Integrated CAD/CAM/CAE Solutions

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ImageGrafix Software FZCO, established in 1996, is the pioneer of CAD/CAM/CAE solutions in the Middle East. For over 15 years, we have been offering complete integrated CAD/CAM/CAE applications to our customers from concept design to final manufacturing of the components to cut down the new design of new products lead time, reducing their manufacturing expenses and improving the product life cycle management. ImageGrafix is an Autodesk Gold Partner for Manufacturing (MSD) applications offering end to end integrated solutions to our customers through Autodesk software packages and certified third party applications.

Benefits of Integrated CAD/CAM/CAE Solutions

Experience the Power of Digital Prototyping
Digital Prototyping powers your entire product design workflow, so you can produce better, more innovative products faster than ever before. Get to market faster using Autodesk® Product Design Suite with Autodesk® Inventor®—it’s the ideal solution for Digital Prototyping your entire product design workflow.

Use the Industry’s Best 3D Design Tools
Autodesk Product Design Suite includes the functionality of some of the best 3D design software, including Autodesk Inventor, Alias® Design, and AutoCAD® Mechanical. Create accurate digital prototypes and test the real-world performance of products before they’re built with Autodesk Inventor. Incorporate industrial design aesthetics into your digital prototypes and develop production-ready surfaces with Alias Design, which is used by top automotive and consumer products manufacturers. And create mechanical designs faster with AutoCAD Mechanical software, which includes all the functionality of industry-leading AutoCAD software plus mechanical design productivity features.
Improve Your Entire Design Workflow with Industry-Leading Software
Autodesk Product Design Suite includes a comprehensive set of compatible design tools that are among the industry’s most respected and widely used. One cost-effective suite provides your designers and engineers everything needed to design remarkable products. The suite streamlines data reuse between design teams and tools, helping to eliminate rework, increase design productivity, and ultimately lower design costs.

Win More Business
Wow prospects with proposals that include stunning visualizations of your ideas so that you can win more business. Using the suite’s complete set of Digital Prototyping tools, create stronger designs and more realistic imagery for use in presentations, reviews, and proposals.

Get Exceptional Value
It costs up to 58 percent less to purchase Autodesk Product Design Suite than to buy the products individually. This cost-effective solution delivers the full benefits of Digital Prototyping for the cost of engineering design software.
Control Design Data
Autodesk Product Design Suite includes robust data management software, giving you more control over your design data. Safely store, share, and retrieve the correct data throughout the entire project workflow so that you can efficiently and effectively manage design creation, simulation, and documentation.

Use the Right Tools for the Job
Access to award-winning tools means more productive employees who reach their goals faster. With Autodesk Product Design Suite, every employee involved in product design has complete access to industry-leading tools for conceptual, industrial and mechanical design.

Reduce the Burden on Your IT Department
By rolling out a single standard suite of design tools instead of individual products, your IT department saves significant time on software installation, deployment, and management.
Concept design may be very well accomplished by using one of the following Autodesk tools such as Alias Design, Autodesk Sketchbook Designer and Autodesk Mudbox. Concept design involves in creation of shapes from imagination or from hand sketch design. In this phase imagination is converted to shape.

**Alias Design**

With the comprehensive conceptual modeling and surfacing capabilities in Alias® Design, you can create production-ready surfaces and rapidly iterate designs that meet both aesthetic and functional requirements. Alias Design includes the same flexible modeling tools used by the world’s most successful automotive and consumer product manufacturers. Autodesk Inventor opens directly the Alias files format and further modeling in the Inventor design is possible.

**Autodesk SketchBook Designer**

Rapidly explore design concepts and produce stunning illustrations with software that lets you paint and draw in the ultimate digital sketchbook. Experiment with multiple design ideas and communicate them graphically. Using Sketchbook Designer it is easy to convert concept design models. Which combines both vector and raster workflows. We can directly open DWG files and create concepts and stunning illustrations with Sketchbook Designer.

**Autodesk Mudbox**

Harness the power of a world-class 3D sculpting toolset to create forms and shapes. Test the impact of material and texture choices by painting directly on 3D models. Autodesk® Mudbox™ is the first advanced high resolution, brush-based 3D sculpting and painting application built from the ground up to address the needs of the digital sculptors and texture artists. Designed by production artists for production artists working on demanding projects, Mudbox introduces new workflow paradigms and combines familiar concepts in a new and exciting way to offer a unique solution for high-end commercial modeling and painting.
Engineering Design

Engineering design phase involves in creation of models for various applications for standard dimensions which arrived using standard design formulae and equations. Autodesk Inventor Professional very well supported the task. 3D parts can be easily created and the same can be assembled and the annotation can be carried out easily.

Autodesk Inventor Professional

The Autodesk® Inventor® product line provides a comprehensive and flexible set of software for 3D mechanical design, simulation, tooling creation, and design communication that help you cost-effectively take advantage of a Digital Prototyping workflow to design and build better products in less time. Autodesk® Inventor® software is the foundation of the Autodesk solution for Digital Prototyping. The Inventor model is an accurate 3D digital prototype that enables you to validate the form, fit, and function of a design as you work, minimizing the need to test the design with physical prototypes. By enabling you to use a digital prototype to design, visualize, and simulate your products digitally, Inventor software helps you communicate more effectively, reduce errors, and deliver more innovative product designs faster.

Inventor professional comprises of standard 3D part modeling environment, assembly creation tools and 2D detailing and annotation facility. It is directly integrated with AutoCAD DWG file formats. They can be easily loaded in inventor sketching environments and the 2D detailing of the 3D models are in DWG file format. Apart from 3D modeling, assembly & detailing, inventor is extended to the following environments such as simulation, tubes and pipes and inventor tooling.

Use more of the best integrated and easy-to-use simulation tools to test and validate products, achieving top-quality results. You can also accelerate product design and manufacturing with tools for designing routed systems, including complex tube and pipe runs and electrical cable and harness design. The core cavity extraction and tooling design can be easily accomplished using Inventor tooling module.
Computer Aided Manufacturing (CAM)

Integrating the 3D models generated from the Inventor to cam systems is very easy and a direct process. The 3D models from the Inventor are directly opened in the CAM systems for further process of tool path generation. 3D solid models are utilized as the input for cam systems to generate the tool path for machining the same. The generated tool path is easily converted to standard g-codes and m-codes.

Edgecam for Manufacturing

Edgecam is an industry leading solution for all your production machining needs. Applications include prismatic and 3D milling, complex multi-axis turning, mill/turn, rotary and multi-plane milling and family of parts machining. Innovative solutions for a more productive and profitable machine shop are supplied. These include excellent tool path simulation, a unique wizard approach to post processing, a comprehensive tooling database, intuitive and flexible machine tool communications and a web-enabled job management system.

Edgecam is Autodesk’s Global Preferred CAM Partner. Edgecam works closely with Autodesk to ensure the tightest integration between Edgecam and Autodesk Inventor®, the award-winning 3D mechanical design application, providing true data integrity and model-to-tool path associatively. Autodesk Inventor users worldwide benefit from Edgecam’s capabilities in production machining and mold and die applications. In particular, the output 3D models from the Inventor are directly loaded into Planit Edgecam which is specialized for tool generation for CNC turning and milling machines. The tool paths for Inventor models can be easily created in Edgecam and the same may be executed in CNC machine. The Edgecam is having the capability of recognizing the features created in inventor and the same may be used for creation of tool paths very easily using feature based machining option in Edgecam.
Alphacam for Manufacturing

Alphacam is a leading CAD/CAM software solution for the Wood working industry. Alphacam is used in the manufacture of many types of components, from simple routed parts to complex, 5-axis furniture components. The emphasis behind the development of Alphacam is to provide our customers with productivity, reliability, and flexibility. Improving these attributes in any company will help increase profitability. The output 3D models from the Inventor are directly loaded in Planit Alphacam, which is specialized for generating tool path for wood working routers. Alphacam is having the ability to recognize the feature designed in Edgecam and the same is utilized for tool path creation.

Radan for Sheetmetal

Radbend from Radan is the comprehensive offline programming solution for Press brakes. Completely integrated with Radan 3D it also provides a full 3D simulation of the bending process. Press brake independent, Radbend can help you to reduce bottlenecks and costs, whilst increasing efficiency and productivity. It does this by enabling the user to program and verify bending operations off line as well as detecting any collisions with both the tooling and machine tool itself. Radbend offers 2D and 3D import capabilities as well as direct interfaces for well known 3D CAD systems. Reducing lead times significantly as well as helping to prevent errors Radbend is a must have for any shop floor using a press brake. Autodesk Inventor can be fully integrated with Radbend using the plug-in. The Radbend plug-in offers a seamless, accurate and intelligent transfer of data between these two programs. Taking your part from Autodesk Inventor into Radbend couldn't be more straightforward. Once you are satisfied with your design simply click on the Radbend icon and your part and associated information gets transported into Radbend. Where you can perform the bend simulation and generate the NC output for press brake machines.
Computer Aided Engineering (CAE)

Integrating the 3D models developed from Inventor to analysis software is very easy and direct. Most of the CAE software packages open the Inventor model directly. So there was no problem of data loss and patching in the model. The model is opened directly and it is ready to perform analysis. Just in one click we can open the Inventor models in analysis environment and perform the necessary analysis for optimization of our design at early stage itself.

**Autodesk Simulation**

Autodesk® Simulation software, part of the Autodesk solution for Digital Prototyping, provides a range of mechanical simulation tools to help designers and engineers make decisions earlier in the engineering design process. Support for Inventor-CAD environments and extensive finite element modeling tools help manufacturers study initial design intent and accurately predict product performance. Companies worldwide use Autodesk® Simulation Mechanical and Autodesk® Simulation Multiphysics software to validate and optimize designs before manufacturing—increasing efficiency, minimizing reliance on physical prototypes, reducing costs, and decreasing errors.

**Autodesk Moldflow Analysis**

Autodesk Moldflow provides a molding window analysis capability which allows the user to quickly evaluate multiple gating schemes, part thicknesses, and materials to determine recommended molding process parameters to run a filling analysis. Moldflow analysis is capable to perform runner balancing. Runner balancing gives the ability to size the sprue, runner, and gates and achieve balanced flow in a multi-cavity or family mold layout.

**Altair HyperWorks**

Altair Engineering's HyperWorks is a computer-aided engineering (CAE) simulation software platform that allows businesses to create superior, market-leading products efficiently and cost effectively. HyperWorks provides the most comprehensive, open-architecture CAE solution in the industry, including best-in-class modeling, analysis, visualization and data management solutions for linear, nonlinear, structural optimization, fluid-structure interaction, and multi-body dynamics applications.
Autodesk Vault Data Management

Autodesk® Vault data management software products organize, manage, and track data creation, simulation, and documentation processes for design and engineering workgroups. Enjoy more control over design data with revision management capabilities, and quickly find and reuse design data, for easier management of your design and engineering information. Tightly integrated with Autodesk Digital Prototyping and Building Information Modeling (BIM) applications, Autodesk Vault data management software enables teams to more efficiently collaborate and meet tight deadlines.

Part of the Autodesk solution for Digital Prototyping, the Autodesk® Vault family of data management software helps you keep track of all your digital design data. It securely stores and manages data in a central location, helping teams quickly create, share, and reuse digital prototyping information. With Autodesk® Vault Workgroup, Autodesk® Vault Collaboration, and Autodesk® Vault Professional you’ll spend less time chasing down files and more time in creating innovative designs.

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For further more information and details regarding Integrated Manufacturing Solutions:

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