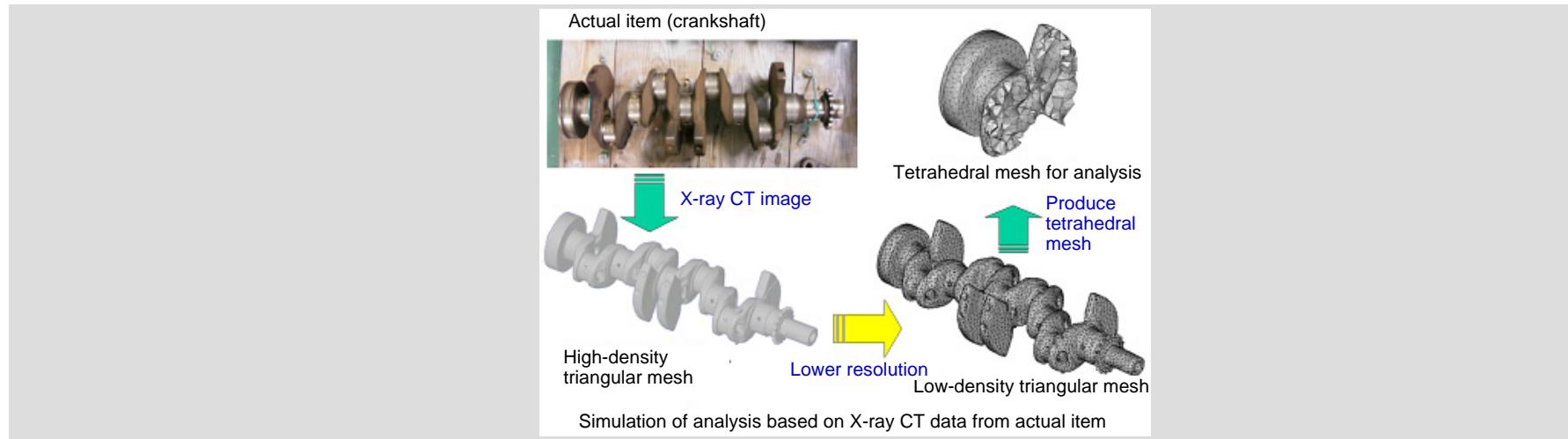


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Development of software which automatically generates a numerical analysis mesh based on 3-D data
- Enabling strength and temperature distribution to be calculated from computer graphics and x-ray CT images -



The Mechanical Research Laboratory of Hitachi, Ltd., in cooperation with Hokkaido University, have developed software which automatically produces a numerical analysis mesh from a high-density mesh model based on 3 dimensional data. The observation that 3D measurement charts and computer graphics are based on a high-density mesh, led to the idea of utilizing this information to create a numerical analysis mesh. The feature of the software is that the user can freely select the density and quality of the mesh. This software dramatically reduces the amount of time required to produce a numerical analysis mesh, as well as, enabling computer graphics and 3D measurement data to be directly used in simulation analyses of strength and temperature distribution. As a result, performance analysis can be conducted at an early stage in product design, contributing to both an increase design efficiency and product quality.

This research was conducted as part of Next Generation Digital Styling Design Method Research Activity in the Sapporo IT Carrozzeria Project of the Ministry of Education, Culture, Sports, Science and Technology "Knowledge-based Cluster Creation Project".