ALTAIR

ONLY FOWARD

INTEGRAL MINING

ADVANCED NUMERICAL MODELING

WWW.INTEGRALMINING.COM

ALTAIR HYPERWORKS

HyperWorks provides easy-to-learn, effective workflows that leverage domain knowledge and increase team productivity, enabling the efficient development of today's increasingly complex and connected products.

The new HyperWorks experience was created to free engineers to move from physics to physics, domain to domain, and even create reports without ever leaving their model. Create, explore and optimize designs within HyperWorks to produce robust designs that accurately model structures, mechanisms, fluids, electromagnetics, electrical, embedded software, systems design and manufacturing processes.

Intuitive direct modeling for geometry creation and editing, mid-surface extraction, surface and midmeshing, and mesh quality correction, combined with efficient assembly management provide all the capabilities required for fast, accurate model creation and evaluation of design alternatives and product variants in less time.

HyperWorks offers a complete environment to visualize, query and process results data.
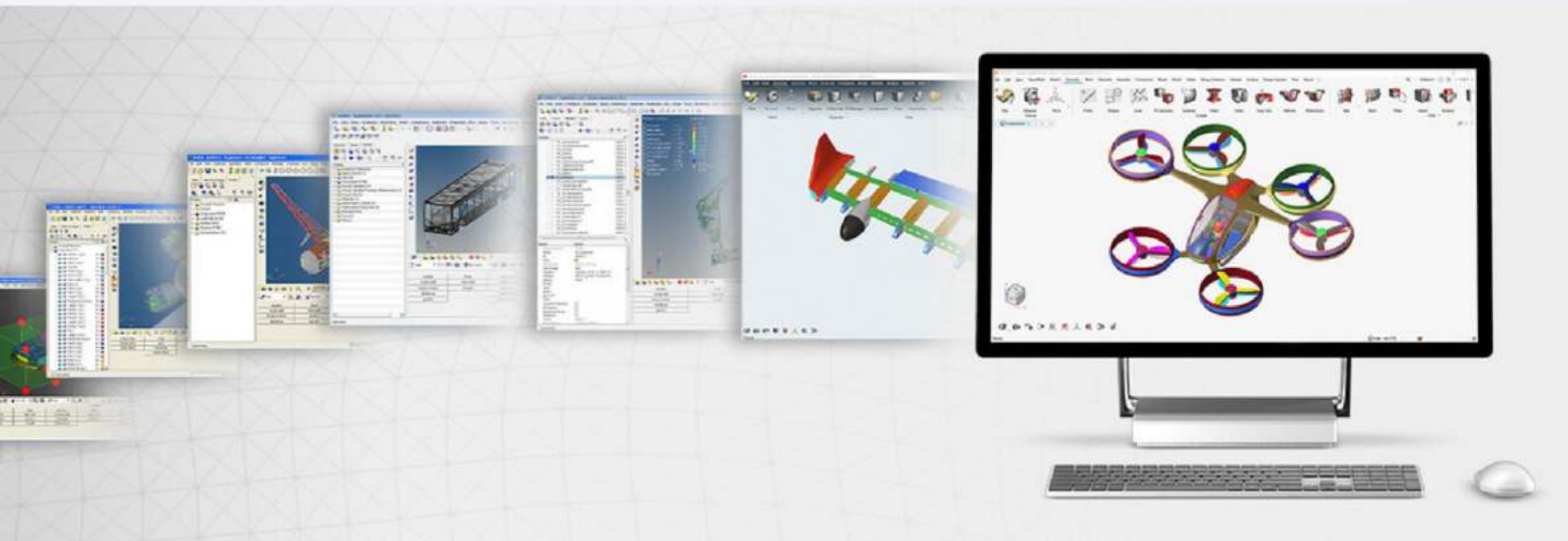
Manage the Largest Models
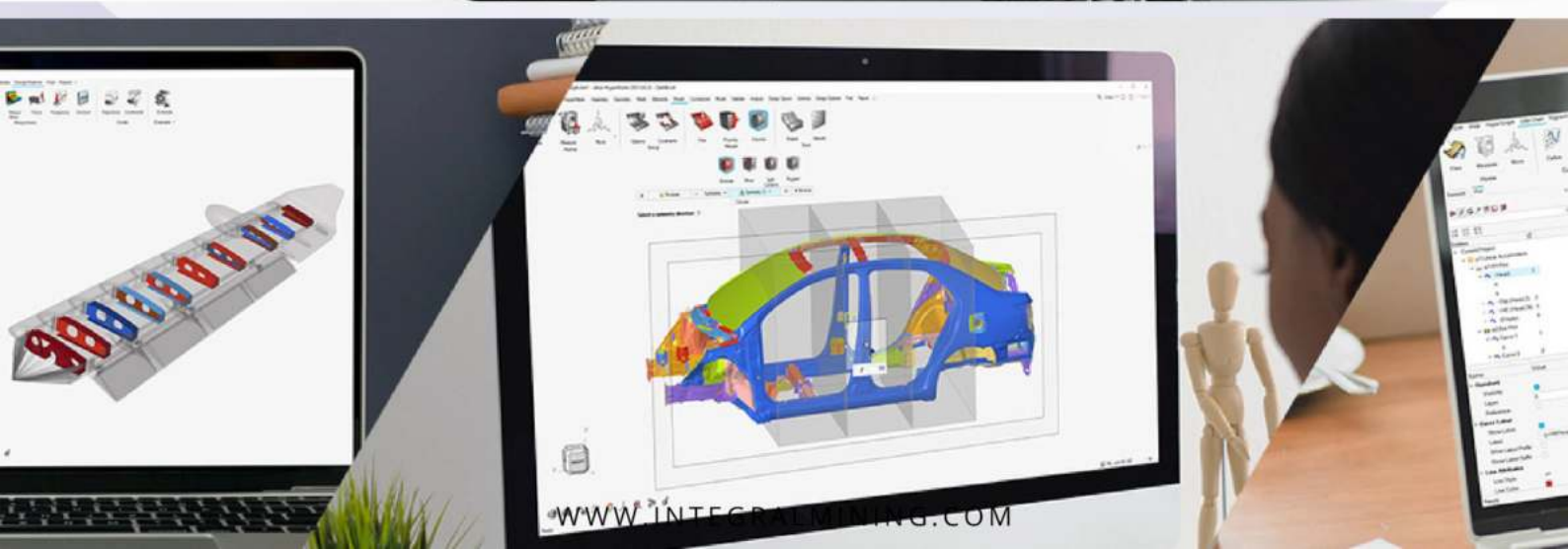
ALTAIR HYPERMESH

Altair HyperMesh is a high performance finite element pre-processor that provides a highly interactive visual environment for analyzing product design performance.

With the broadest set of direct interfaces to commercial CAD and CAE systems, HyperMesh provides a proven and consistent platform across the enterprise.

With a focus on engineering productivity, HyperMesh is the user-preferred environment for:

- Solid Geometry Modeling.
- Shell meshing.
- Model Morphing.
- Detailed Model Configuration.
- Surface Geometry Modelling.
- Solid Mesh Generation.
- Automatic Generation of Intermediate Surfaces.
- Meshing in Batch Mode.

## *A History of Solving the Most Challenging Problems*

ALTAIR HYPERVIEW

The complete visualization environment for FEA, CFD, and MBD simulation data that supports CAE solver results files and major test data formats.

Multi-page and multi-window post-processing and visualization enables efficient data comparison between design iterations, or simulation and test data.

Easy creation of templates for efficient evaluation of standard results with fully automated PowerPoint report generation with animations.

HyperView is a complete post-processing and visualization environment for finite-element analysis (FEA), multi-body system (MBS) simulation, digital video, and test data. Amazingly fast 3D graphics and unparalleled functionality set a new standard for speed and integration of CAE results post-processing.

Comprehensive CAE Post-processing and Engineering Data Visualization
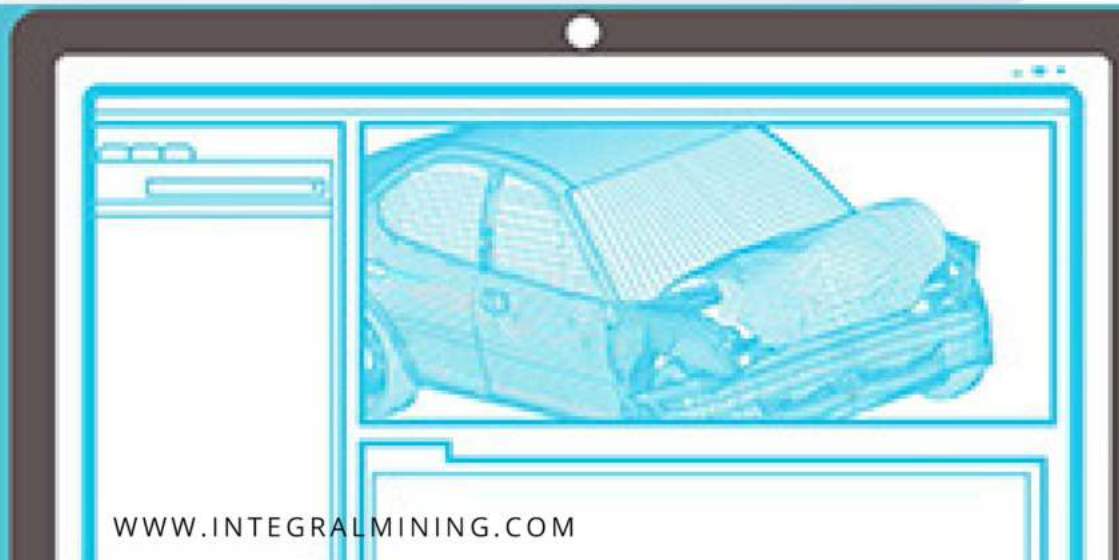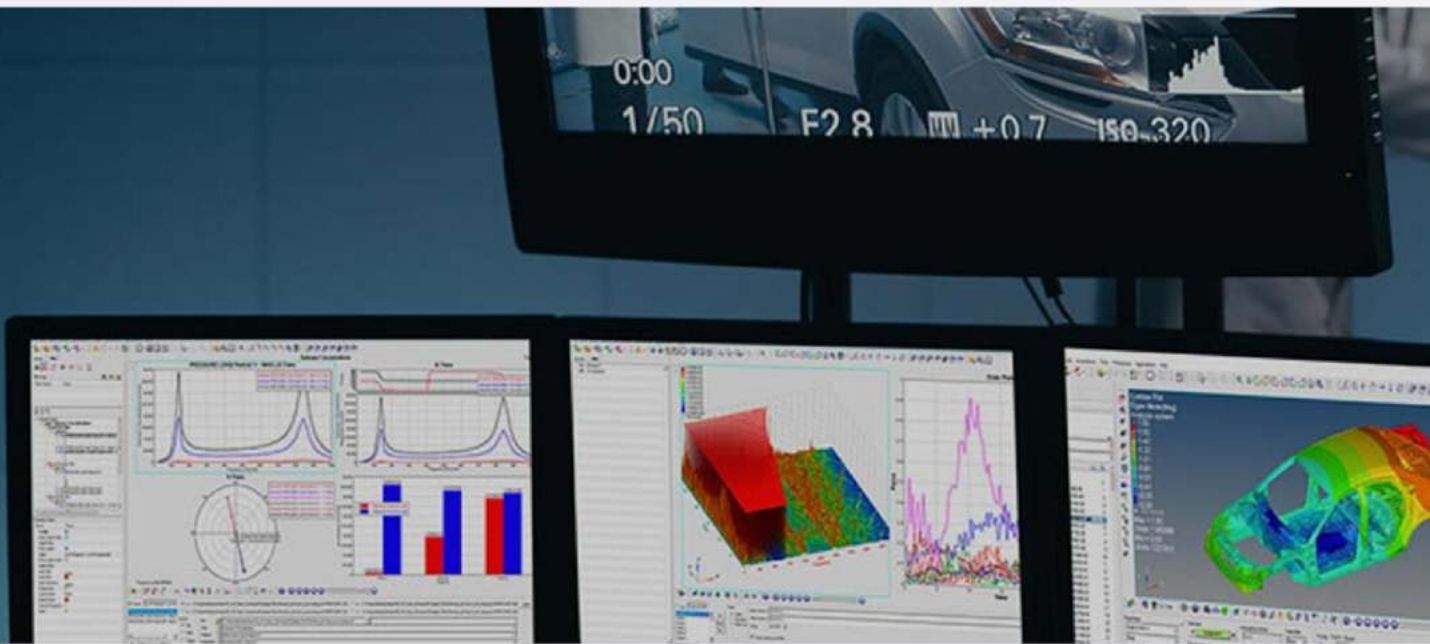
ALTAIR HYPERGRAPH

HyperGraph® is a powerful data analysis and plotting tool with interfaces to many popular file formats. Its intuitive interface and sophisticated math engine make it easy to process even the most complex mathematical expressions. HyperGraph combines these features with high-quality presentation output and customization capabilities to create a complete data analysis system for any organization.

Automatic Plot Builder
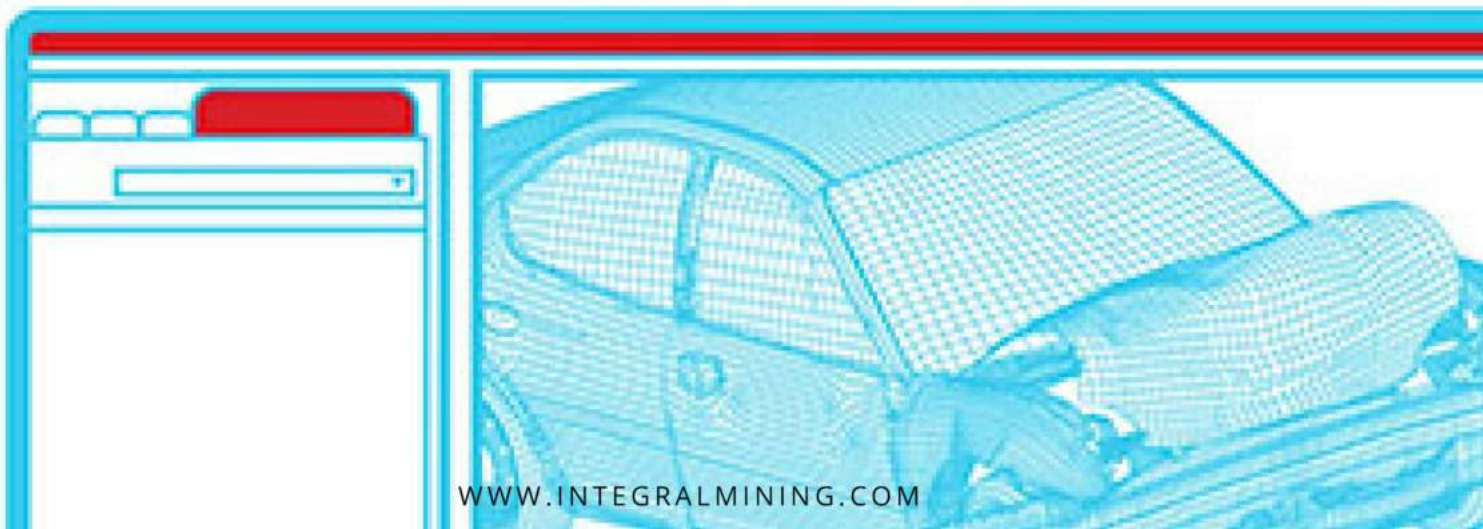
ALTAIR RADIOSS

Radioss is a leading analysis solution to evaluate and optimize product performance for highly nonlinear problems under dynamic loadings. Used worldwide across all industry sectors, it improves the crashworthiness, safety, and manufacturability of complex designs.

For more than 30 years, Radioss has been an industry leader and standard for automotive crash and safety, shock and impact analysis, drop test, terminal ballistic, blast and explosion effects and high-velocity impacts.

Recognized across R&D centers as well as companies in automotive, aerospace, electronics, and defense, Radioss enables understanding and efficient, robust predictions of combined multiphysics behaviors in complex environments, such as crashworthiness, airplane ditching, terminal ballistics, or blast effects on vehicles. Exploiting Radioss' advanced multi-processor versions enables the best scalability in the industry for large, highly nonlinear structural simulations.

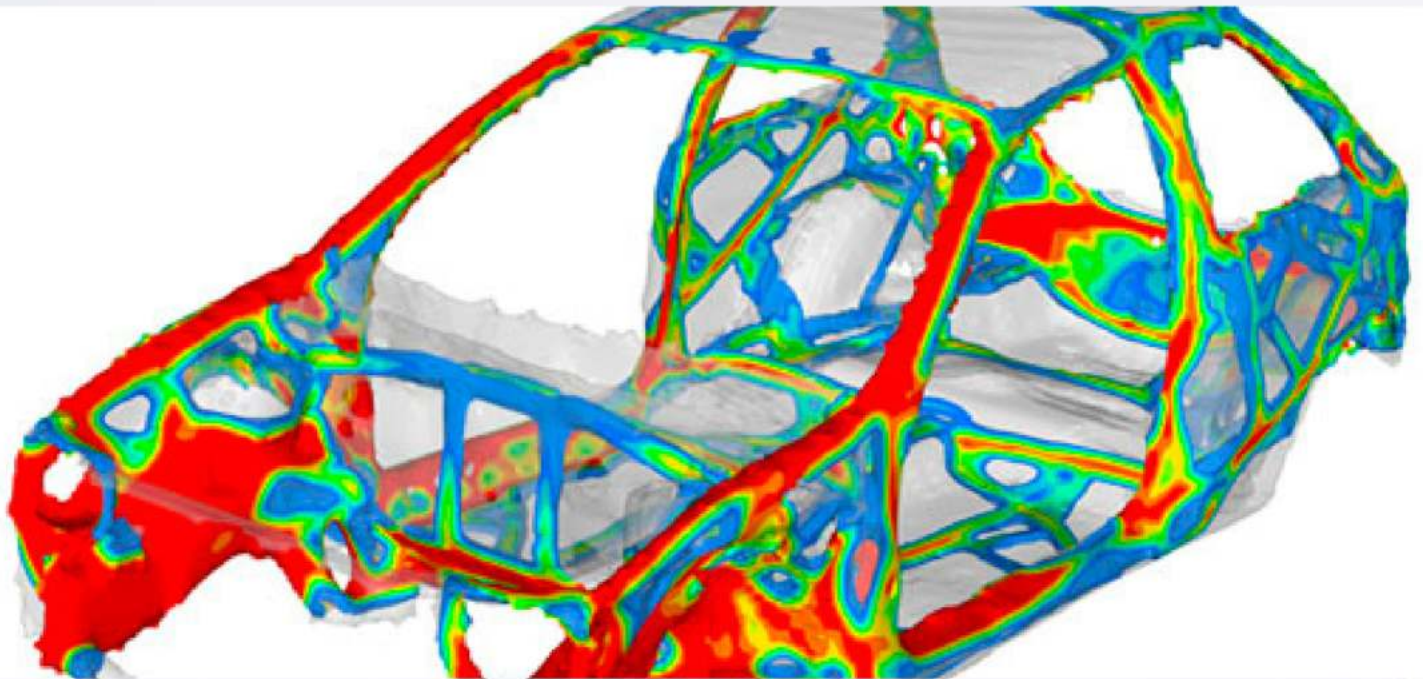## *Product Performance Under Dynamic Loadings*
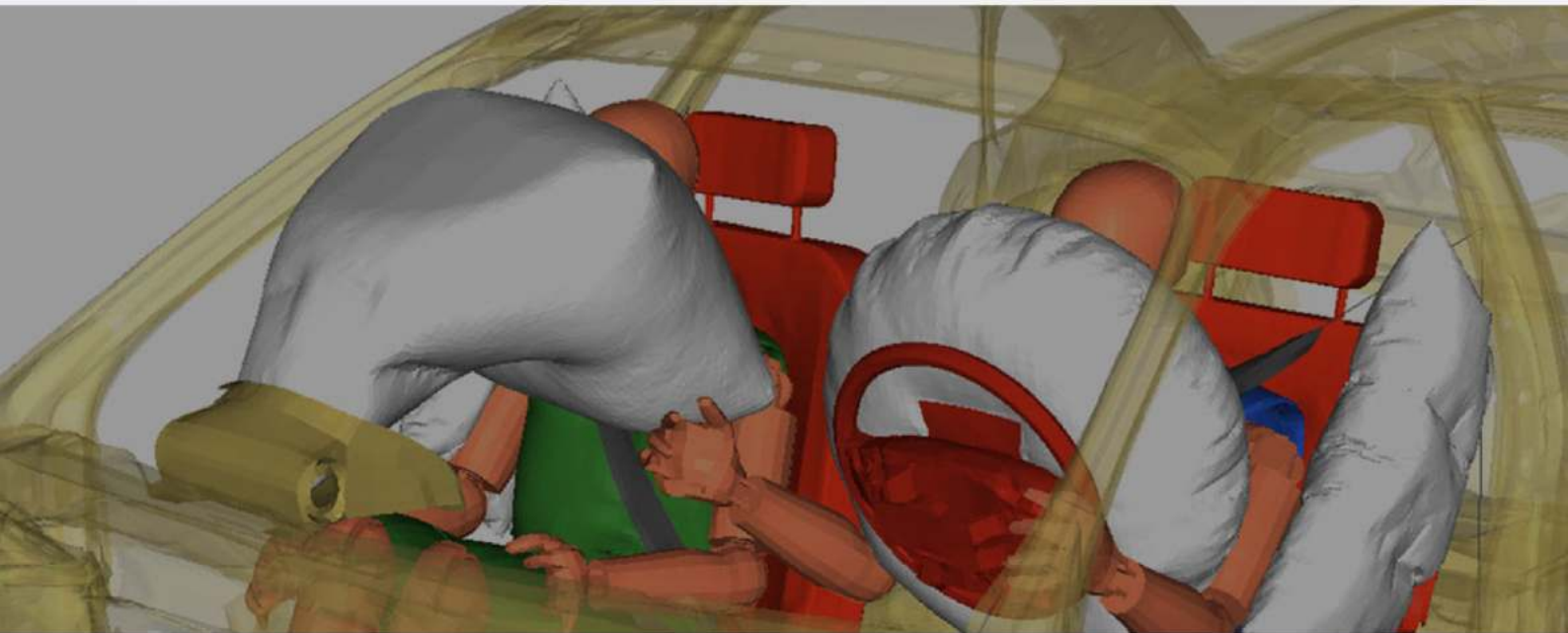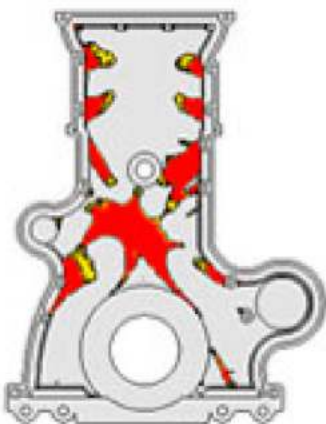
ALTAIR OPTISTRUCT

OptiStruct pioneered the development of innovative optimization technology including many industry-firsts such as fail-safe topology, multi-material topology, and multi-model optimization.

Streamline workflows, reduce repetitive tasks and minimize errors by analyzing and optimizing attributes from multiple disciplines (e.g. strength, vibrations, fatigue) using a single model.
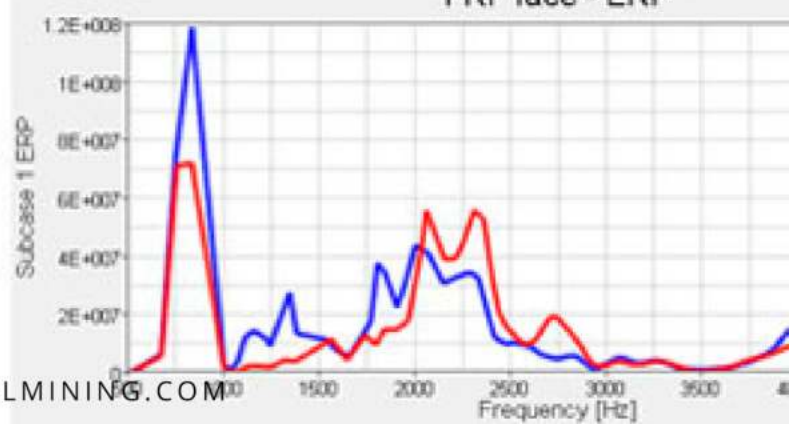
OptiStruct offers many other structural optimization methods and a broad range of essential manufacturing constraints for traditional processes, composites, and additive manufacturing.

OptiStruct provides solvers for linear, nonlinear, vibrations, acoustics, fatigue, heat transfer, and multiphysics analyses. Solutions are accurate, fast, and highly scalable on CPUs and GPUs.

Optimization-enabled Structural Analysis

FRF face - ERP

Accelerating Innovation

WWW.INTEGRALMINING.COM
INFO@INTEGRALMINING.COM

www.altair.com