AGPS

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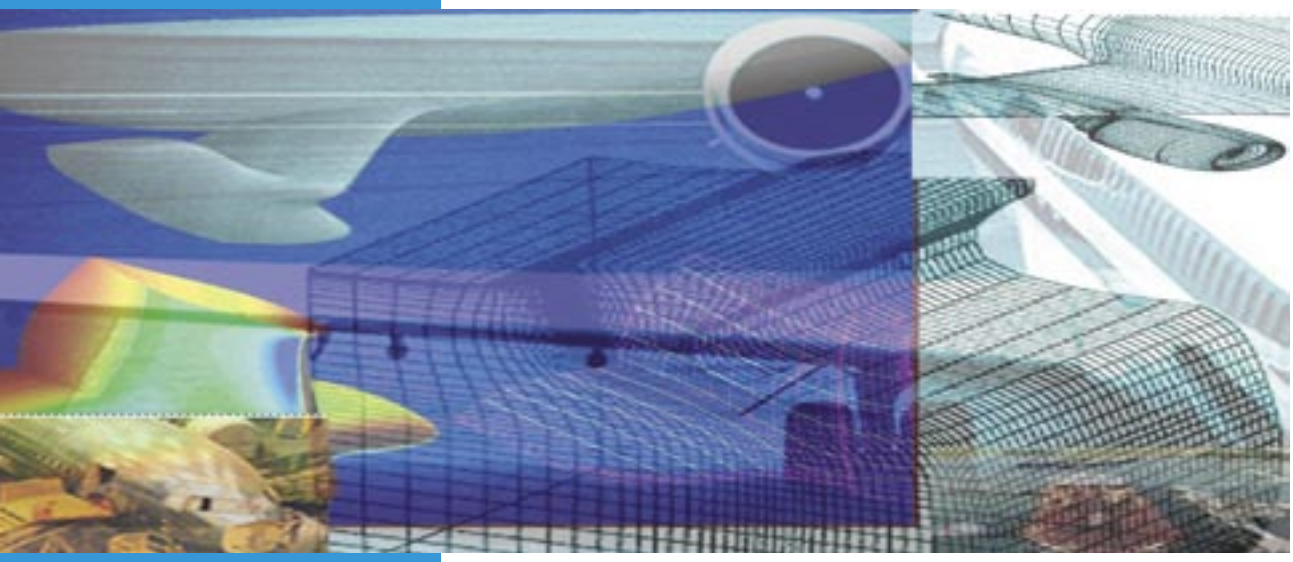
Exceptional flexibility and advanced technology for dynamic modeling.



Integrate your technical knowledge...

Automate your modeling processes...

Accelerate your pre-processing...

Design, Optimization, and Breakthroughs

How do we inspire creativity? How do we switch from product evolution to breakthrough? How do we get various disciplines to talk to each other? How do we get our current and future tools to talk to each other? How do we understand our designs better?

These are common questions heard from those responsible for a company's step into the future. While the answers to these questions may be multifaceted, the biggest part of the answer lies in your current toolset, but not in the way you have been told it does.

Start from a Better Place

In a world that has raced to leverage the power of computers, the trend has been to try to replace people with software that does everything. Now a few organizations are learning that using a machine to perform a task makes a process linear, predictable, and rigid. That's fine if you are planning on making millions of widgets. However, if you are in the business of change and breakthrough, you need power, flexibility and ingenuity. Your tools must empower your talented staff, not replace them. AGPS is the platform that prompts ***you to start from a better place.***

The Boeing Company developed AGPS with an eye toward change. Take a look inside to explore how the unique approach of AGPS can help your enterprise break through the creativity gap.

Easy-to-use, open platform for better engineering

AGPS™ — Access the World of Geometry

AGPS™ is an exceptional geometric modeling platform developed by The Boeing Company. For decades, AGPS has been a necessary and effective tool for Boeing engineers for improving profits by rapidly optimizing every aspect of modeling, design, and analysis within their product design and manufacturing processes.

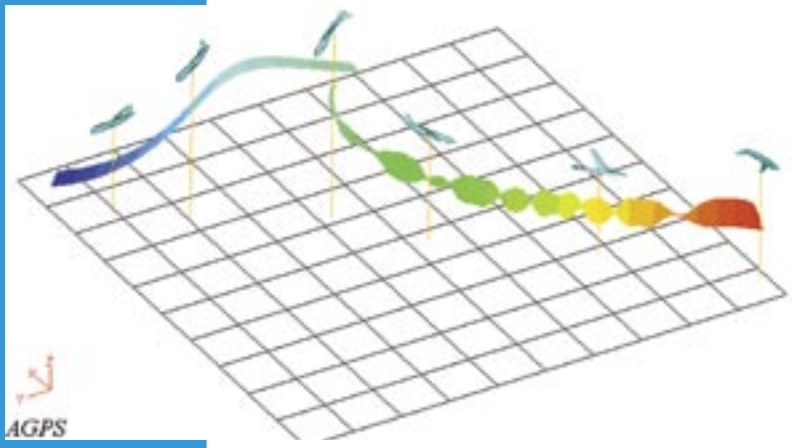
The goal of AGPS is to provide a geometry system that is flexible and extendable enough to handle and solve new technical and scientific problems as they arise. This flexible system solves the needs of talented engineers who require capabilities that permit immediate and continuous development modification. Needs that traditional CAD systems are not intended to solve. Needs that require an engineer to be creative. Needs that the AGPS platform is able to solve with a unique environment of advanced, mathematically superior geometry-creation commands and autonomous generation of knowledge applications that can have useful functionality in short periods of time.

Throughout the last 20 years, AGPS has expanded from its traditional beginnings in aircraft aerodynamics to be successfully applied in a wide range of industries, including naval/maritime, system integration, avionics, energy, automotive, and geology.

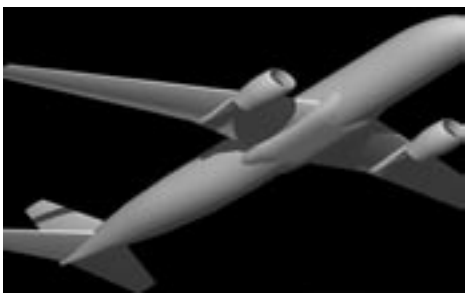
Improving Engineering Efficiency through Flexible Solutions

For many real design situations, the ability of current software to affordably and accurately optimize geometry during a technical study is severely lacking. The geometric development platform philosophy of AGPS provides an environment that solves the expensive and sometimes unmanageable task of integrated design through the following unique combination of capabilities:

- The sufficiency to interrogate and trace design lineage, allowing for real-time and inverse design studies
- The utilization of accurate mathematical geometry models and libraries for sophisticated modeling
- The customizability to create development tools for unique technical and scientific studies



Time-consuming interactions and design cycles are tremendously reduced.



Enhancing Design Optimization

The AGPS platform has the ability to make geometry and analysis manipulation a transparent part of your design process. AGPS is extremely powerful when used to automatically enforce design philosophies towards accurately and quickly preparing geometries essential for analysis schemes. By limiting direct user interactions, the AGPS programming language allows multiple parametric design iterations to be performed in a timely manner.

Build the tool to fit the study; don't fit the study to the tool.

Why use numerous tools to reach your desired results? With AGPS you can quickly create tools, limited only by math, not pre-conceived operations and software interactions. Use AGPS to streamline your design processes.

AGPS frees your creativity by limiting the busy work associated with geometry creation and pre-processing and allows you to use your skills for analyzing and designing.

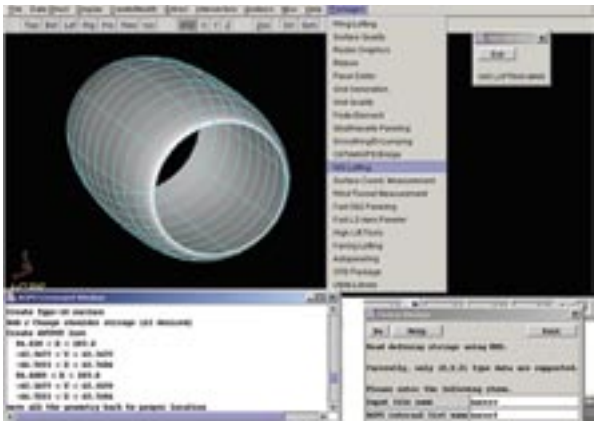
As engineers, designers, and configuration specialists, we are always concerned with applying our skills to interpreting and enhancing technical solutions. The time-consuming but necessary work of geometry creation and software interaction to repeat design iterations severely hampers design studies and, more often that not, increases cost.

Boeing developed AGPS to help engineers to create, manipulate, and interrogate precision geometry based upon aerospace design requirements. Unlike common CAD and grid-generation tools, AGPS provides a parametric mathematics programming language that serves both as a design tool and a development platform. Organizations leverage and retain key design knowledge by embedding expertise in these custom AGPS toolkits.

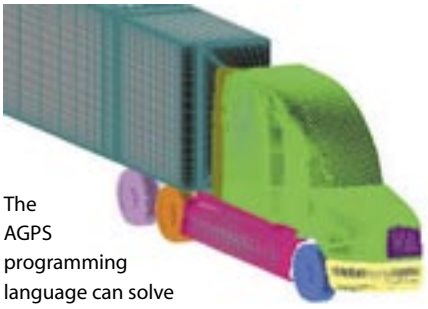
Advanced Modeling

AGPS is unique in its approach to modeling. The fundamental postulate for using AGPS math models for integration of multi-disciplinary analysis is that design and the exchange of information between design disciplines are fundamentally dependent on geometry. The AGPS data structure provides a convenient structure for managing geometry, grid extraction, and analysis data in a common framework, that may be used by varying industry sectors. By mapping analysis entities to geometry, each discipline can communicate through a common geometry.

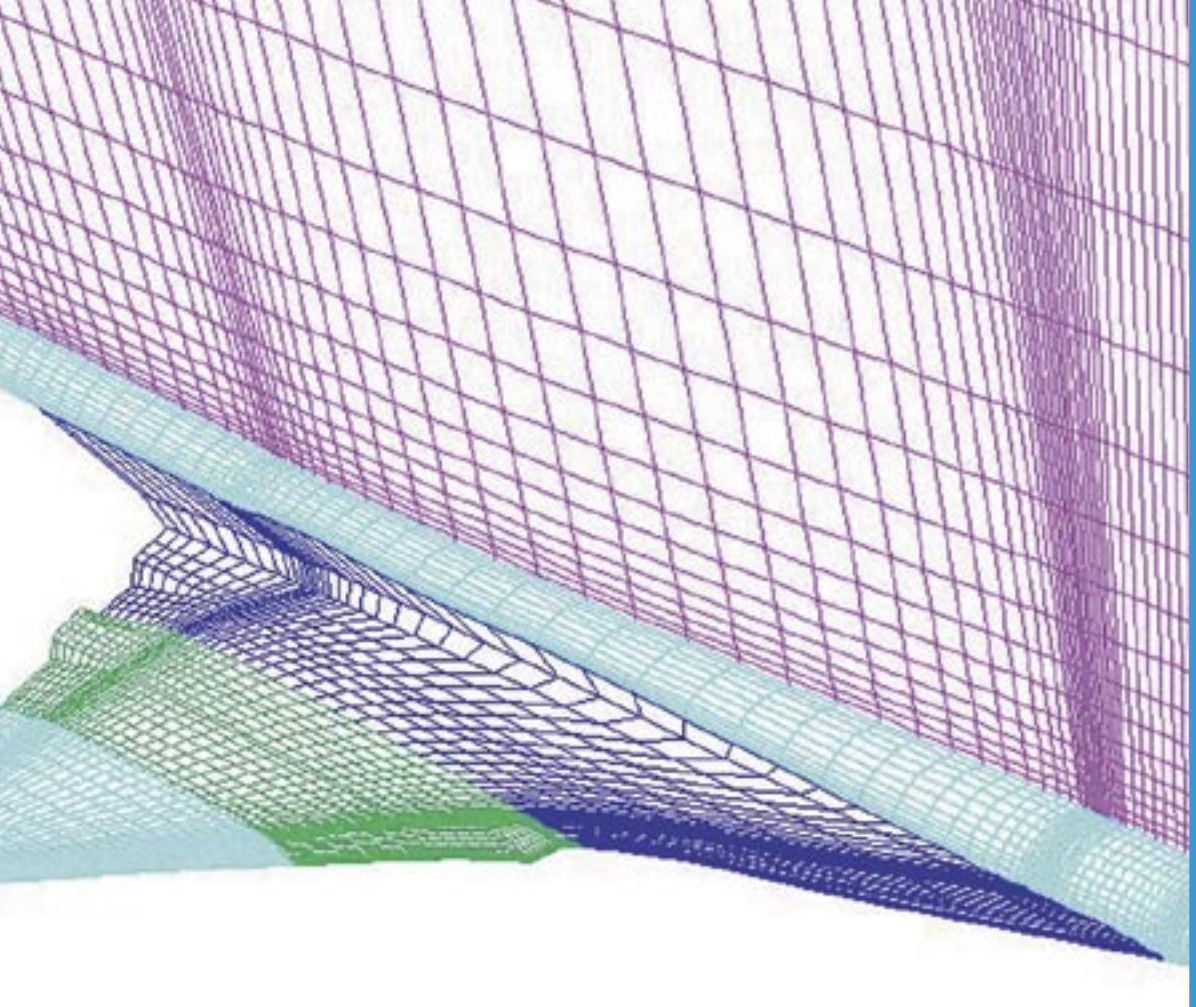
An enterprise can truly reduce the cost of in-house development and invest in one platform that can do it all. AGPS can do the job of one software tool or of many.



AGPS has over 200 commands that allow access to its geometry constructs and that are the basis for creating fully programmable toolkits using the embedded AGPS programming language. With these commands, AGPS presents powerful mathematics that allow the creation and extraction of curve, surface, and solid data; that provide better, higher quality surfaces that you can confidently share and use for analysis; that allow numerous data-extraction techniques for computational grids and data for numerical control machines; that facilitate interrogation and perturbation of any geometry model to ensure surface quality.



The AGPS programming language can solve any geometry problem you can conceive.



Product Support & Consulting

Calmar Research Corporation has the development experience to really help its customers understand the value AGPS.

AGPS is offered through annual licensing agreements. The Boeing Company provides ongoing software updates, and Calmar's Software Technology Group provides commercial support, consulting, and training.

CALMAR
RESEARCH CORPORATION
BRIDGING THE GAP

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