WHAT IS ENKIDOU® ?

- Research and Innovation projects in the field of scientific computing often require some specific developments
- ENKIDOU was created to help develop specific applications

- ENKIDOU is not a stand-alone program.
- ENKIDOU is a **middleware**. It is used to create other programs or applications
- ENKIDOU-based applications can be used for any engineering design and optimization problems: crash, fatigue, NVH, fluid dynamics, etc …
- Many problems solved using ENKIDOU cannot be approached with other systems (I-Sight, NOEMIS, …)
- Each application is **specific**, but ENKIDOU is always the same …

ENKIDOU: SimTech PROPRIETARY SOFTWARE

- Java-based library for the development of custom software
- SimTech proprietary software
- Helps to focus on the engineering problem at hand
  - All/Most routine tasks are carried out in high level ENKIDOU classes
  - I/O (disk, openGL, external codes) are standardized
- Improve the quality of the application
  - Quality assurance is at ENKIDOU level
  - Each application profits from the experience of all the others
- Shorten development time
  - Factor 10 wrt Java from scratch
  - Factor 2-3 wrt to QT, open Inventor etc ...

ENKIDOU is a Java-based library of components (API) for the development of interactive, graphic environments for VERTICAL APPLICATIONS.
ENKIDOU applications can use **ENKIDOU GUI** or the customer's GUI.

**ENKIDOU** includes about 2000 classes.
Main features:
- Task structure (process automation)
- Integration between design space and CAE model
- Multi mesh model
- Data structure
- Disk I/O management
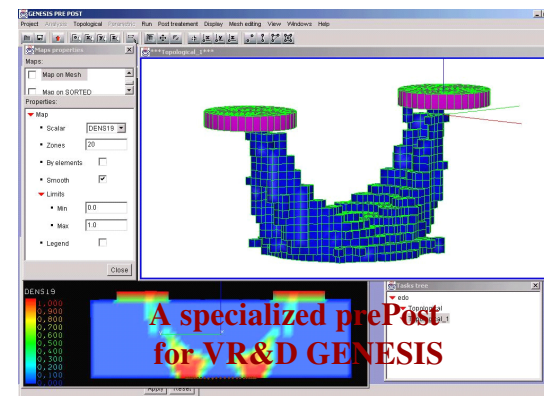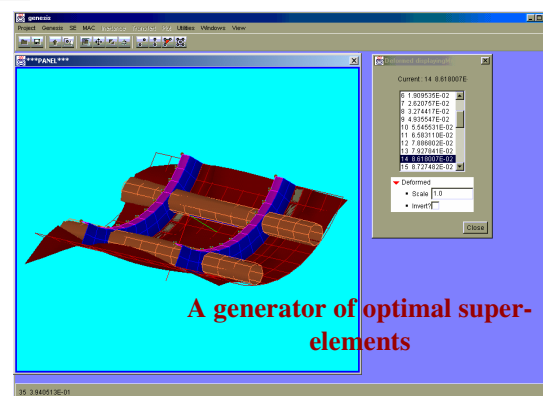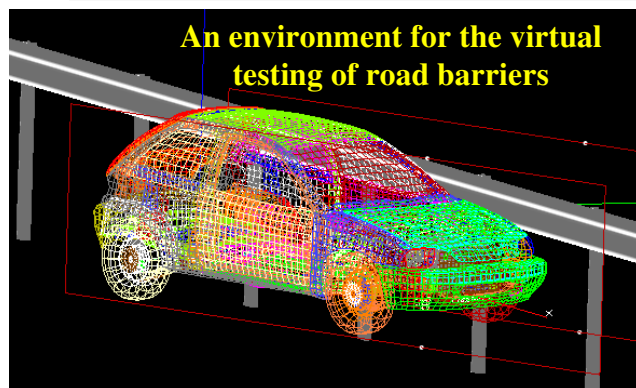- Java/openGL link
- High level components

BUSINESS MODEL CUSTOM SOFTWARE

MOST SimTech PROJECTS INVOLVE THE DEVELOPMENT OF SPECIFIC SOFTWARE

– ENKIDOU is the property of SimTech

– The application is the property of the Client

WE USE OUR ENKIDOU™ API TO DEVELOP CUSTOM APPLICATIONS

application.jar	347 Ko	Executable Jar File	16/06/2009 06:53
enkidou.jar	2 186 Ko	Executable Jar File	16/06/2009 06:52
enkidoux.jar	987 Ko	Executable Jar File	16/06/2009 06:53
ugl_windows.jar	13 Ko	Executable Jar File	27/09/2004 16:59

An environment for the virtual testing of road barriers

A generator of optimal super-elements

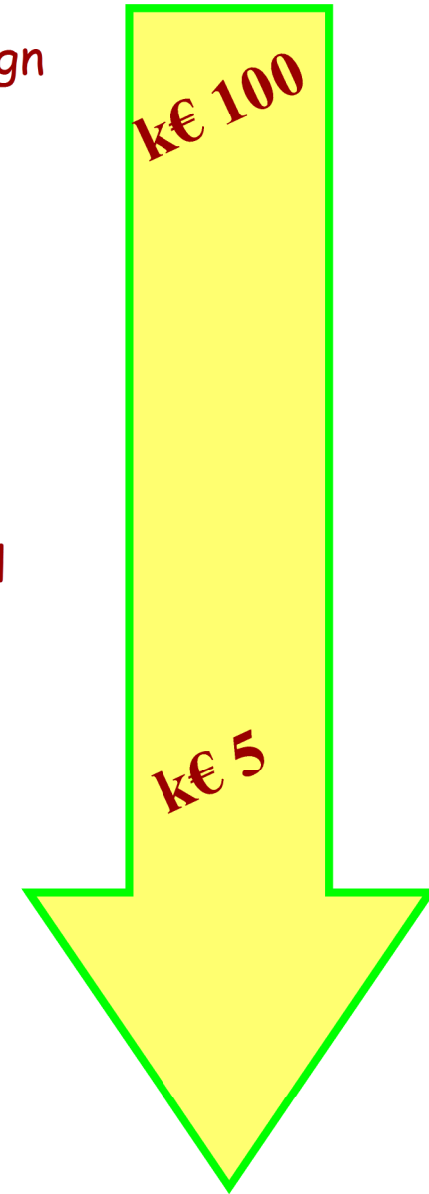A specialized prePost for VR&D GENESIS

SOME ENKIDOU APPLICATIONS ARE AVAILABLE FOR SALE

BarrLier: virtual testing of road restraining systems (marketed by LIER)

EnkiBonnet: bonnet design for pedestrian compliance (marketed by SimTech)

Recent ENKIDOU Applications

- *Roller Bearing Maker:* Knowledge-based product design

- *Certified Test Lab:* Virtual testing of road barriers

- *Engineering conglomerate:* MDO for rail transport systems

- *Automotive OEM:* Assembly line simulation
- *Automotive OEM:* Crushed beam optimal design
- (several customers): Composite design

- *Automotive OEM:* Springback compensation for metal forming tools

- *Automotive OEM :* Fatigue analysis

- *Software Vendor:* Metal forming tool generation

- *Internal SimTech:* Pedestrian compliance design of bonnets, Super element design, Vibration analysis, Statistical analysis tools, …

k€ 100

k€ 5

What is ENKIDOU ?

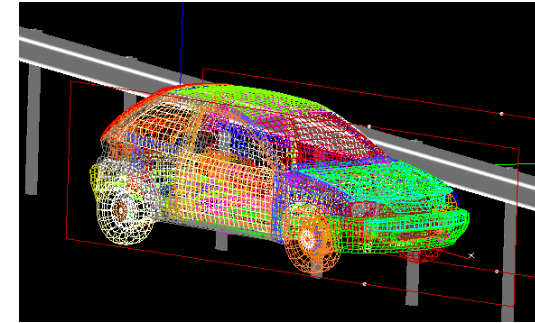Java-based library for the development of custom software

ANALYSIS

PARAMETRIC

TOPOLOGY
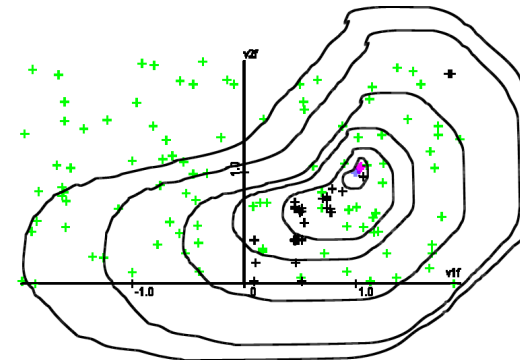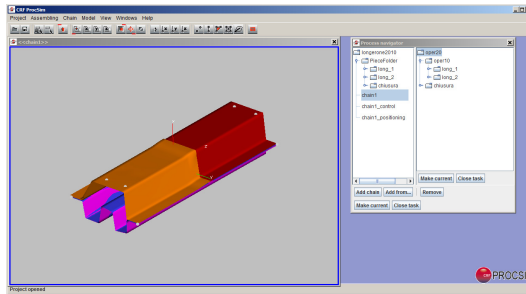
ANALYSIS

OBJECT ORIENTED DATA STRUCTURES
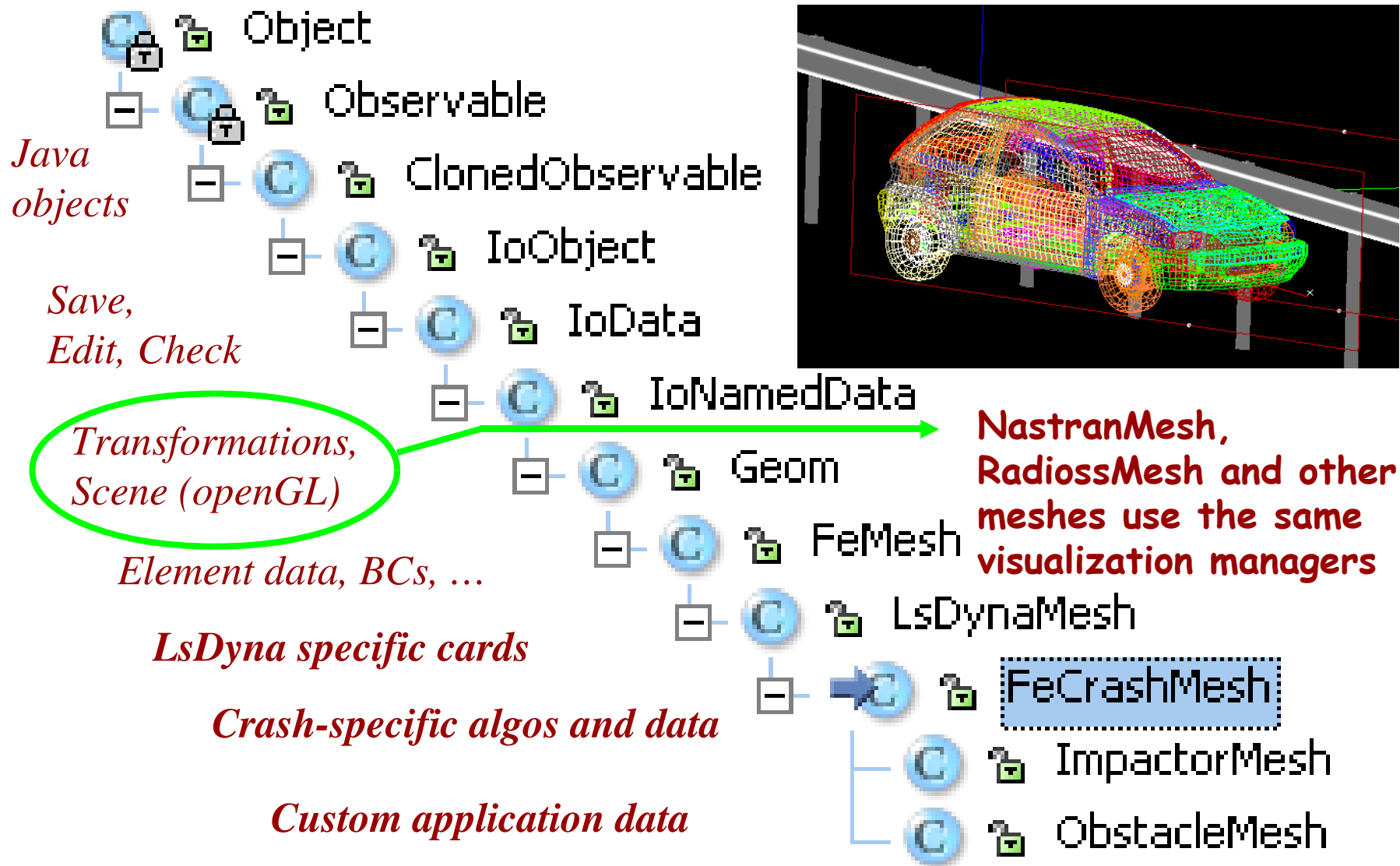
CAE MODEL EXT. SOLVERS

OPTIMIZATION (VARIABILITY)

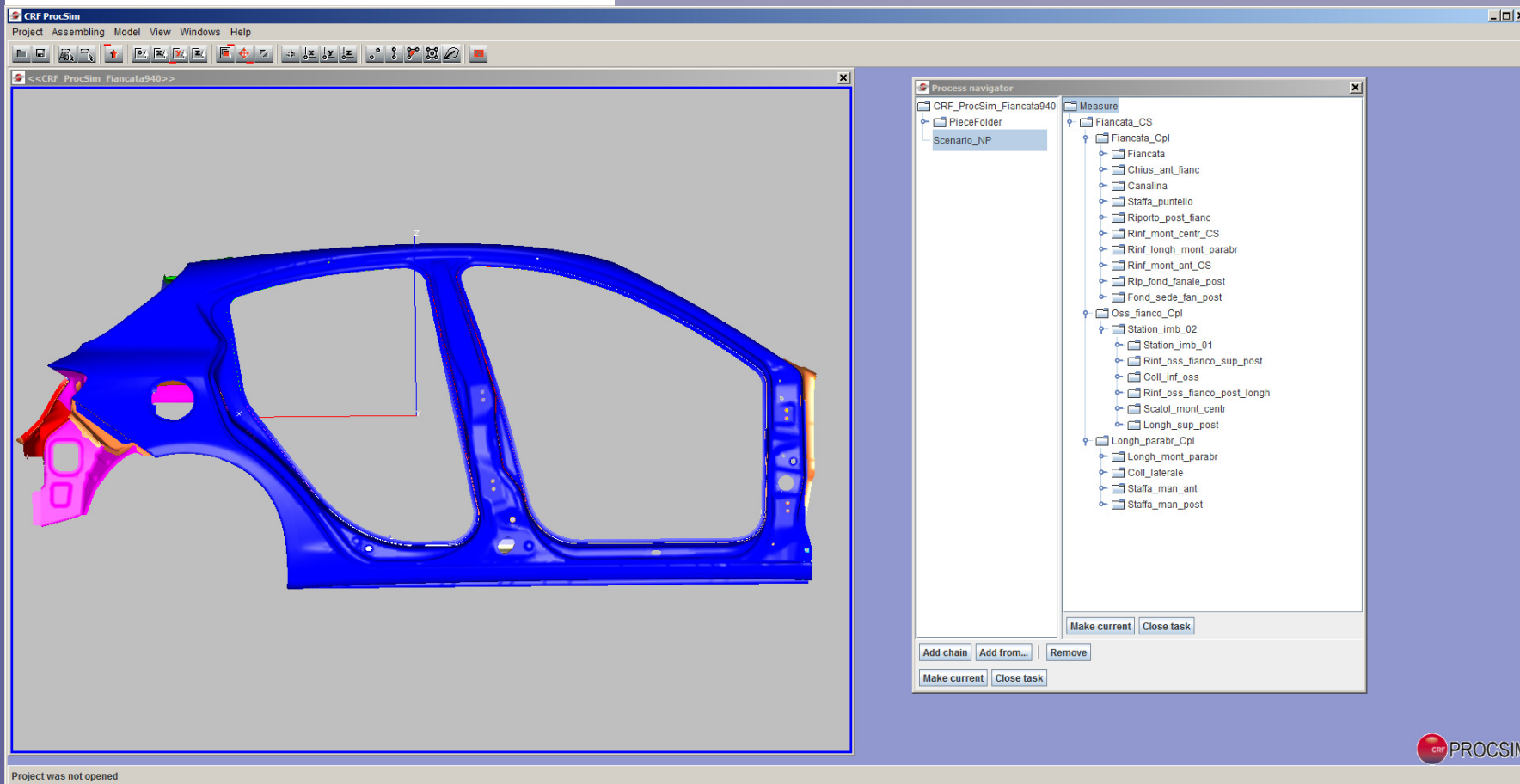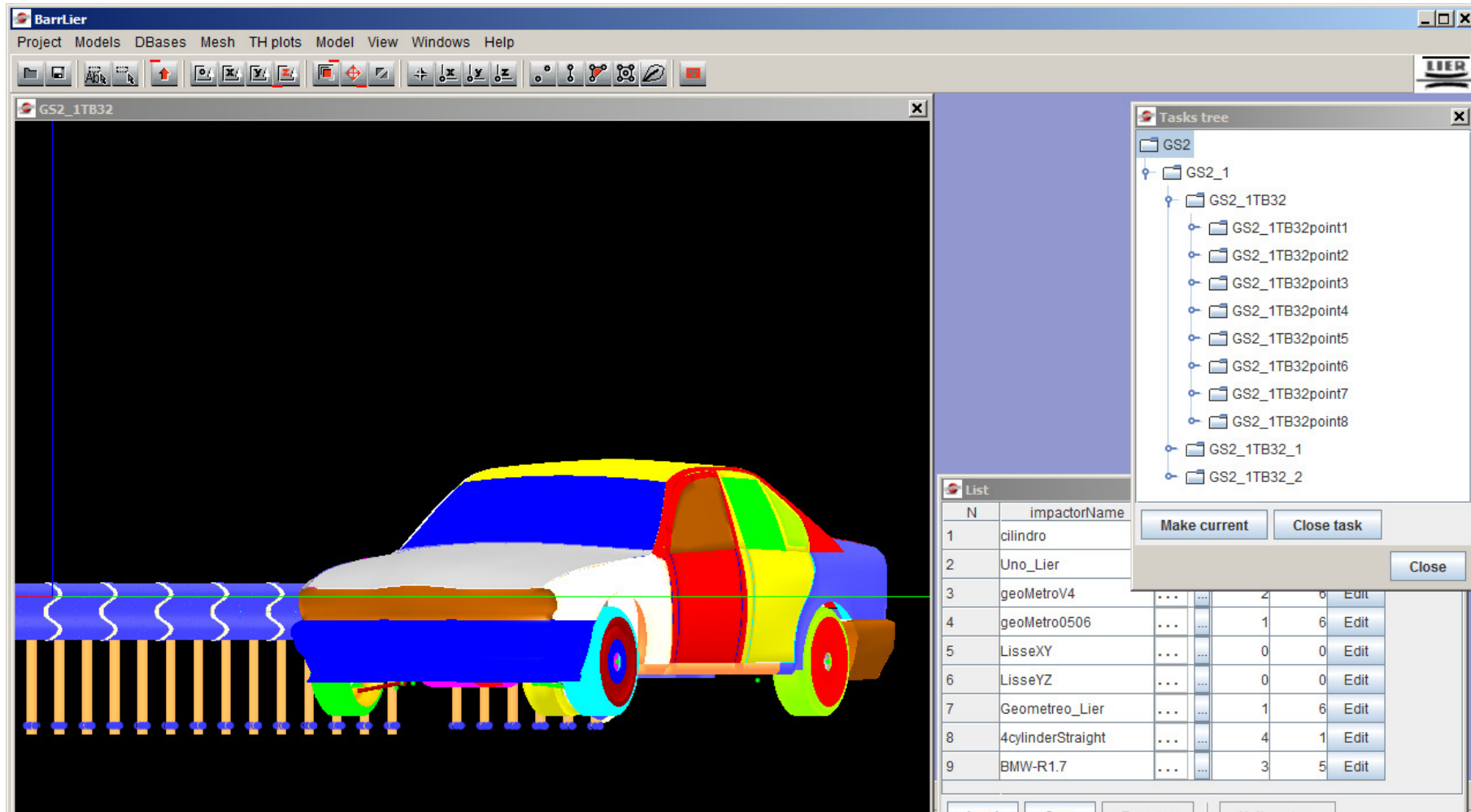**PROCESS AUTOMATION**

2D – 3D GRAPHICS GUI

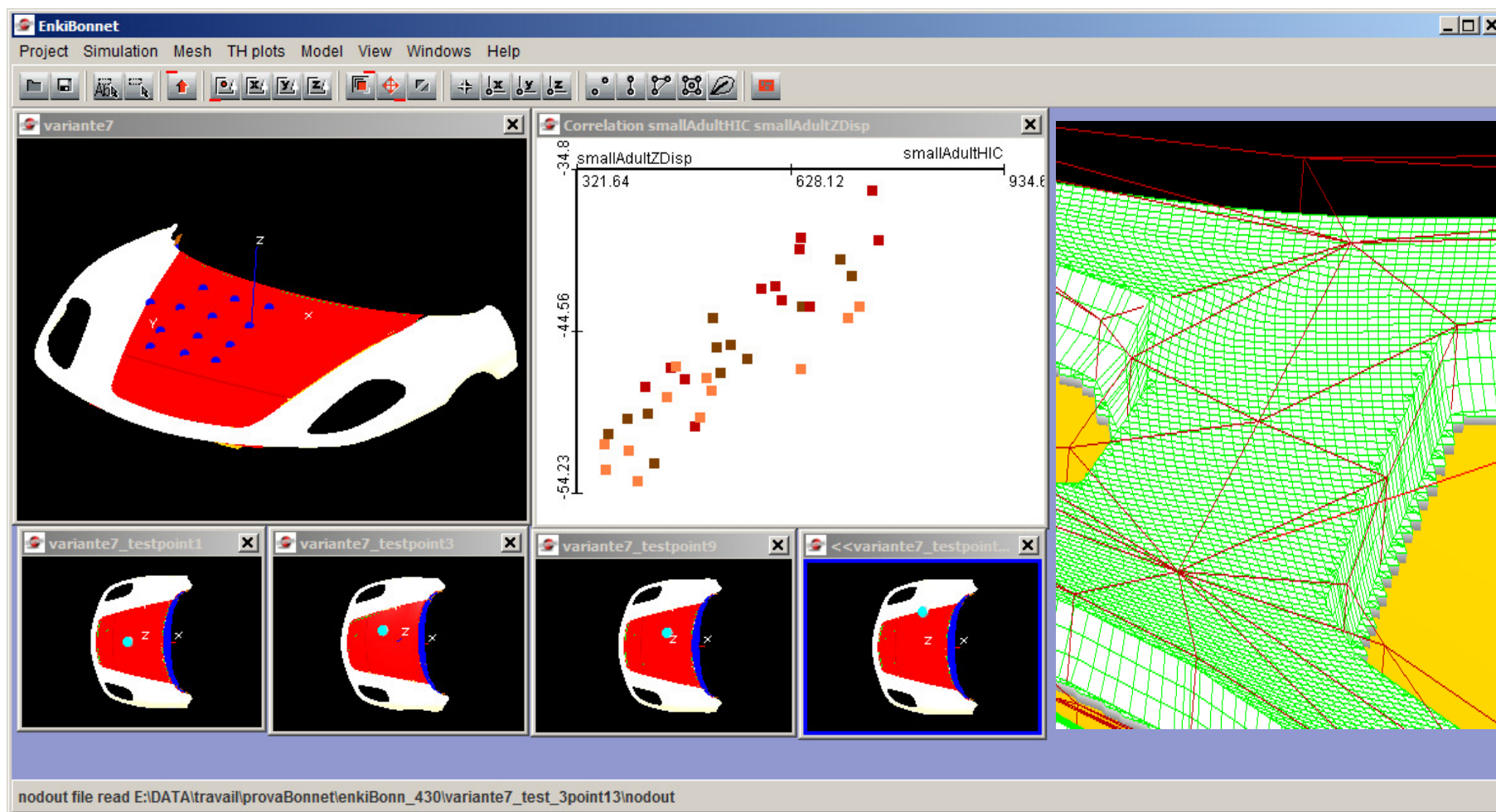# ENKIDOU IoData: specialized database for scientific computing

C Object

C Observable

C ClonedObservable

C IoObject

C IoData

C IoNamedData

C Geom

C FeMesh

C LsDynaMesh

FeCrashMesh

C ImpactorMesh

C ObstacleMesh

Java objects

Save, Edit, Check

Transformations, Scene (openGL)

Element data, BCs, …

LsDyna specific cards

Crash-specific algos and data

Custom application data

NastranMesh, RadiossMesh and other meshes use the same visualization managers

Assembly Simulation

BarrLier

Road Barrier Virtual Testing

EnkiBonnet

Bonnet Design for Pedestrian Safety