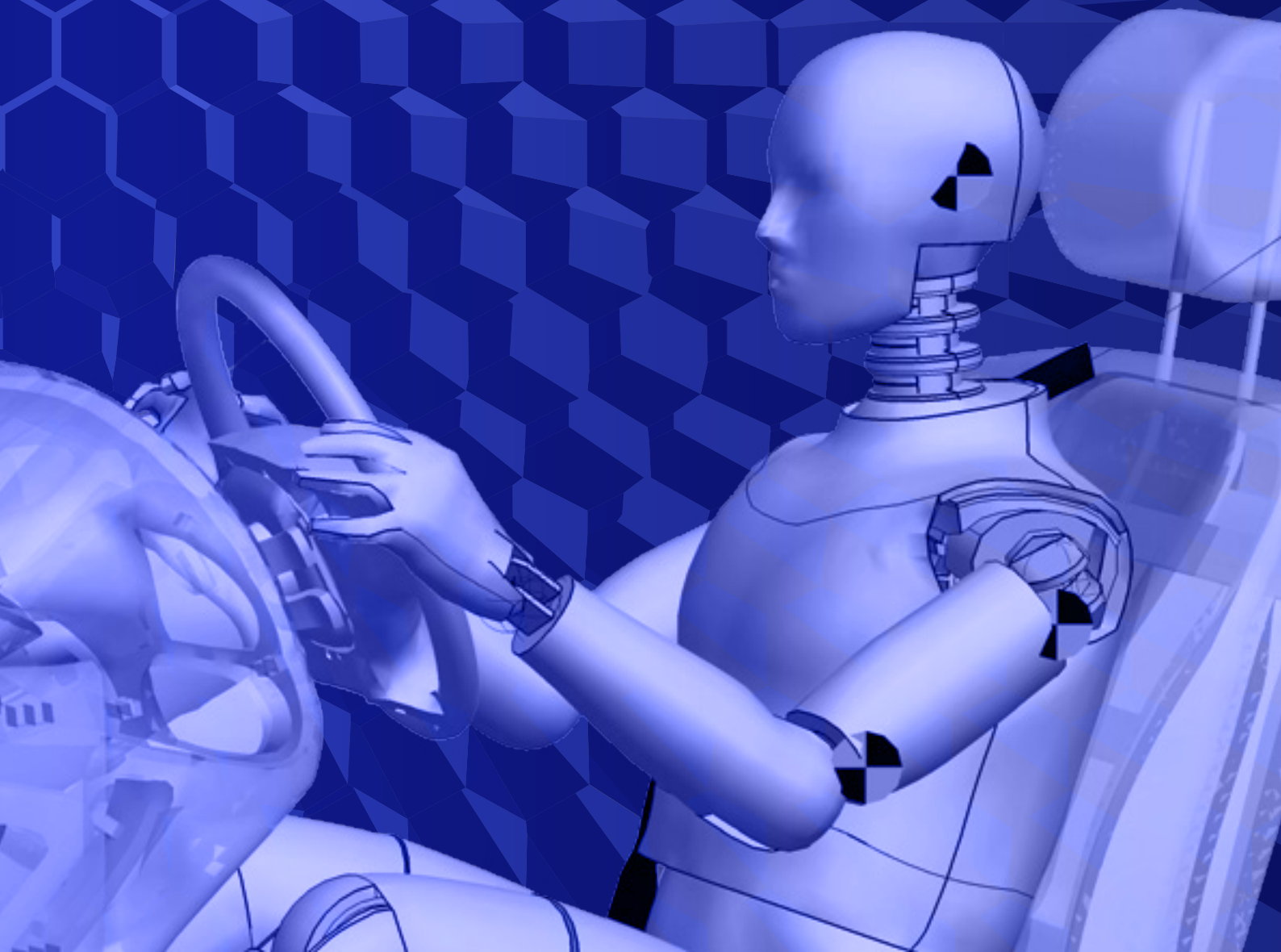
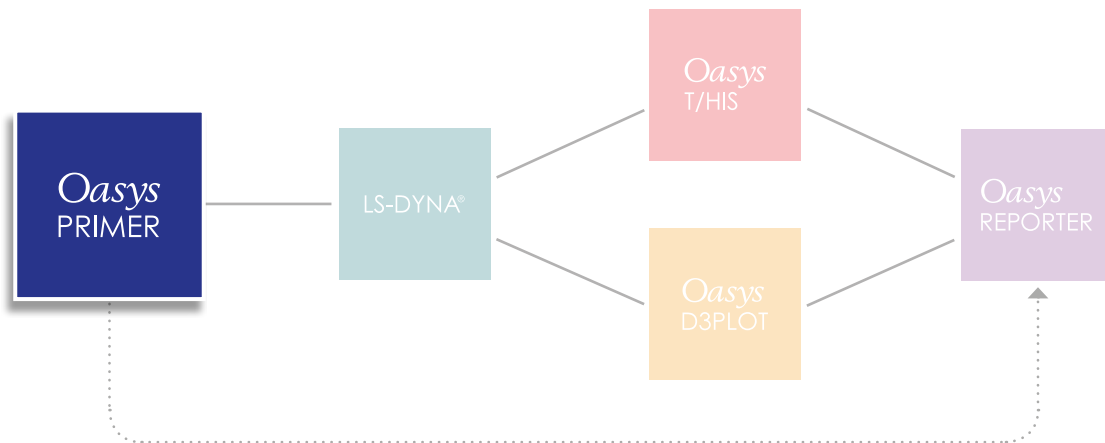


LS-DYNA® Pre-Processor

In-depth Access to LS-DYNA Results

Oasys PRIMER is a pre-processor designed to make preparation and modification of LS-DYNA models as fast and as simple as possible.





Model Setup

Creating and editing of LS-DYNA entities through the use of custom menus and a powerful keyword editing tool

Extensive connection tools including support for solid spotwelds, adhesive and rigid connections

Occupant modelling: dummy positioning (including simulation based), seatbelt fitting, seat foam compression

Contact penetration detection and removal

Assembly and de-penetration of multiple models for pedestrian impact, interior head impact analyses and other applications

Full support for INCLUDE and INCLUDE_TRANSFORM files

Model Manipulation

Quick access to part properties such as thickness and material

Mass balancing and centre of mass assignment tools as well as mass calculation including the effect of mass-scaling

Part/assembly replace to update a model for design changes

Mesh modification tools such as open/close hole, splitting and shape creation

Intelligent deletion of entities with consideration for other dependent entities

Intelligent model merging with label clash resolution

Mechanism definition and manipulation (e.g. for seats)

Manage and visualise model labelling

Composite modelling tool

Model Validation

Viewing of most LS-DYNA entity types allowing visual checking

Viewing of connections and relationships between entities (cross-references and “attached”)

Contouring of material properties, timestep, mass scaling, etc.

More than 6000 LS-DYNA specific checks

Error tree view for easy identification and fixing of multiple instances of similar errors

Intelligent model comparison detailing differences



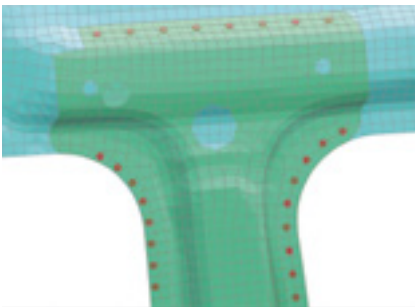
Model Setup

Creating and editing of LS-DYNA items through the use of custom menus and a powerful keyword editing tool. Multiple models can also be created automatically.



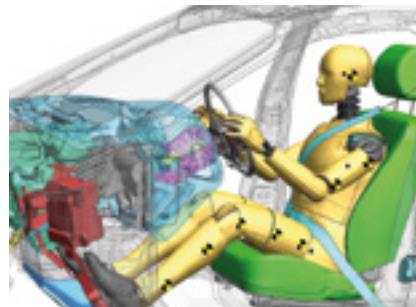
Model Setup: Include files

Oasys PRIMER fully supports INCLUDE and INCLUDE_TRANSFORM files, and also has advanced tools for managing include files and label ranges.



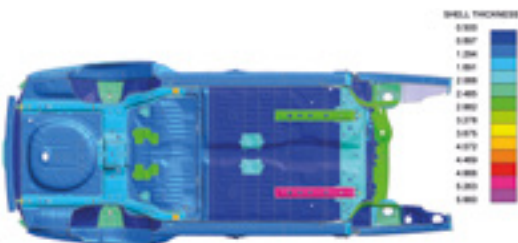
Model Manipulation: Connections

Oasys PRIMER incorporates a range of tools to create and manage connections in an LS-DYNA model.



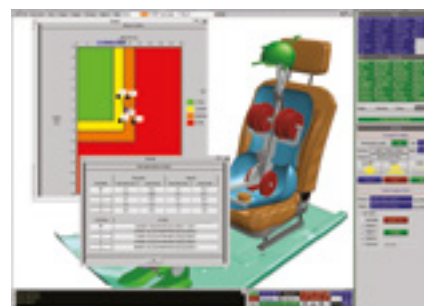
Model Manipulation: Occupant modelling

The dummy positioning, seatbelt fitting, foam compression and mechanism modelling tools reduce the amount of time it takes to set-up and re-position occupant models within a vehicle.



Model Checking

Oasys PRIMER includes over 6000 LS-DYNA specific checks and an easy to use error tree view that allows rapid debugging of a model.



Scripting and Macros

The JavaScript and Macro functions provide the user with powerful tools for creating their own scripts and interfaces for model generation and editing.

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Arup India

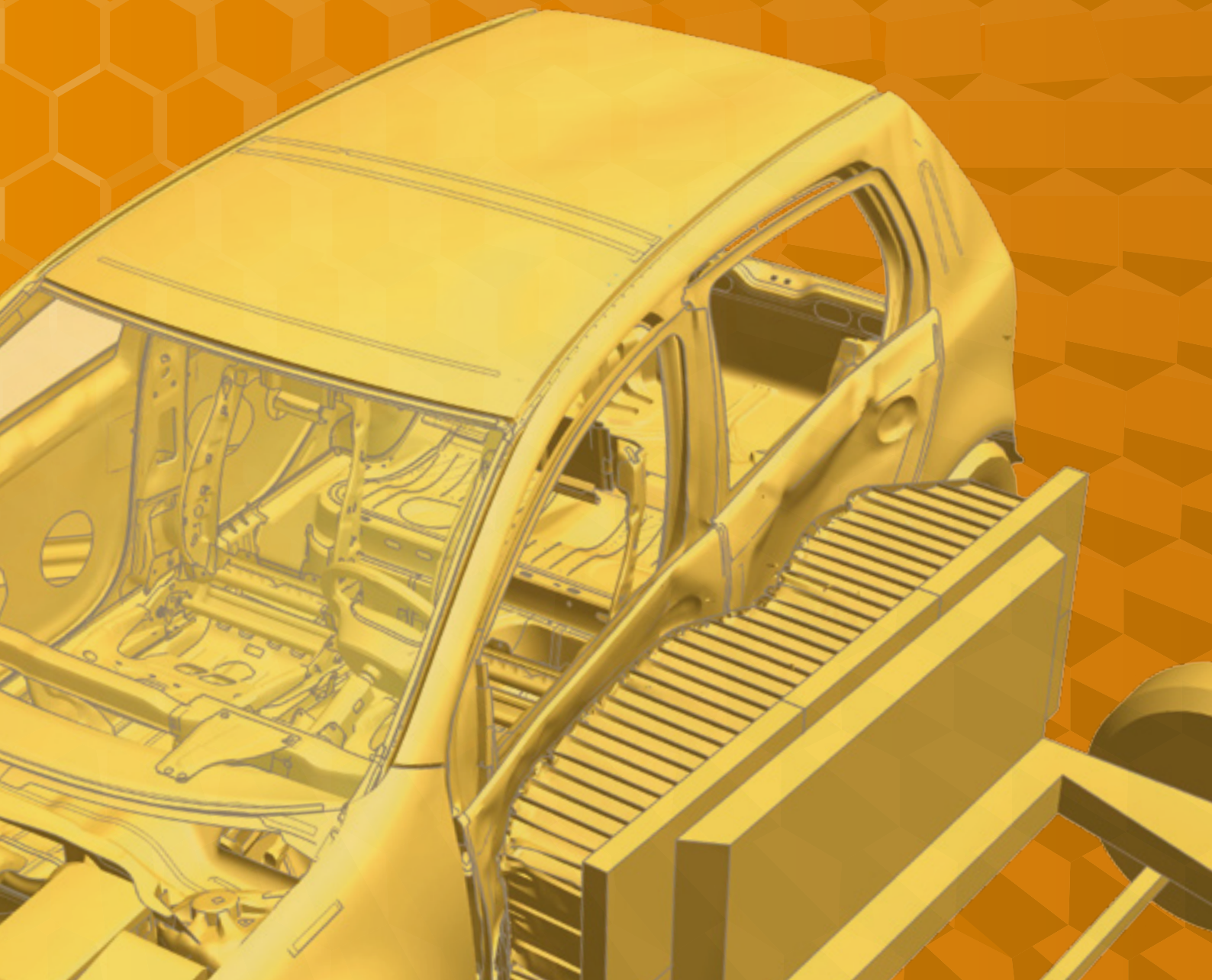
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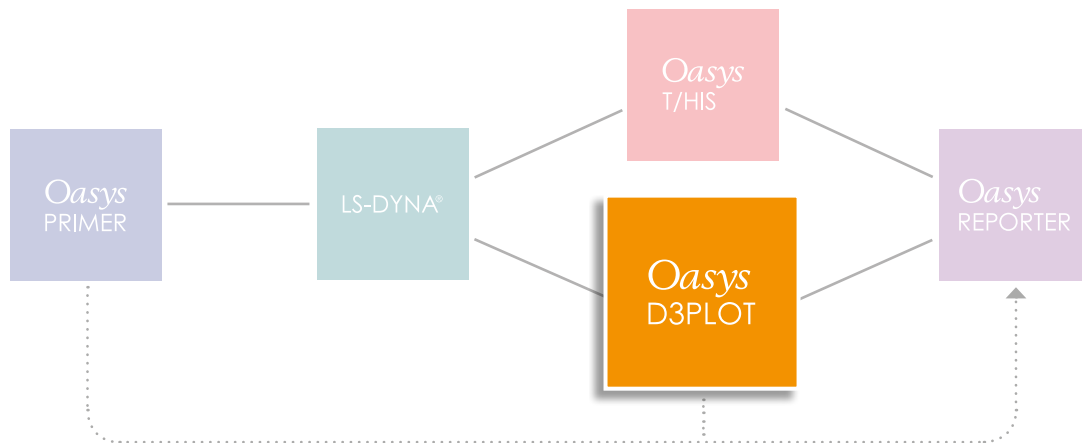
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LS-DYNA® Post-Processor

In-depth Access to LS-DYNA Results

Oasys D3PLOT is a 3D visualisation package for post-processing results of LS-DYNA analyses. It is able to link with T/HIS to produce plots on screen which can overlay many models to illustrate differences in similar runs.





Main Features

In-depth access to the LS-DYNA results including over 100 different data components

Fast, high-quality graphics

Function keys can be programmed to execute command files

Cut-sections can be easily created and dragged using the mouse

Results data is plottable by contour, principal stress (stress flow), velocity vector, ISO surface and node clouds

Relative value plots available, i.e. deformation relative to axes fixed in the model or change from a given time-state

JPEG, BMP, GIF, PDF, Postscript, AVI and MPEG output

Multiple windows allow viewing results from a range of different models simultaneously

Additional Capabilities

Plotting of user-defined data from an external file, formula or script

Quick-pick menu for on-screen manipulation of entity display characteristics

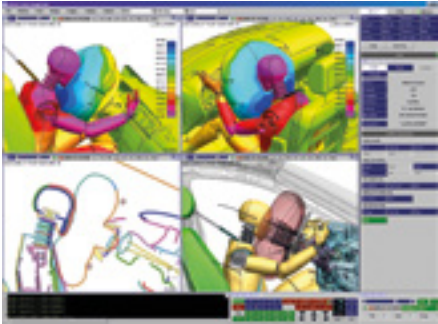
Setting files allow predefined views, colour schemes, and layouts to be created and stored

Output keyword data (nodal positions, element stresses etc) for use in other models

Links with Oasys T/HIS for viewing XY and graphical data

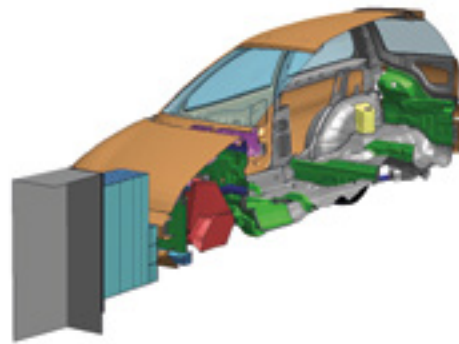
Compare results with test images or movies using the Background Image/Movie function

Keyboard shortcut keys for most of the common functions



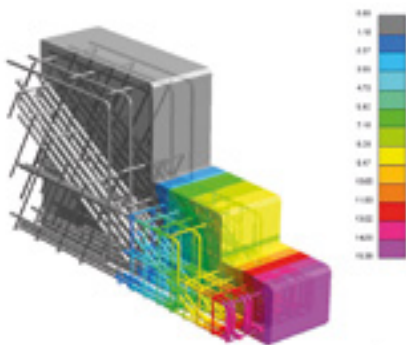
Multiple Windows, Multiple Models

User has complete control over the number of windows and models to show.



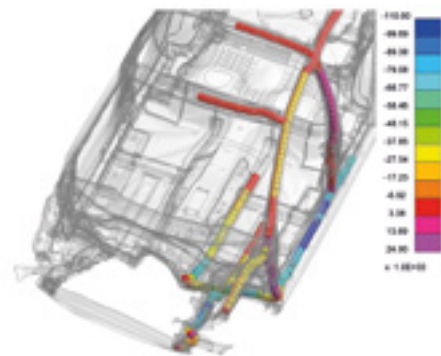
Cut Sections

Cut sections can be easily set-up and adjusted using the pick node and drag functions.



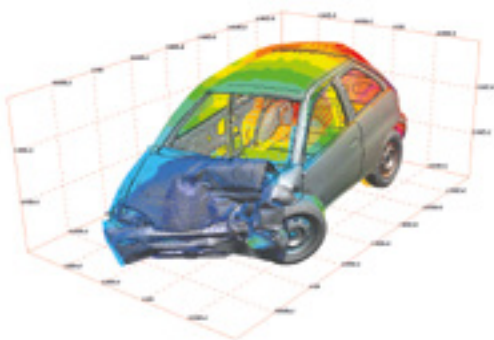
Selective Cut section

Based on element types and parts, allowing for visualisation of structures within other structures.



Visualisation of loads through a structure

*DATABASE_CROSS_SECTIONS can be combined into a beam-like "LOADPATH".



Data Plotting

An extensive range of data plotting options are included such as: contour, vector, blob and many others.



Visualisation of results

Analysis results can be visualised on a subset of the model.

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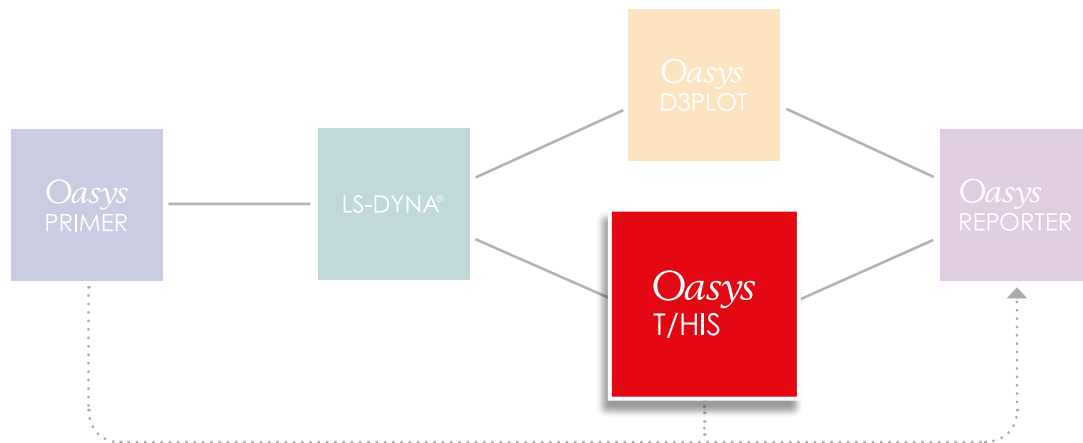
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LS-DYNA® Post-Processor

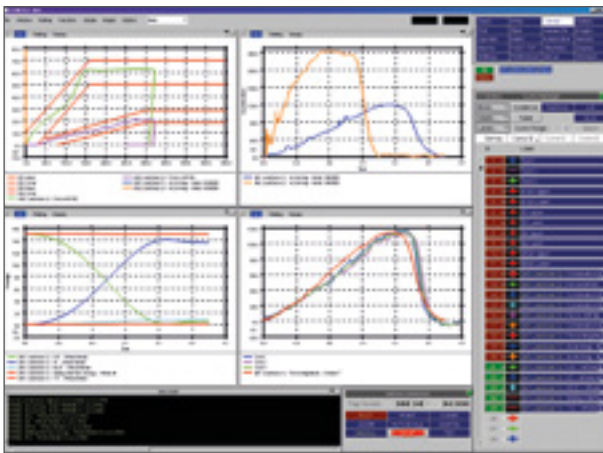
In-depth Access to LS-DYNA Results

Oasys T/HIS is a XY data plotting package designed primarily for use with LS-DYNA, it is able to read the standard ASCII and binary output database.



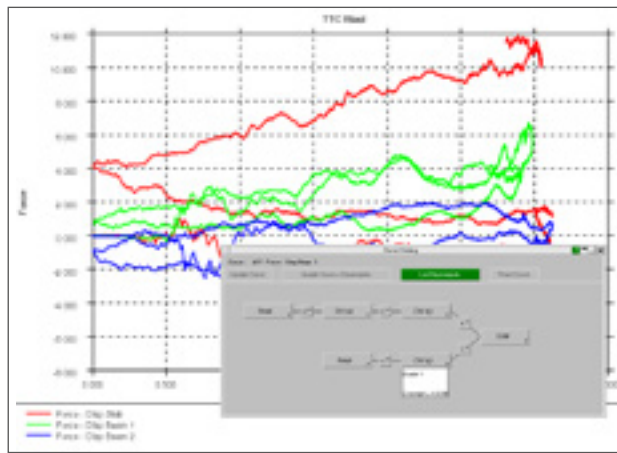


Main features	Additional capabilities
XY data plotting package designed primarily for use with LS-DYNA	Quick-pick menu for on-screen manipulation of curves
Can read both the ASCII and binary results produced by LS-DYNA, basic CSV, DIAdem and ISO files	Runs stand-alone or in a linked session with D3PLOT
Wide range of functions allowing manipulation of data into the format required, including basic mathematical functions, commonly used filters (e.g. CFC180), and a number of specialist functions for calculating injury criteria in automotive impact analysis (e.g. HIC, VC, THIV)	On-screen manipulation of data points using the mouse
Displays multiple graph windows across multiple pages	Group curves together for easy handling
	Keyboard shortcut keys for most of the common functions
	FAST-TCF scripting language for setting up automatic post-processing



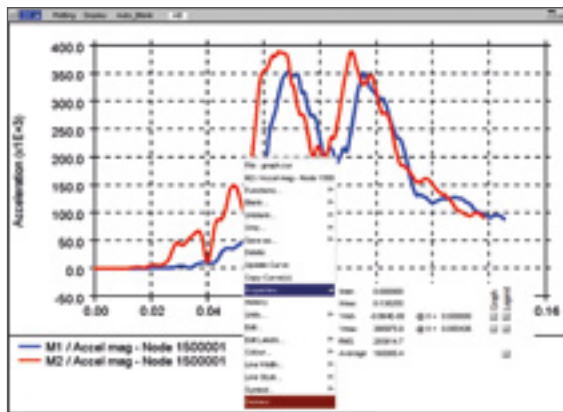
Multiple Graphs and Multiple Pages

Multiple model handling and multiple graph displays give the user complete control over how the data is visualized.



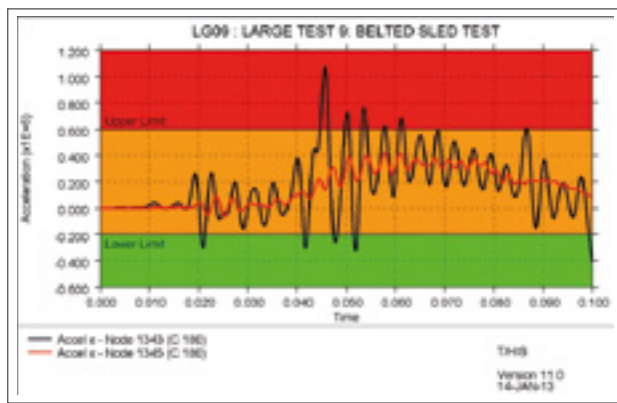
Curve history and Scripting

Curve history flow charts and FAST-TCF scripting allow the user to quickly and easily post process analysis results.



Easy Access to Properties

Right clicking on individual curves gives access to properties and functionality.



Datum Lines

Datum lines can be added to graphs to show limits and reference curves.

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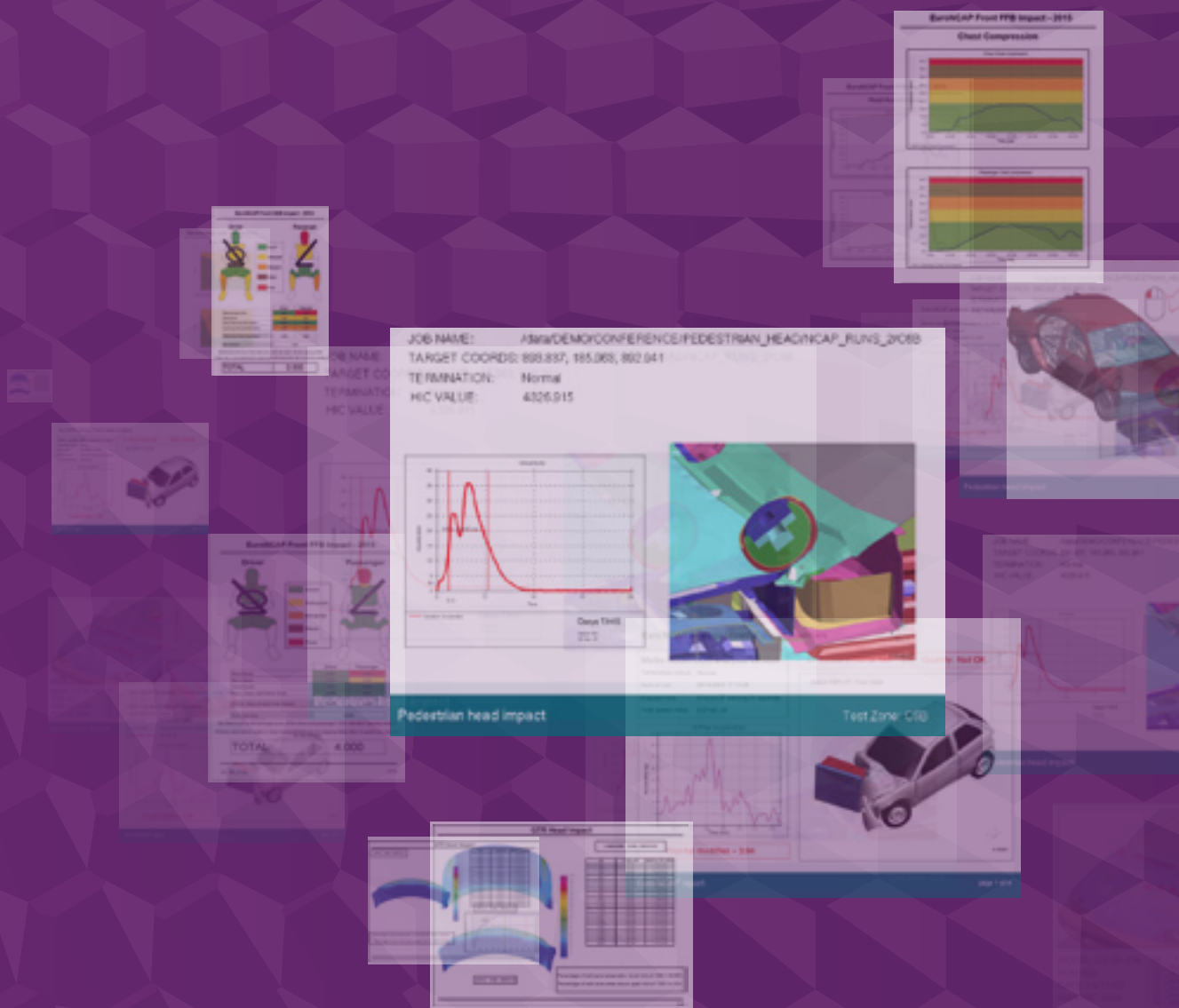
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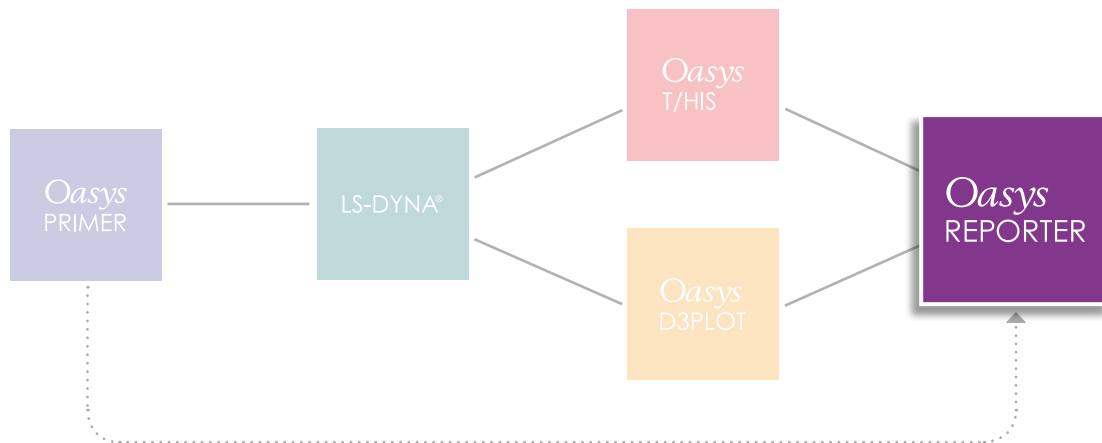
LS-DYNA® Report Generation

In-depth Access to LS-DYNA Results

Oasys REPORTER offers automatic report generation for LS-DYNA analyses using numerous layout tools with the ability to auto-create images through embedded D3PLOT, T/HIS and FASTTCF scripts.



Oasys REPORTER



Main Features

Fast and convenient post-processing of LS-DYNA results through the use of templates and scripts

Templates are set up and can be used to produce reports automatically after an LS-DYNA analysis finishes

Using command files and scripts, it links with D3PLOT, PRIMER, and T/HIS and other programs, to create the necessary images and graphs when generating a report from a template

Compatible with scripts written in all major computer languages

Supports files from a mixed UNIX / PC system

Reports can be output in postscript, HTML, PDF and PowerPoint VBA formats

Standard Loadcase Templates

In the automotive industry there are a number of standard crash tests
REPORTER comes with inbuilt templates for a number of the standard crash tests:

EuroNCAP – Frontal ODB & FFB

EuroNCAP – Side MDB & Pole

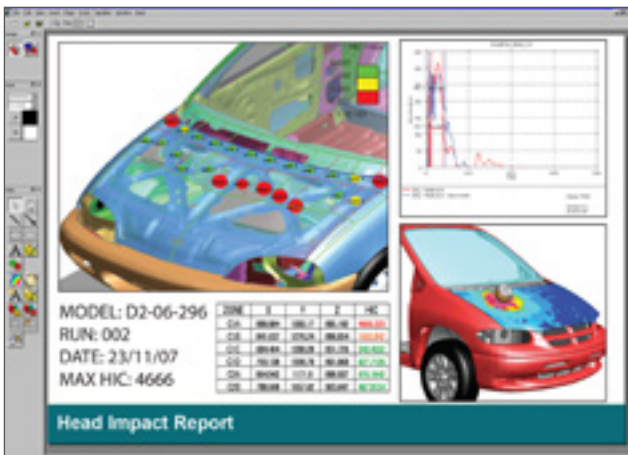
CNCAP – Frontal ODB

EuroNCAP Pedestrian Head & Leg)

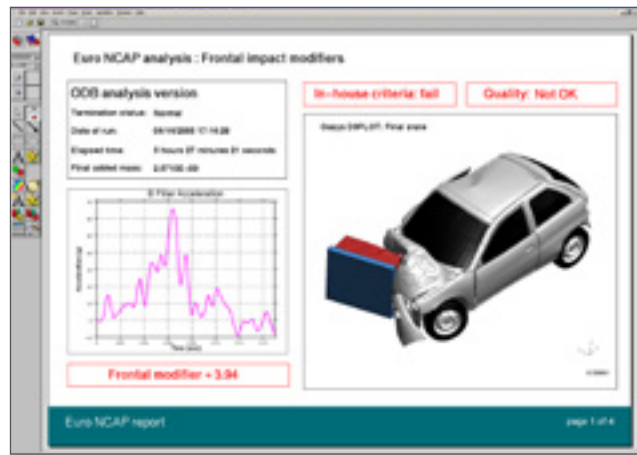
GTR Pedestrian Head

IIHS ODB & SOB

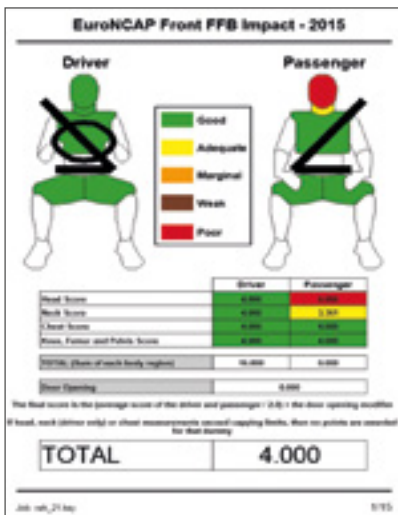
and more...



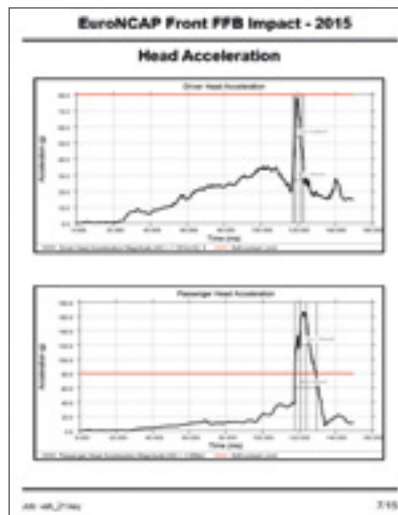
Automatic report generation
 Template set-up to produce a report automatically after an LS-DYNA analysis finishes.



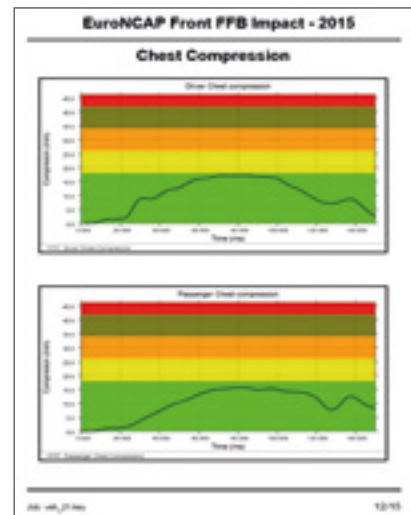
User-defined Variables
 User-defined variables allow one report template to be used with a series of different models.



Standard Template
 Scores are calculated for each body region.



Criteria Evaluated
 Multiple criteria such as HIC are evaluated.



Datum Lines
 Can show limits and reference curves.

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