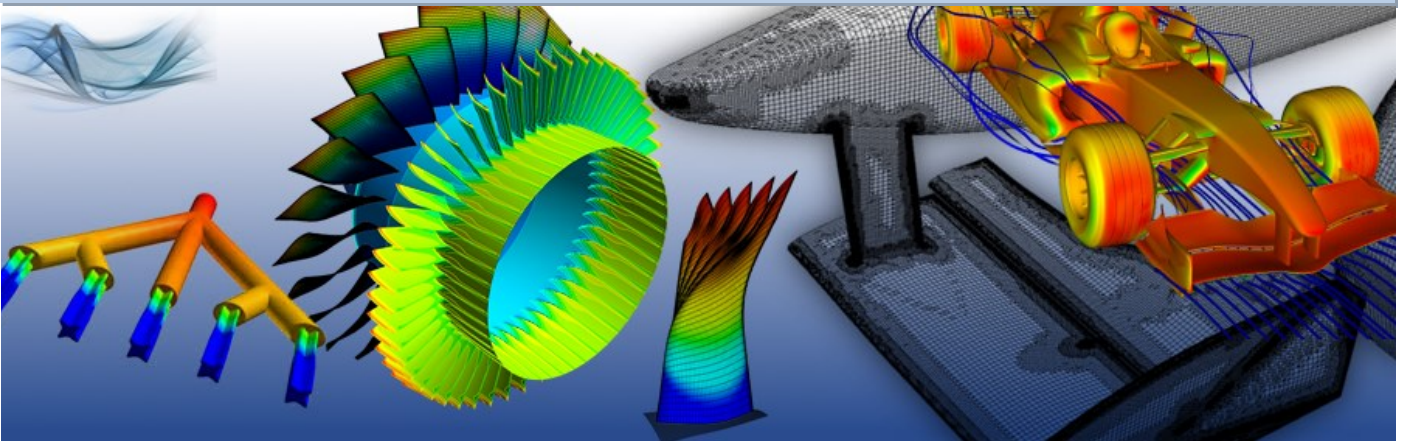# SOLID*CAD*

The Simulation Specialists

Company Profile

ANSYS

Applied DEM
OVERLAND
CONVEYOR COMPANY, INC
SPACECLAIM
CORPORATION
KEYCREATOR
The evolution of CADKEY®

Our Mission

Supply and support advanced simulation technology to engineers, engineering companies and other industries related to the engineering industry.

Enable our clients and customers to excel, by expanding their skills, education, knowledge and experience professional training and support of our products and also professional consulting services.

Stay abreast of new technology, technological developments and any changes to adapt to changing customer requirements and needs.

Supply products and services that compliment other related products, which promote improved productivity, development and quality.

Our History

SolidCAD was founded in 2002, Mr Ben TerreBlanché (Pr.Eng), assuming the position and responsibilities as the ANSYS Channel Partner in South Africa, from our sister company who preceded SolidCAD as the ANSYS Channel Partner.

From the start it was SolidCAD's vision to continue with the legacy of our founder, since the early to middle 1980's, to continue to provide a high level of analysis solutions and services to the engineering industry of South Africa. SolidCAD's founder, Mr Ben TerreBlanché (Pr.Eng), has a long history of providing Finite Element Analysis Consulting Services in South Africa since the early to middle 1980's.

Today SolidCAD is not only an ANSYS Channel Partner, but has also grown its product portfolio to provide even more products that are either specialized or supplemental software needed by engineers and designers in the South African Engineering Industry.

What We Do

Sales and Support

We specialize in the sales and support of all our products. During a sales process it is our intent to assist customers in choosing the solution that will not only address their current necessities but also any that may occur in the future. With our experience and knowledge of our products our intentions are to make beneficial recommendations of our products that would suite you best. In some situations there may be multiple options that we need to explain and clarify the variations and to facilitate you in your decision and final choice. All the engineers at SolidCAD are trained and certified by the product suppliers to ensure that they provide support and training to our customers according to the levels and standards expected by our product suppliers. Our engineers also have years of experience in the CAE industry and has an archive that has accumulated over the years with consulting work available to them. We are trusted and respected on by our customers for having their best interest at heart and depended on for guidance if needed.

Training

Training for any of our products is done on request by the customers and hence we do not have scheduled any courses. In most cases this allows us to outline a training course best suited to our customer's interests. Please contact us for more information.

Consulting Services

We offer a Simulation Consulting Service for ANSYS Simulations. Many companies do not always have the initial resources to do simulations themselves or very few simulations that it is more cost effective to outsource their simulation needs. These consulting services are available to anyone.

For other products where consulting is required we will facilitate and direct your communication with the right consultants and experts.

ANSYS is dedicated to developing engineering simulation software that fosters rapid and innovative product design. The ANSYS technology enables you to predict with confidence that your product will thrive in the real world. For more than 40 years, customers have trusted ANSYS solutions to help ensure the integrity of their products and drive business success through innovation.

The ANSYS suite spans the entire range of physics, so customers can assess how their designs will behave in a real-world environment. The technology enables simulated tests that might otherwise not be possible. It fosters what-if thinking and exploring design alternatives for an optimal solution. ANSYS calls this process Simulation-Driven Product Development.

ANSYS extended functionality by partnering with other software vendors, including computer-aided design (CAD) like Autodesk Inventor and AutoCAD, CATIA, SolidWorks, NX and SolidEdge and Creo (Pro-Engineer) and product lifecycle management (PLM) developers as well as organizations that range from physics (such as acoustics) to optimization to materials data.

Structural mechanics solutions

Structural mechanics solutions from ANSYS provide the ability to simulate every structural aspect of a product, including linear static analyses that simply provides stresses or deformations, modal analysis that determines vibration characteristics, through to advanced transient nonlinear phenomena involving dynamic effects and complex behaviours.

Fluids dynamics solutions

ANSYS fluids dynamics solutions are a comprehensive suite of products which allow you to predict, the impact of every fluid's behaviour on your product. The ANSYS fluid flow analysis capabilities provide all the tools needed to design and optimize new equipment and to troubleshoot already existing installations. Whatever the flow that you are studying: single-or multi-phase, isothermal or reacting, compressible or not, ANSYS fluids dynamics solutions gives you the insight into your product performance which guarantees that your product will strive.

Multiphysics solutions

ANSYS Multiphysics software offers a comprehensive product solution for both multiphysics and single-physics analysis. The product includes structural, thermal, fluid and both high- and low-frequency electromagnetic analysis. The product also contains solutions for both direct and sequentially coupled physics problems including direct coupled-field elements and the ANSYS multi-field solver.

Applied DEM is committed and focused on providing bulk material handling solutions through the use of our software backed by proven discrete element method technology. We provide tools that aid in the design phase of bulk material handling problems. These simulations help identify potential problems before full implementation, saving our customers time and money.
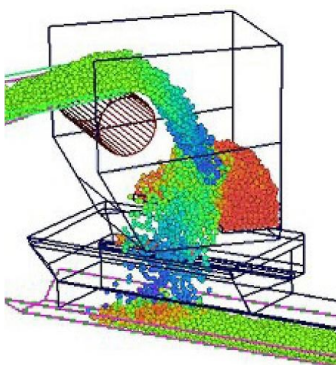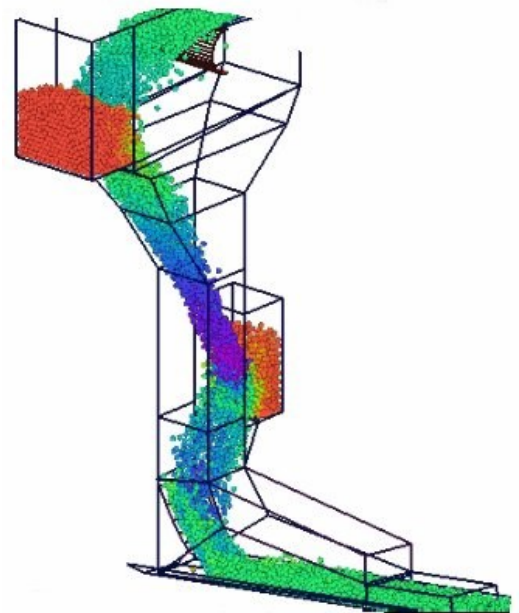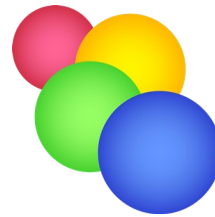
Bulk Flow Analyst™

Bulk Flow Analyst™ by Applied DEM is specifically developed for the simulation of particulate flow systems.

Using Bulk Flow Analyst™, engineers are able to simulate the behaviour of a particulate flow system and gain insight into the effects that the flow has on a structure.

Bulk Flow Analyst™ enables users to identify issues in a system including spillage from overloading a belt, a lack of adequate mixture or segregation, congestion in a restricted flow stream from overloading or sticky materials, off-center belt loading, and the locations and severity of wear on components in contact with the flow stream.

By virtually prototyping the design with Bulk Flow Analyst™, users can simulate multiple flow conditions, different material characteristics, and variations in the component design. Allowing them to fine-tune the flow, components, and material conditions to avoid issues that may not have been discovered until the system was installed and running.

BFA Modeler

BFA Modeler is a 3D graphical user interface built into Bulk Flow Analyst™ as an add-on for importing geometry which the user can then use to define components for a DEM Simulation. Unlike the AutoCAD Interactive interface and the DXF Import tool, users don't have to select so many points, they select faces directly. In addition, the faces can have many edges, be curved, or have curved edges. The BFA Modeler will tessellate the complex faces into a series of triangles automatically.

SOLID*CAD*

OVERLAND CONVEYOR COMPANY, INC

William G. Zimmermann and Mark Alspaugh, P.E. founded Overland Conveyor Co., Inc. (OCC) in 1993. Both principals had extensive belt conveyor backgrounds with manufacturers such as The Goodyear Tire & Rubber Co. and Continental Conveyor & Equipment Co. prior to this endeavour.

Today, OCC is an association of 11 belt conveyor professionals dedicated to excellence in belt conveyor design, engineering and trouble-shooting using an integrated systems approach. OCC has established long-term relationships with mining companies who rely on belt conveyors to transport bulk materials. Services provided include operations driven system integration of conveyor components through advanced system modelling and simulation, performance monitoring and preventive maintenance.

In 2005, OCC expanded from its consulting base to being a leading worldwide supplier of belt conveyor engineering software tools. Its Belt Analyst™ suite has become the international standard used by mining engineers, consultants, engineers, manufacturers and service providers in all bulk materials mining and processing industries.

Belt Analyst

Finally...Belt Conveyor software that's powerful enough for your most advanced conveyor engineer...friendly enough for non-technical personnel...complete enough to replace all other tools... and flexible enough to meet the needs of your entire organization.
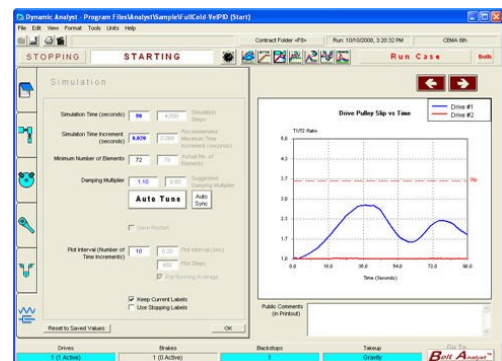
Complete design evaluation of any bulk material handling belt conveyor. You can input any vertical and horizontal profile with up to 360 flights, 48 pulleys and 20 unique drive locations.

Use the older and well documented CEMA 5th Edition calculation methods, the newest universal CEMA 6th Edition power methods or the International ISO/DIN methodology.

Dynamic Analyst

Dynamic analysis is used to verify the maximum and minimum loads on all belt conveyor components during all possible transient conditions of stopping and starting. It is also used to develop and test the control algorithms necessary to safely and reliability stop and start the load.

An add-on to the popular Belt Analyst™ program, this tool takes the running steady state condition and provides an accurate simulation of the dynamic conditions of stopping and starting.
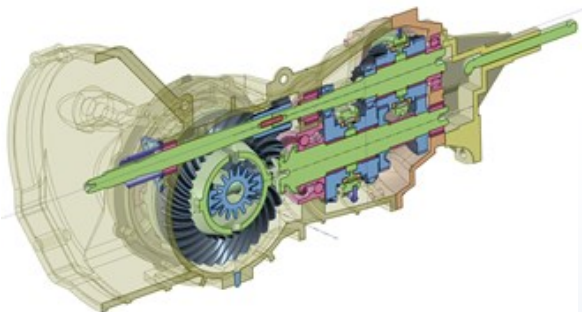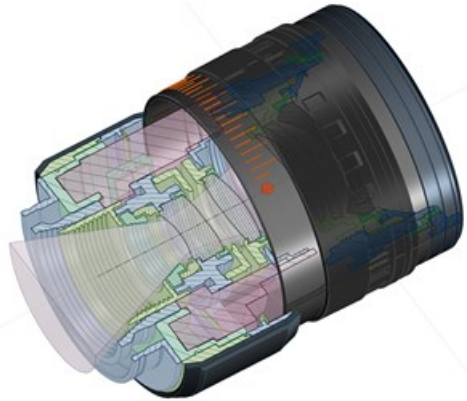
SOLIDCAD

SPACECLAIM
CORPORATION

The goal at SpaceClaim is simple. They want every engineer to work in 3D without having to be a CAD expert. By using SpaceClaim 3D Direct Modeling, their customers are able to:
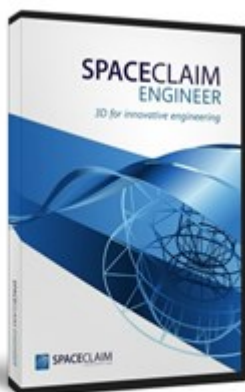
- Win more business by including compelling, realistic concepts in their bids
- Create new concepts and rework legacy data four times faster
- Remove the geometry bottleneck from simulation to more than double CAE productivity
- Allow manufacturing teams to focus on production rather than wrestling with CAD
- Reuse geometry from a variety of sources to streamline the initial concept design phase

SpaceClaim Engineer is the world's fastest and most innovative 3D direct modeler. SpaceClaim Engineer brings 3D solid modeling to the desktops of engineers and analysts who work in a 3D, with a simplicity and low TCO (Total Cost of Ownership) never seen before in CAD .

SpaceClaim enables engineers to easily create concepts and prepare 3D designs for digital prototyping, analysis, and manufacturing. SpaceClaim Engineer is especially suited for engineers and designers who need a tool that enables simulation-driven product design for:

- Concept Modeling
- Bid Modeling
- CAE Model Preparation
- Manufacturing, including:
- Additive manufacturing (rapid prototyping)
- De-featuring and adjusting for NC programming
- Sheet metal manufacturing
- Mold manufacturing
- Reverse Engineering
- Industrial Design
- Jewelry Design

KeyCreator is award-winning CAD/CAM software that takes a real geometry approach to 3D modeling. The product earns equal praise for its ability to quickly create design concepts from scratch, make changes to any model in any format, and extract and modify geometry in real-time on imported CAD models.

Since change drives the CAD/CAM industry, it is change that KeyCreator handles best. Whether the need resides with a designer, engineer, manufacturing professional or operator on the shop floor, KeyCreator delivers the right tools for the job. Easy to use and fast results are the backbone of this powerhouse package. And did we mention, the price is right too?

In addition, KeyCreator offers the following set of 3D engineering data translation capabilities in premium packages of KeyCreator.

- CATIA 4 Import
- CATIA 4 Export
- CATIA 5 Import
- CATIA 5 Export
- Pro/Engineer Import
- Pro/Engineer Wildfire Import
- Unigraphics Import
- UGS NX Import

SolidCAD is headquartered in Samrand, Centurion in Gauteng. From this office we provide sales, support and other services throughout South Africa with the assistance from offices located in Durban and Cape Town when required.

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