



WINNER



2003 R&D 100 Awards Winner

FlashCT™

FlashCT™ is a high-speed, industrial computed tomography (CT) scanning system for producing high-resolution, three-dimensional (3-D) images of the external and internal geometries of objects. Once appropriate only for laboratory use, its vastly improved software and off-the-shelf components now make it feasible for high-throughput, in-line manufacturing applications. As a result, FlashCT is being used in unforeseen ways, notably in the mass production of customized parts. New uses of FlashCT are beginning to make significant changes in the way manufacturing is done. FlashCT applies to any process that requires the nondestructive scanning of an object. Its use in prototyping mass-produced custom devices (mass customization) streamlines the manufacturing process, increases throughput, reduces overall manufacturing costs, is clean, and eliminates environmentally harmful by-products used in other processes.

Applications

- Prototyping mass-produced, customized, orthodontic devices
- Inspecting parts or components for quality-assurance purposes
- Comparing "as-built" hardware to design intent
- Recreating parts when design drawings are no longer available
- Evaluating manufacturing errors
- Inspecting archaeological, geological, and paleontological samples