Automotive and transportation companies are building Global Innovation Networks with product lifecycle management (PLM) to improve productivity, increase quality, leverage global opportunities and ultimately drive more innovation into their products and processes.
Industry challenges

There may be no industry that has been affected by globalization more than the automotive and transportation industry. Consumers all over the world now have more vehicle choices than ever before, and all those different choices have put tremendous pressure on vehicle manufacturers to deliver innovative vehicles with high quality as efficiently as possible. Miss the mark on any one of these requirements and it becomes easy for the consumer to make another choice.

To compete in this global environment, automotive and transportation companies must be able to:

- Develop vehicles on a global basis leveraging common architectures but meeting local requirements
- Leverage low-cost country opportunities to reduce development and production costs
- Make certain that vehicles are appealing to consumers and contain the innovations they demand
- Maintain an effective supply chain strategy that keeps costs down and captures innovation at all levels
- Maintain or improve the quality levels that have become the price of entry in the minds of consumers
- Squeeze every bit of efficiency out of the design, engineering and production operations to ensure cost competitiveness

UGS excels at helping customers meet these requirements. A mission-critical partner with many automotive and transportation companies, UGS provides product lifecycle management (PLM) solutions to enable key processes such as requirements-driven design, portfolio and program management, product design, engineering and simulation and manufacturing process planning and simulation.

UGS solutions target key industry initiatives like: commonization and re-use, change management, strategic sourcing, knowledge-driven automation and supply chain synchronization.
Today’s industry-leading automotive and transportation companies are building Global Innovation Networks to continuously improve their products and processes – and organize their value chains so that innovation can flourish. These networks empower organizations to meet the following business imperatives.

**Increasing the yield of innovation.** Innovation can make – or break – an automotive and transportation company. A world-class process of innovation enables companies to harvest great ideas from everywhere in the value chain, evaluate them and drive the good ones into their products and processes.

**Improving quality.** Quality is no longer a goal, it’s a requirement. Consumers expect it, and it can take years to recover the market’s confidence if you produce a product with even marginal quality. Global Innovation Networks can help companies remove communications barriers between departments, suppliers and even across geographic boundaries to ensure that problems are designed out of the product or processes so that quality isn’t compromised.

**Optimizing efficiency.** Many companies are trying to figure out how to get more models on the market with fewer design and engineering personnel, and more production through fewer plants. Global Innovation Networks can help achieve both goals by promoting re-use of best practices, better dissemination of knowledge and by enabling product and process re-use.

**Maximizing global opportunities.** Delivering vehicles from common architectures that address regional requirements, moving operations to more cost effective locations and leveraging outsourcing are all opportunities for companies to reduce cost while delivering products that cater to geographically diverse consumers. A robust Global Innovation Network can serve as a backbone for your company to tie all of your geographically disperse operations together and enable efficient, effective globalization at every level.
Initiatives for the automotive and transportation industry

Commonization and re-use
Automotive and transportation companies need to maximize their re-use of parts, assemblies and best practices across their global vehicle programs. Many are designing common architectures that can be leveraged on many vehicle programs. Commonization and re-use is a PLM-based initiative that improves your ability to define and implement common architectures, systems, components and processes throughout your vehicle programs.

UGS technology provides a PLM platform for launching a commonization and re-use initiative by making accurate information immediately available to support re-use decisions, by ensuring that designs are re-usable regardless of where the geometry may have been authored and by ensuring that only one master of every part or system exists.

Knowledge-enabled engineering and manufacturing
Developing the best product for a customer requires an experienced team that can evaluate earlier programs, examine proven designs and create new ideas while making certain to consider the real-world manufacturability of each of these possibilities. Given the number of programs that most suppliers have in-house at any one time, this daunting challenge can stretch the limited resources available to any single program.

UGS technology provides a PLM platform for launching a knowledge-driven engineering and manufacturing initiative by providing re-usable knowledge archetypes to store knowledge and best practice information in, by supporting processes and tools for harvesting knowledge and by enabling multidisciplinary validation that leverages knowledge early in the process to ensure successful vehicle builds.

Change management
Change is a critical element in any automotive and transportation company’s profit-making strategy. Mastering change requires you to effectively manage and track changes across your operations without inhibiting the innovative process you apply in product development and manufacturing. Your ability to accurately assess the impact of change can have significant impact on the financial success of your vehicle program.

UGS technology provides a PLM platform for launching a change management initiative by ensuring that all product lifecycle information is available at key decision points in the change process, helping enforce best practices, and by making change status and key change metrics visible to decision makers through change dashboards.
Strategic sourcing

Two industry trends combine to place significant pressures on today’s sourcing-related processes. Increased outsourcing makes companies more dependent than ever on their supply chains. Rapidly shifting market demands are driving increased change volumes, which suppliers must quote in very short timeframes. Both trends challenge your ability to quickly and accurately prepare quote packages for your suppliers and incorporate their responses into your decision on how to deal with the change.

UGS technology provides a PLM platform for launching a strategic sourcing initiative by making certain that procurement professionals and product design/engineering are all working from the same base of information, by providing tools for suppliers and their customers to collaborate on a real-time basis and by providing procurement professionals with robust sourcing tools to help them evaluate and upgrade their supply base.

Information exchange and synchronization

Managing the product development process from design through manufacturing is a complex task that is further complicated by the need to incorporate sub-tier support and low-cost country operations. Today’s automotive and transportation companies need to ensure that their suppliers, customers and business partners keep their information synchronized throughout the entire process regardless of organizational or geographic boundaries.

UGS technology provides a PLM platform for launching an information exchange and synchronization initiative by providing open solutions leveraging industry standards. The result is an environment that ensures dispersed teams collaborate freely and confidently across heterogeneous systems while still enforcing the proper security and supporting the appropriate interoperability.
Innovation across the entire automotive value chain:

- Quality and validation
- Manufacturing engineering
- Product engineering
- Sourcing
- Concept engineering
- Requirements and planning
motive and transportation lifecycle

- Manufacturing production
- Sales and distribution
- Owner’s experience
- Maintenance and repair
- Disposal and recycling
Comprehensive support for automotive and transportation industry processes

Leading automotive and transportation companies implement UGS solutions to achieve the highest levels of innovation and business value. UGS solutions are built on a rich set of knowledge management, process management and collaboration capabilities that UGS has derived from its experience as the world’s leading provider of product lifecycle management (PLM) technology.

UGS solutions for automotive and transportation companies facilitate innovation by transforming today’s product development, lifecycle management and manufacturing processes.

**Digital product development**

UGS’ digital product development solutions enable companies to meet accelerated product development schedules by providing tools and capabilities that facilitate modularization, standardization and the transfer of new technology from any vendor in a global value chain. Companies are able to quickly evaluate design feasibility/performance by conducting in-process checks and a mixture of automated and manual validations.

UGS solutions support the ability to develop multiple variants from the same design while ensuring consistent modules. They are able to incorporate multiple customer specifications, regulatory requirements and manufacturing constraints into the entire product development process.

In essence, UGS’ solutions transform product development into a competitive differentiator.

**Digital lifecycle management**

UGS’ digital lifecycle management solutions enable companies to coordinate and automate business processes that comprise the product lifecycle from research and development to engineering, manufacturing, sales and service. UGS solutions manage these processes by facilitating an integrated yet flexible Global Innovation Network.

UGS solutions enable companies to track project schedules, resource allocations, customer specifications and all product/process knowledge generated throughout a distributed value chain. Digital lifecycle management enables designers, engineers, suppliers, partners and customers to participate in automated processes that leverage the most accurate and recent versions of this knowledge. By allowing these users to find, search and retrieve information appropriate for making informed business decisions, UGS solutions help companies make sure that the impact of their decisions results in higher overall profit margins.
Digital manufacturing

UGS’ digital manufacturing solutions facilitate the true marriage of today’s manufacturing and design processes. By enabling companies to incorporate manufacturing knowledge into the product development process, digital manufacturing maximizes the use of valuable resources, ensures product manufacturability and improves product quality.

UGS solutions utilize a connected process that accounts for both product and process changes. This connection provides a competitive edge in manufacturing that directly translates into faster vehicle development cycles. UGS digital manufacturing solutions eliminate costs associated with wasted tooling. They are particularly adept at assessing equipment operation, manufacturing and assembly line operations, ergonomic considerations and long-term issues that influence service/support, customer satisfaction and total cost of ownership.
Today’s business challenges require automotive and transportation companies to enable their employees, suppliers, partners and customers to work together in a Global Innovation Network that facilitates improvement and innovation for all participating stakeholders.

UGS solutions provide the critical link in a Global Innovation Network. This link enables companies to transform their business processes by leveraging their own intellectual property, their vendors’ knowledge and today’s most compelling collaboration technology.

UGS is committed to helping its clients meet challenges that arise from the need to deliver increasingly more complex products in a marketplace that requires high quality, innovative products delivered globally – all while lowering product development costs.

UGS is uniquely positioned to help its clients implement strategic initiatives that extend the returns on equipment while increasing profit margins. UGS is able to meet these challenges because we never let a customer fail.

Don’t let the opportunity to drive innovation throughout your value chain pass you by. Contact your UGS representative today for more information about UGS solutions for the automotive and transportation industry.
About UGS
UGS is a leading global provider of product lifecycle management (PLM) software and services with nearly 4 million licensed seats and 46,000 customers worldwide. Headquartered in Plano, Texas, UGS’ vision is to enable a world where organizations and their partners collaborate through Global Innovation Networks to deliver world-class products and services while leveraging UGS’ open enterprise solutions, fulfilling the mission of enabling them to transform their process of innovation. For more information on UGS products and services, visit www.ugs.com.

UGS leads to greater innovation
There is no single road to innovation, but there are signs you’re headed in the right direction. Leading innovators get to market faster, manage compliance, optimize resources and achieve globalization. They’re also four times more likely to use PLM software to plan, define, build and support their products. UGS’ family of PLM solutions helps businesses establish Global Innovation Networks that transform their process of innovation. Drive your business to greater innovation and accelerate your growth.