering with sigma or manual selection.

What else you should know...

Certified - Compliance to ISO 1101 and ANSYS 14.5 standards for GD&T certified by PTB, Germany

Languages - Available in English and German

Easy to use - Intuitive user interface and smart tools enable the user to create measurements in the shortest time without losing the overview.

Application versatility - Suitable for First Article Inspection, Statistical Process Control, and more as in the plastic injection moulding, in automotive to control complex manufactured parts as turbo-wheels, 3D printed objects etc.

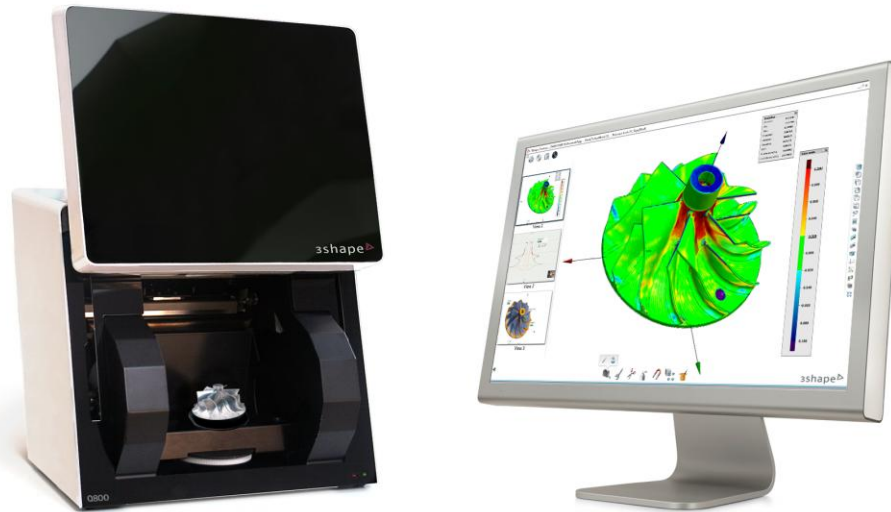
3Shape Convince™ Software

Comparison Standard / Premium

		Standard	Premium
Projects	Create and edit projects	√	√
	Automated scanning / measuring	√	√
Scanning			
Scanning	All scanning parameters available	√	√
	Scan simulation	√	√
	Load / save sequences, parameters	√	√
	Create STL, PTS, ASC and other file formats	√	√
	Scan scaling and offset	√	√
Measurement			
Measurement	Point Distances	√	√
	Full 2D / 3D Dimensional Measurements	X	√
	Difference Map in 2D / 3D	√	√
	GD&T Inspection	X	√
	Virtual Geometry (Creation and Measurement incl. GD&T in 3D)	X	√
	Point Filtering	X	√
	Create custom coordinate system (incl. multiple in same project)	X	√
	Alignment (3-2-1, contact points)	X	√
	Load CAD-file (IGES, STEP, ProE)	X	√
Reporting			
Reporting	Report	√	√
	Statistics	√	√

Convince™ 3D scanning and quality control solutions

A best solution for every need – Your benefits



High Productivity and Return on Investment – By easy creation of projects, fast scanning, and a high degree of automation.

Intuitive operation – Fast and easy to learn to use for both novice and advanced users.

Optimized for small objects – Can capture complex 3D geometries and small details with high accuracy.

Application versatility – Perfect for both basic and advanced quality control, object digitization for reverse engineering, jewelry, art, archeology, ...

Flexible system - Choose from 3 different scanners and combine with either Convince™ Standard or Premium for your most optimal solution.

All the tools you need - combines scan planning, scanning, measurement, project management, reporting, and statistical analysis in a single system

Technology designed the way you work

