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Geolus

Innovation through re-use

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Geolus

Geolus® software is a geometry-based search engine for both single and multi-CAD environment PLM stakeholders who need to reduce/control part costs throughout the product lifecycle, manage engineering design knowledge and increase manufacturing efficiencies.

- Are you able to leverage existing designs to produce new ones?
- Can you leverage existing tooling and processes for new tooling or systems?
- Are you leveraging knowledge of existing parts or systems in sourcing new parts?
- Do you minimize the introduction of duplicate parts and tooling?
- Does your procurement organization have automatic access to the history of purchasing similar parts, enabling them to secure the best deal?

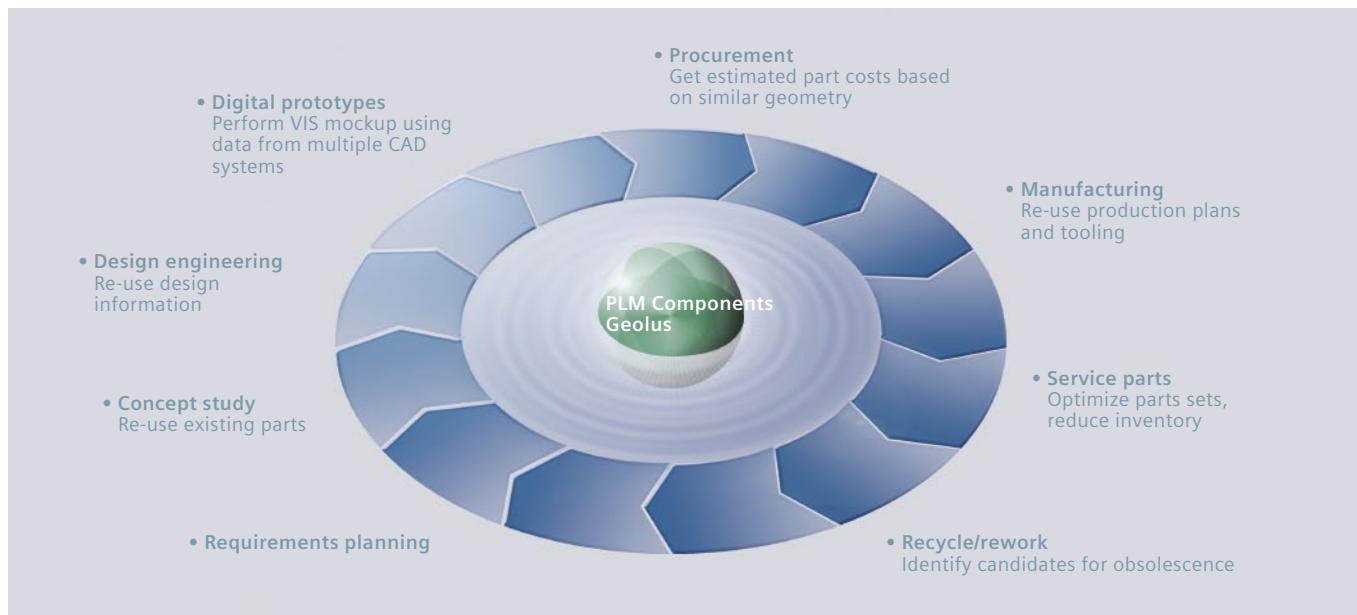
The answer to all of these questions can be YES when you use Geolus. This PLM component can be used in all stages of the product lifecycle – from concept design to recycling obsolete part candidates.

Knowledge is power. Just knowing two parts are similar, opens the possibility of re-using information about an existing part for costing, concept development, design criteria, manufacturing processes. Geolus even allows you to query part databases based on a preliminary 3D outline.

Geolus transforms an alphanumeric parts management system into an environment for innovation.



Our search engine for 3D data



Geolus is a search engine for your PLM system which will rapidly track down parts similar to a given example based on its shape. The web browser interface provides users with a simple means of analyzing vast quantities of data. This technology opens up a whole new range of applications in development, controlling and procurement.

Benefits at a glance

- Identify all identical and similar parts in the enterprise irrespective of their names and classification
- Dramatically accelerate standardization and commonization initiatives
- Stop designing that same part again and again
- Ease integration after growth through merger and acquisition

- Rationalize procurement process
- Unlock IP hidden through inconsistent naming and language differences

Siemens PLM Software is proud to offer a robust solution which provides our customers with proven technology for supporting efficient parts management.

The core of our solution is a fully automatic search engine for finding similar 3D CAD models simply, effectively and efficiently. Only a few steps are necessary for you to home in on the part you need, even in large databases. Parts similar to the one you specify are detected automatically and are displayed immediately on-screen as thumbnails.

The web browser interface means that using Geolus couldn't be easier. We have brought the convenience of classic search engines such as Google® search engine to your 3D parts management. The user simply submits a combination of optional keywords or any 3D model to the search engine as a geometric reference, and the search engine locates similar parts. The model submitted can be taken from an in-house PDM system or from a catalog of standard parts or it could be a new 3D sketch. Within seconds, the Geolus engine retrieves those parts which show the greatest similarity to the reference part, even if your parts database contains millions of 3D models. From the ranked result list, any part can in turn be used as the reference part for a further query. Therefore, it is possible to gradually refine your search, so that the part you are looking for is just a few clicks away.

Our search engine meets your demands



You have high expectations with regard to efficient parts management. Our search engine is up to the challenge.



Searches for similar parts are based on the 3D geometry of the parts and the results are ranked by the degree of similarity. If your parts database is highly heterogeneous, containing a large number of complex parts, then our Geolus engine is just the tool for you. With our expertise, the engine can be tuned to match your exact requirements.

Analysis is 100 percent automatic. Existing metadata search (alphanumeric systems) and the Geolus geometric search complement each other. The metadata search provides important properties such as material and weight as well as describing part function and usage. Geolus adds instant and consistent access by shape.

Geolus smashes the boundaries encountered with conventional text-based metadata searches. Typical hindrances to successful text-based searches include:

- non-adherence to naming conventions
- synonyms/contractions (rear, aft, back, bck)
- adoption of suppliers' naming conventions
- multiple cultures resulting from mergers and acquisitions

Establishing new naming standards is only a partial solution because it leaves legacy data behind. The one characteristic guaranteed to be shared by similar parts is their shape. Geolus responds rapidly and allows users to interact with the system in much the same way as they do with the traditional search engines they already know from the Internet.

Geolus produces visual results immediately in the form of 3D thumbnails. These thumbnails are automatically rendered by the system and allow users to easily assess the suitability of each part found.

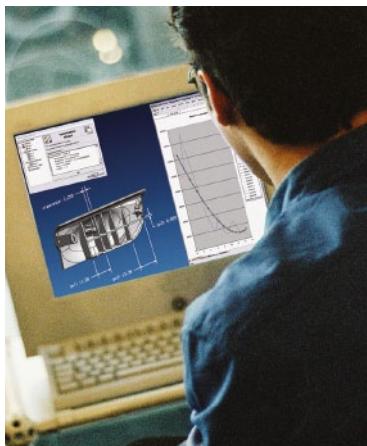
Our search engine accepts ordinary tessellated objects. These 3D representations can be derived from virtually any native CAD model format (for instance over a standard DMU pipeline).

Geolus reports, integrations and services

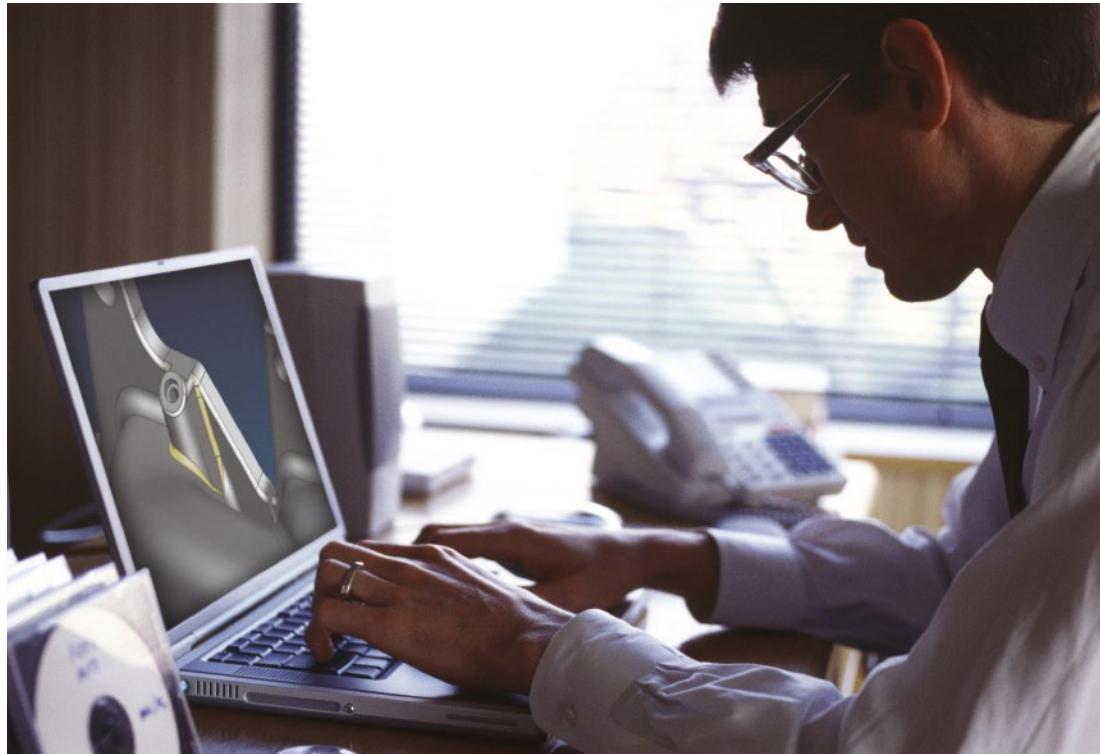
In addition to accessing Geolus via a web browser, Geolus can also export reports of identical or near identical parts to that management tool of choice, the spreadsheet. Typically these are enterprise-wide reports where every part is compared with every other part in the enterprise. These are especially useful in the support of strategic initiatives such as the areas of re-use or commonization that have impact across the enterprise. For example, a near identical part report combined with procurement information enables you to see which suppliers have historically provided certain classes of part. You can use this information to target your requests for quotes to likely suppliers.

Fewer quotes means shorter waits which makes you more efficient. You can also use this report to analyze the costs of similar past purchases which will help you judge the fairness of the prices of the quotes that come in.

Geolus has a programmable SOA interface that enables the search technology to be embedded in other applications and presented with the look and feel of the host application. Such integrations exist in Siemens PLM Software's own NX™ software and Teamcenter® software, Rich Client Platform and also in aClass, the classification technology from our partner BCT.



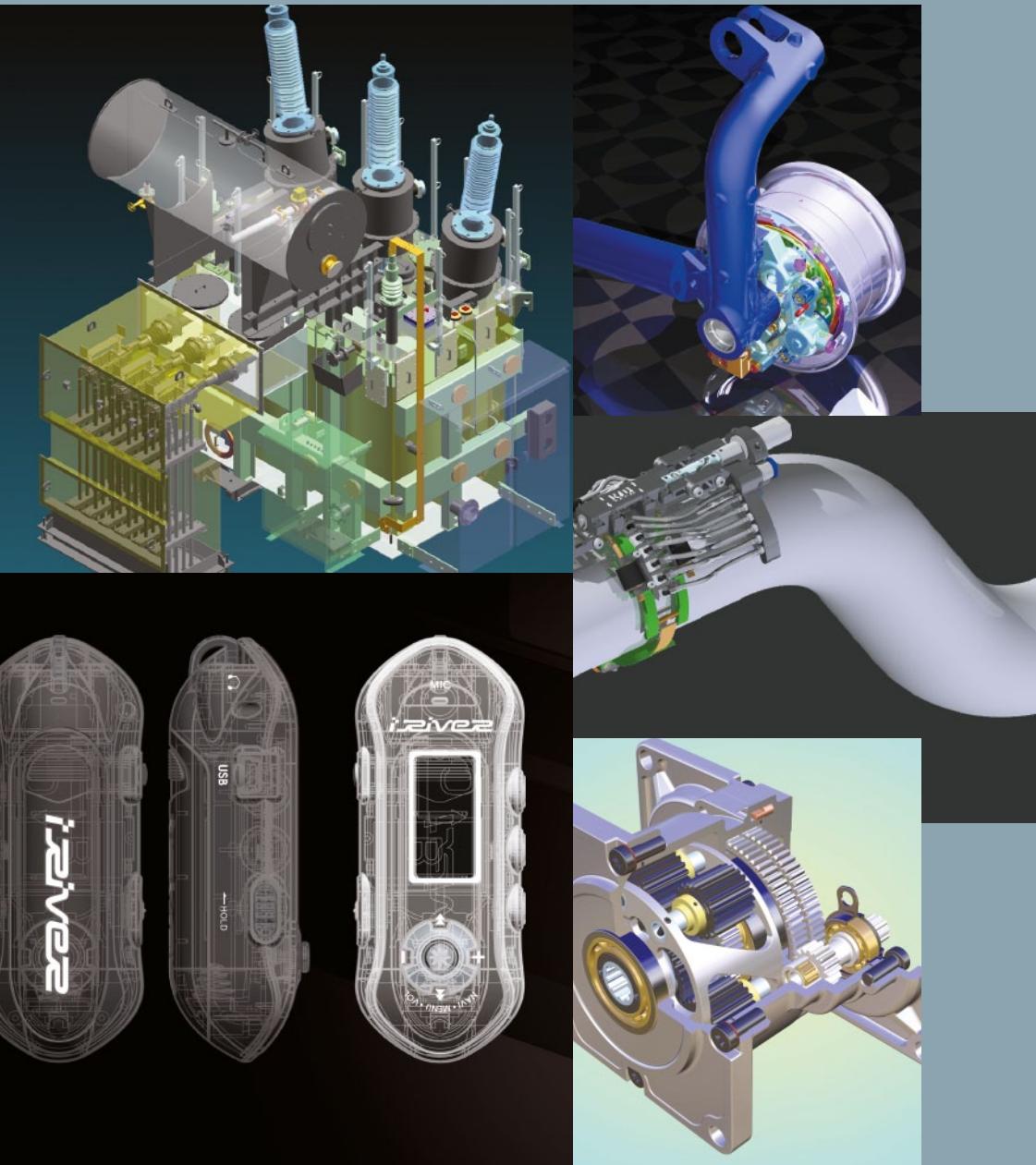
We are on hand to help you



Our 3D search engine not only allows you to find similar parts in your database, but also opens up new possibilities.

Siemens PLM Software offers a comprehensive set of services in connection with Geolus software to help you reach your implementation goals on time and within budget. A strong emphasis is placed on technology know-how transfer so that your organization can be in complete control of extending the coverage and range of support Geolus offers in the

areas of IP and part re-use, standardization and classification that in turn drive virtually all aspects of PLM. Our services include initial assessment, solution architecture, best practice coaching, product training and software system integration.



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About Siemens PLM Software

Siemens PLM Software, a business unit of the Siemens Industry Automation Division, is a leading global provider of product lifecycle management (PLM) software and services with nearly 6.7 million licensed seats and 69,500 customers worldwide. Headquartered in Plano, Texas, Siemens PLM Software works collaboratively with companies to deliver open solutions that help them turn more ideas into successful products. For more information on Siemens PLM Software products and services, visit www.siemens.com/plm.

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