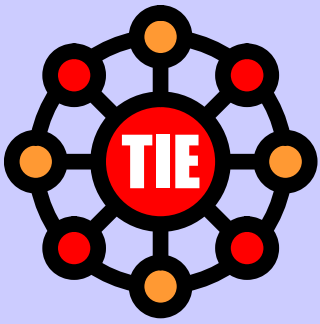
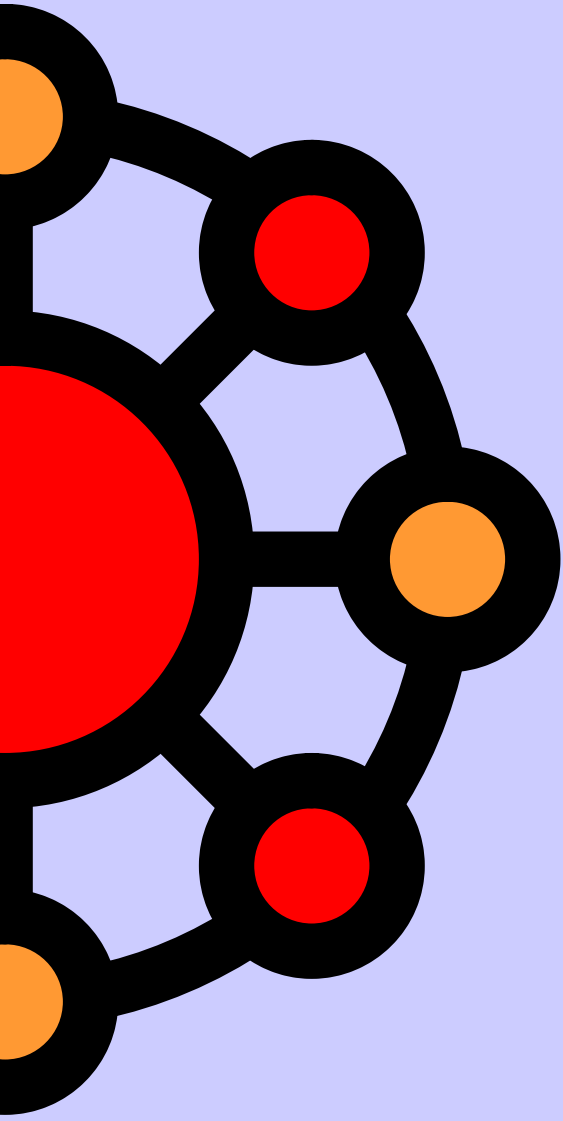


Tool Integration Environment



Integrate

Model

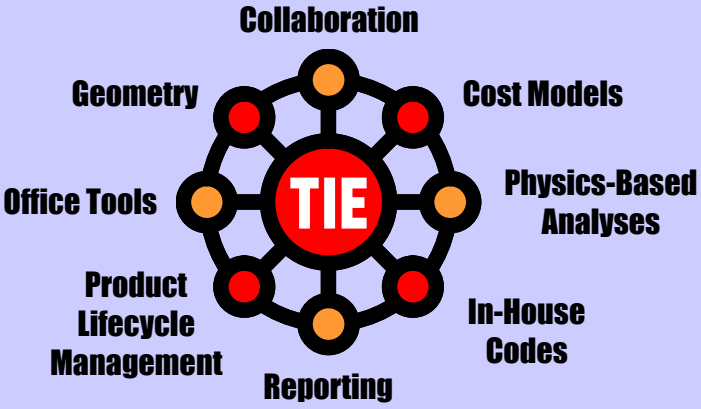
Collaborate

Optimize

Publish

Engineer

TechnoSoft



Integrate

Model

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Optimize

Publish

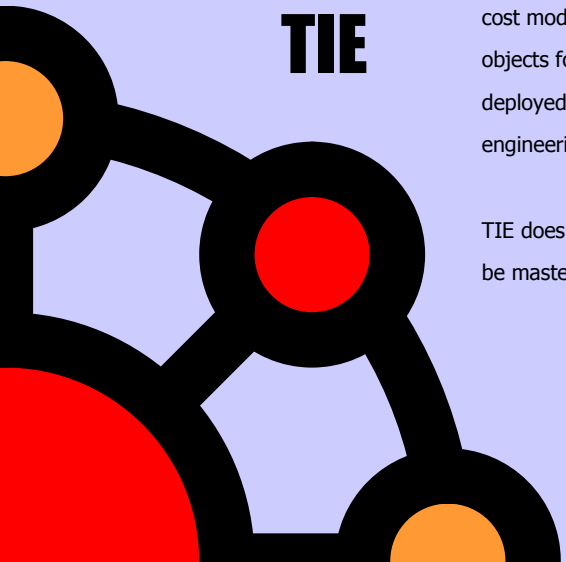
TIE

TIE is a visual environment for product and process modeling and integration. It is used to interface, link, and control the execution of distributed design and analysis tools in order to make engineering processes faster and more efficient.

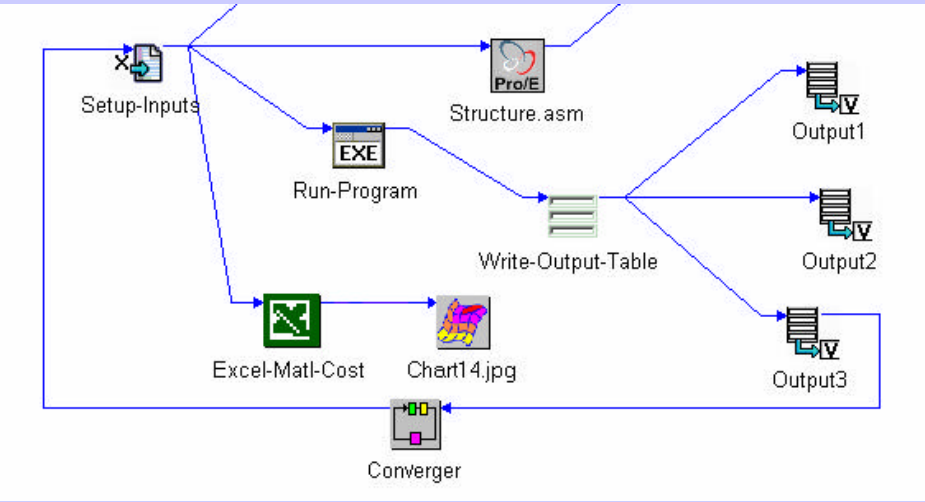
TIE provides an object-oriented architecture facilitating quick development and deployment of engineering applications. Domain knowledge and engineering methods can be captured and tools can be seamlessly integrated to facilitate knowledge based engineering. A unique multi-user web-enabled design environment facilitates real-time collaboration for interacting with models across disciplines.

Experts from various disciplines can quickly capture and model their domain expertise as visual dynamic objects with customizable graphical user interfaces. Detailed CAD models, structural analyses, cost models, and proprietary libraries can be linked and packaged as objects for reuse. Vertical applications can be easily built and deployed across disciplines facilitating collaborative and concurrent engineering.

TIE does not rely on programming to use, and most functionality can be mastered after a two-day training class offered by TechnoSoft.



Get more out of your existing engineering tools.



TIE models can be used to link applications that are distributed over a network of heterogeneous workstations. TIE automatically creates and manages dependencies between applications that are linked, and the user also has the ability to create dependencies manually in order to explicitly control the process flow of the model. TIE's unique wizard-based graphical user interfaces provide a user-friendly, visual environment to link applications and map key data from one analysis tool to another.

TechnoSoft's Distributed Modeling Manager (DMM) enables engineers to share a selection of TIE model variables over the network so that their values are synchronized in real-time with corresponding variables in other TIE models. This capability allows engineers to collaborate on design projects that span organizational or corporate boundaries while providing controlled access to proprietary model data.

Integrate

Model

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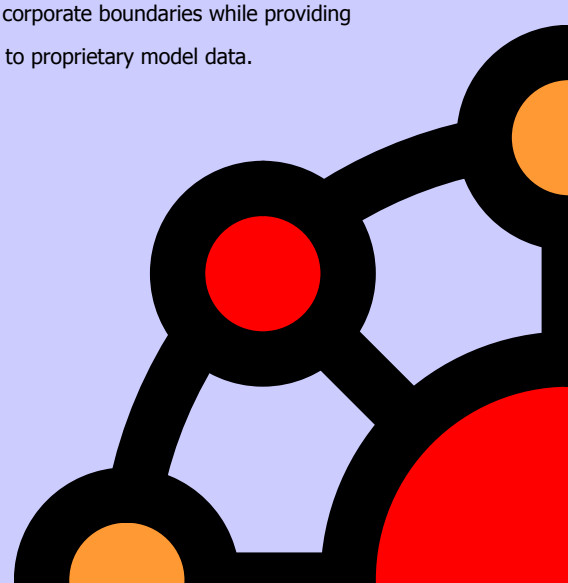

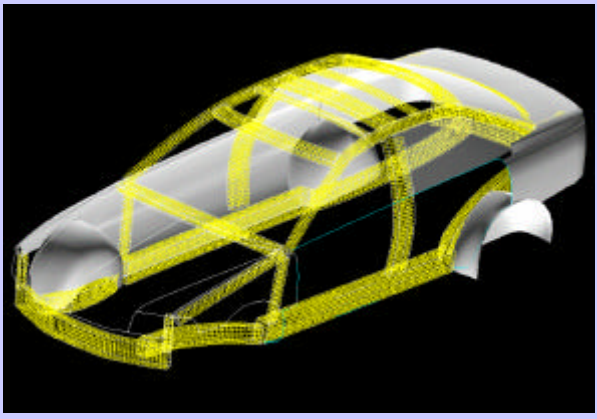

Integrate

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Optimize

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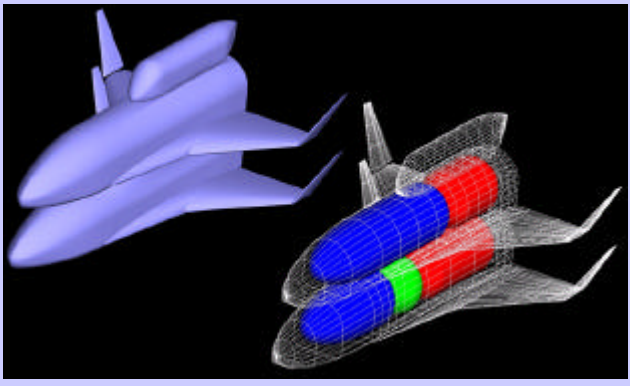
TIE provides a visual and rule-based environment for modeling parametric geometry, including: solid, surface, and wireframe*.

In addition to native geometry, parametric CAD models can be interfaced and controlled from TIE, allowing the user to link existing parameters and geometry to other applications.

Industry standard import and export methods are supported, including STL, IGES, STEP, and DXF.

* Geometry modeling capabilities are available as an optional module.



Build geometry into your process.

Integrate

Model

Collaborate

Optimize

Publish

Through TechnoSoft's Web-enabled Design Environment (WDE), distributed users can simultaneously view, modify, and execute TIE models. WDE provides a client/server environment with controlled access.

This synchronous collaboration enables engineers to share knowledge of their discipline and quantify the effects on other disciplines, minimizing the need for time-consuming meetings or travel.

Enable real-time collaborative engineering.

Within TIE, a user can explore the entire model's design space over multiple disciplines trading multiple objectives. A number of methods and algorithms are available, including the following:

- Design of Experiments
- Multi-Objective Genetic Algorithm
- Gradient-Based Optimization
- Nested Iteration

TIE provides a visual environment for setting objectives, variables, and constraints. Results can be visualized using a variety of charts and plots.

The environment also provides the capability to plug in custom developed or third-party algorithms.

Integrate

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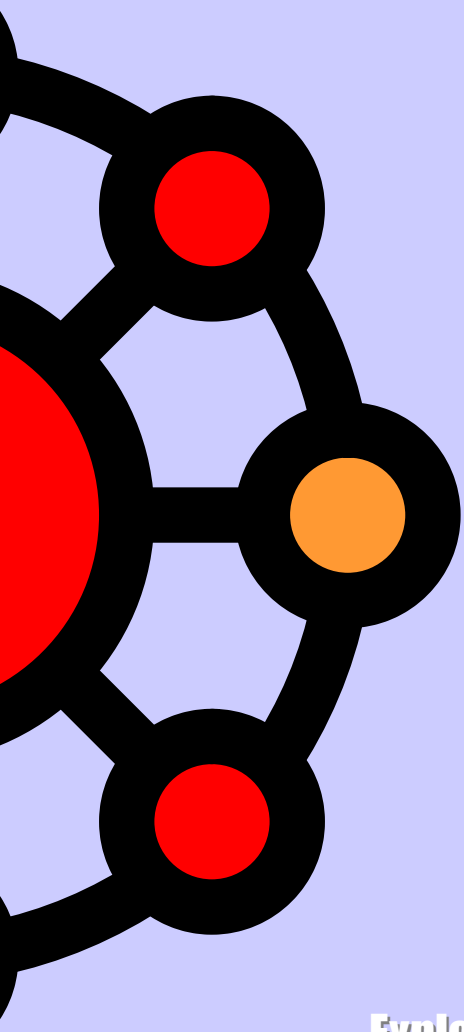
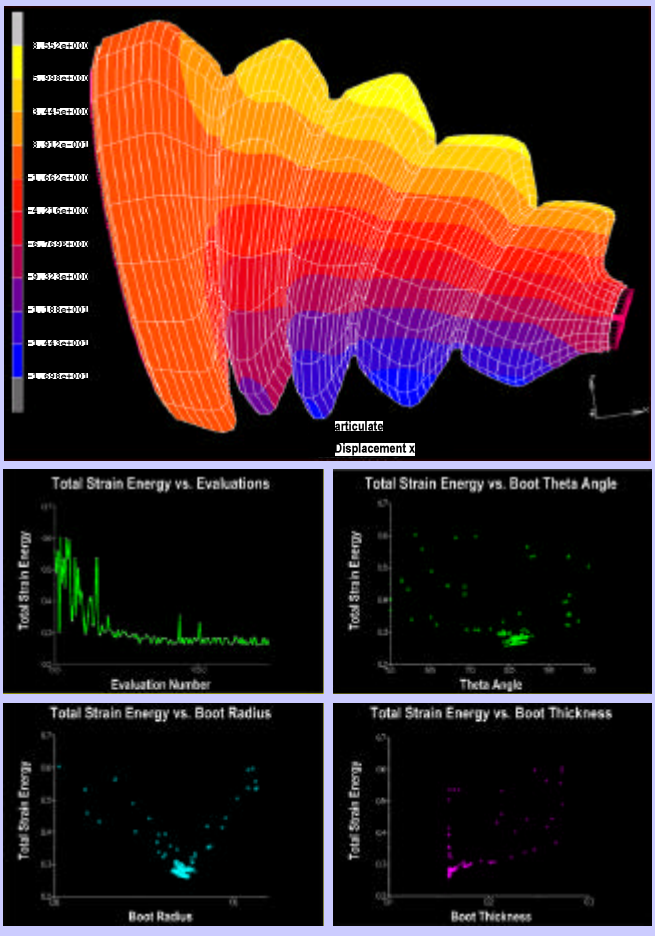
Publish

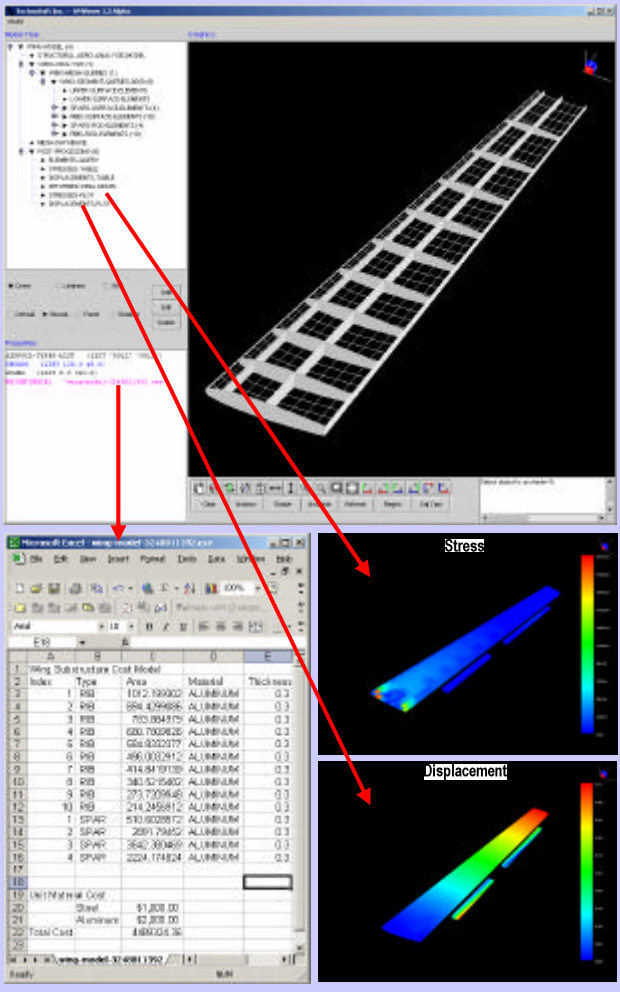


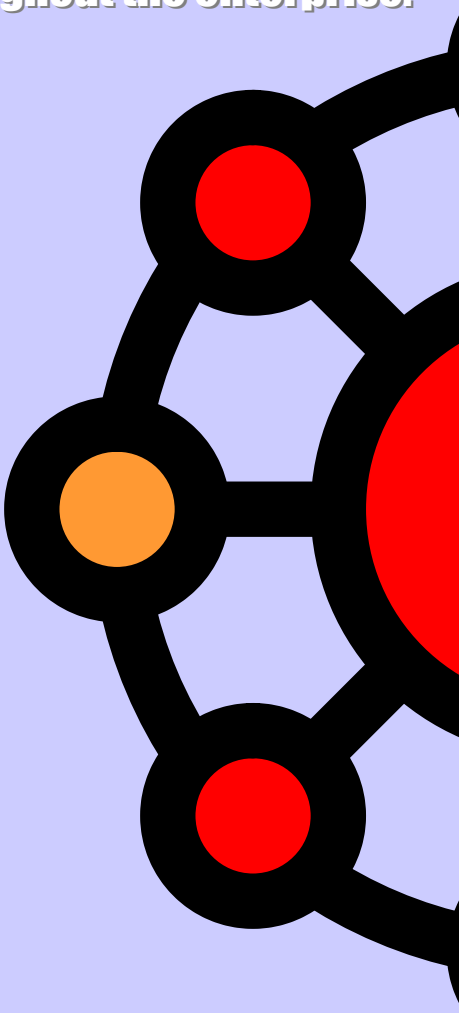


Constant Velocity Boot Design, Analysis, and Optimization

Explore the design space.

Share engineering knowledge throughout the enterprise.





Integrate

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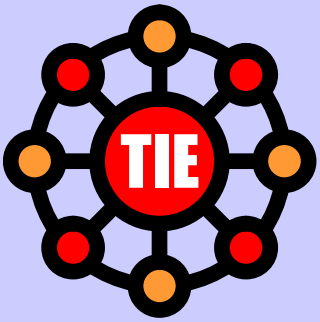
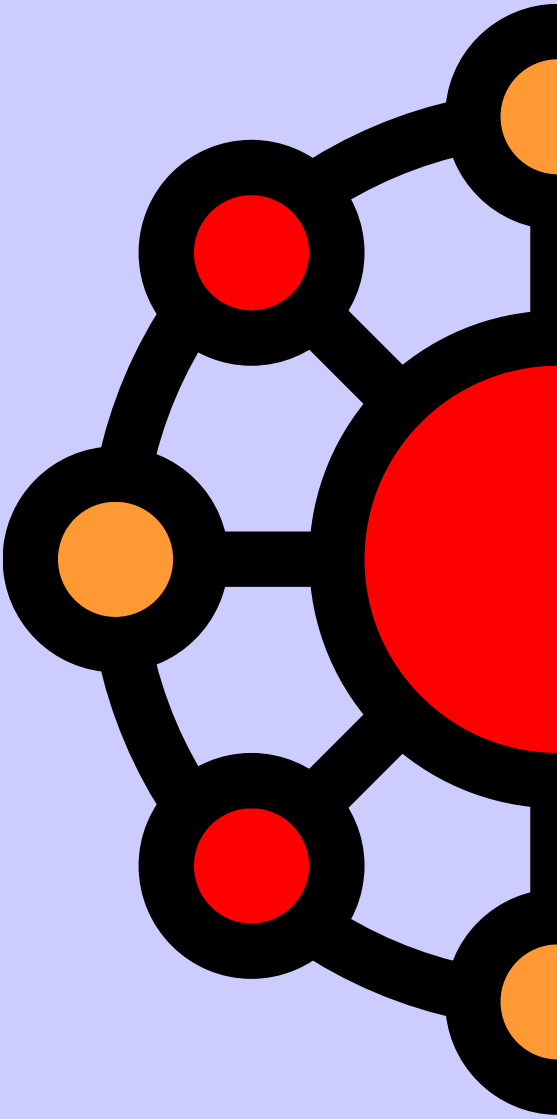
Publish

TIE includes integrated utilities for report generation and publishing. The TIE model hierarchy, geometry, reports, and charts can be published to a central system* and viewed by all stakeholders and participants in the design process using AMViews, another product available from TechnoSoft.

TIE report generation capabilities include text reports, tables, charts, and bar, pie, scatter, vector, contour, and 3D surface plots.

* For more information, refer to TechnoSoft Views product literature.





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