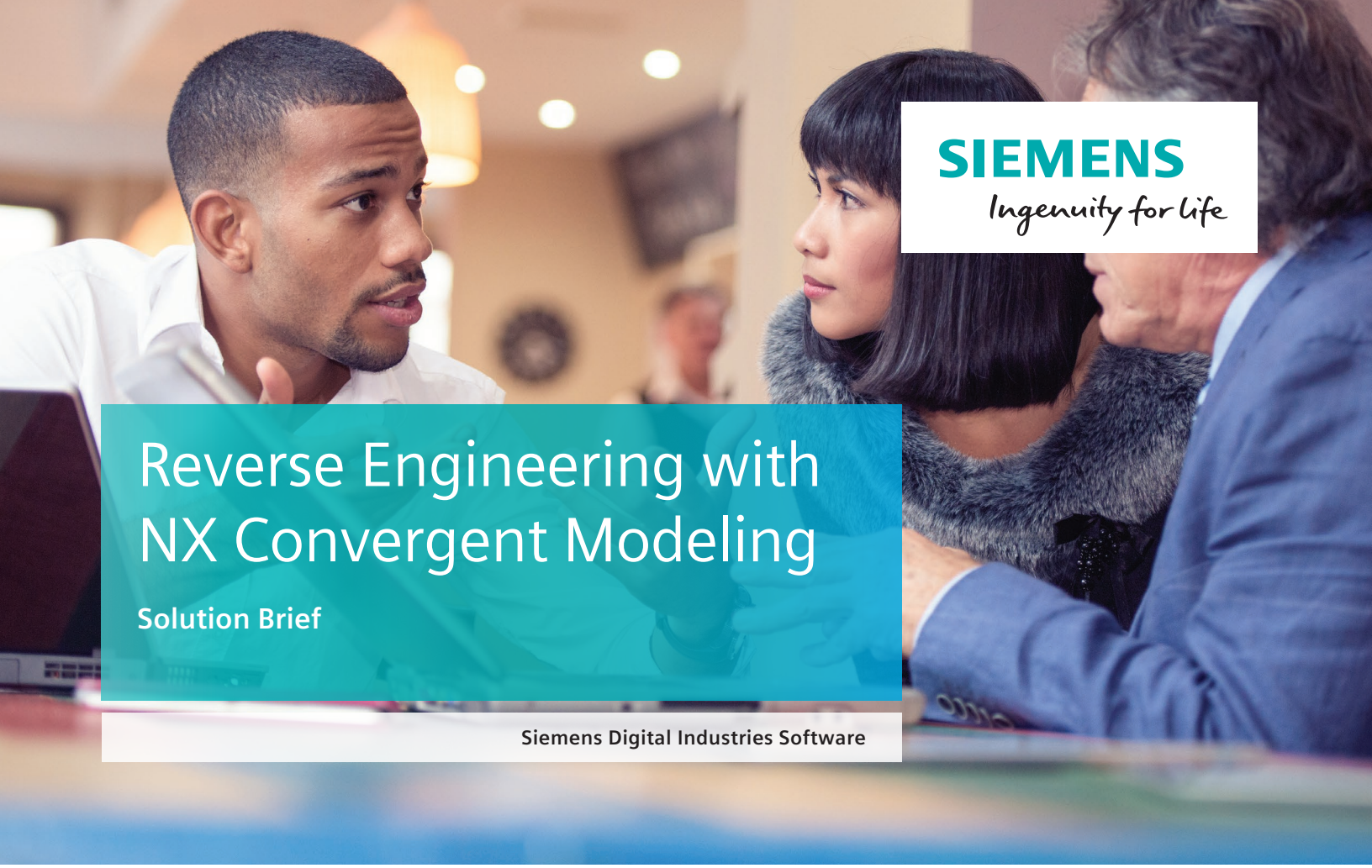


SIEMENS
Ingenuity for life

Reverse Engineering with NX Convergent Modeling

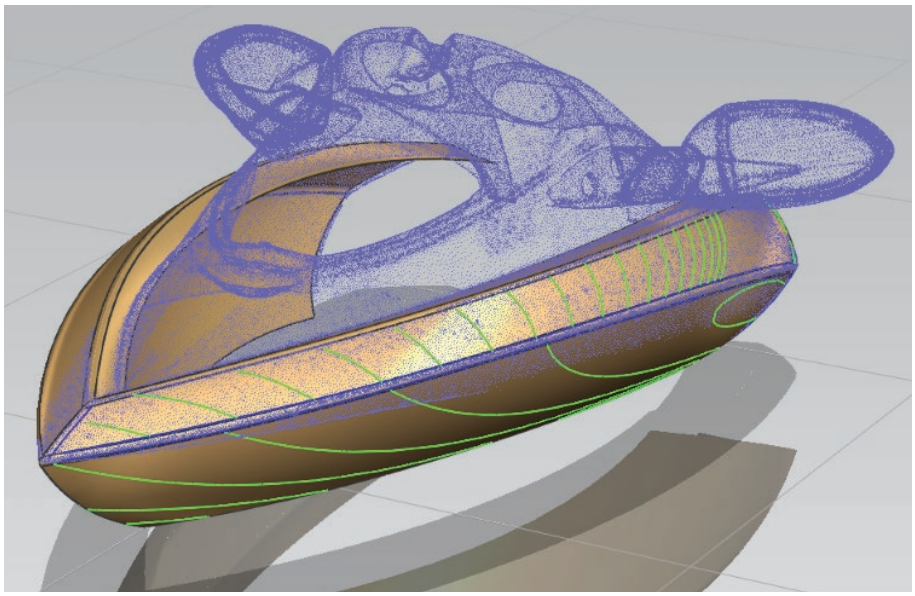
Solution Brief

Siemens Digital Industries Software

Use scanned data without translation or time-consuming rework

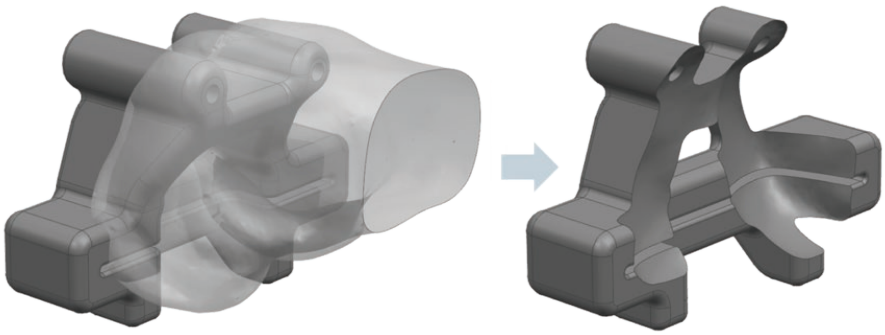
NX™ software is a highly capable design tool with a large breadth of capabilities for design, development, analysis, and manufacturing. Using these capabilities requires computer-aided design (CAD) data. In many cases, this data is not available. Parts may be too old to have CAD data, the existing data may be corrupt, or the part may have been modified on the plant floor or job site so that it no longer matches the existing data. Sometimes the data is not available because the product may have been designed by a competitor or other outside firm.

Reverse engineering of physical parts is typically accomplished by either measuring them and manually recreating the CAD model, or more frequently, by scanning them and importing the 3D scanned data into a CAD system. The manual process is obviously very time- and labor-intensive, but the traditional scanning process isn't much better. The scanned data is imported as facets that can't be modified, and extensive manual rework is usually required to make it useful for analysis, 3D printing, manufacturing automation, or any other use. Irregular shapes are especially challenging.



Scanned data is extremely useful, but often requires rework.

Solution focus



Use facet data to create custom medical devices.

Convergent ModelingTM in NX is a leading-edge modeling paradigm that greatly simplifies working with geometry that includes a combination of facets, surfaces and solids, without requiring time-consuming data conversion. Convergent Modeling, a breakthrough technology, will help engineers optimize part designs for 3D printing, accelerate the overall design process and make reverse engineering a far more common and efficient practice in product design. It does this by bringing the scanned data in as facets, so there is no need to map surfaces, create solids, or do any other manual shape creation. You can scan your data and immediately begin building supports for 3D printing, creating molds based on the shape, including it in an assembly, analyzing it, or performing any other operation that uses CAD data.

Convergent Modeling represents a huge savings in time and cost and eliminates the error-prone rework phase. Whether you are designing medical devices, retail or apparel products, or utilizing clay models for styling and design, convergent modeling is a critical tool for creating facet shapes more quickly and with fewer errors than other solutions.

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