

# PLM KNOWLEDGE 21

Volume 2 Issue 3

*"Empowering Knowledge for 21<sup>st</sup> Century Engineers"*

September 2004

## GO PLM

### Global Opportunities in Product Lifecycle Management

*...adding Value through Industry, Government, Academic and Community Leadership*

#### PACE

Regional PLM Productivity Programs

Academic Partnership Program

Youth Development Programs

#### Inside this Issue

Top Story : pg 1

*"UGS Introduces GO PLM Initiative" ...*

PACE ... pg 2

PLM Regional

Productivity Programs ... pg 3

Youth Development Programs ... pg 4

Youth Development Cont ... pg 5

Academic Partnership Program ... pg 6

Student Design

Competitions 2004 ... pg 7

More News ... pg 8

Student ~ Faculty

Resource Center ... pg 9

Academic Courseware

Textbooks ... pg 10

Academic Affiliations ... pg 11

GO PLM Information ... pg 12

## UGS Introduces GO PLM Initiative

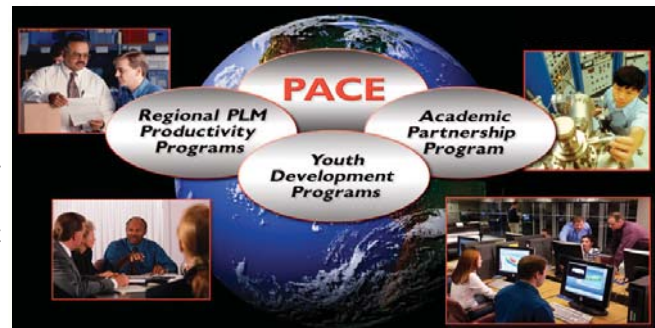
*Plan provides academic, institutional and community development opportunities through product lifecycle management software grants and programs.*

Plano, TX - UGS, a leading global provider of product lifecycle management (PLM) software and services, announced the introduction of its **Global Opportunities in Product Lifecycle Management (GO PLM) initiative**. Created as part of the company's Partner Program, **GO PLM** provides new learning and advancement opportunities for individuals, institutions and communities through the adoption of product lifecycle management (PLM) technology. **GO PLM** brings together four complementary UGS community involvement programs: The UGS **Academic Partnership program** is the most comprehensive of its kind, providing PLM technology to more than 850,000 students yearly at 7,800 global institutions. UGS is unique in the PLM and CAD/CAM/CAE industries, offering software grants to schools that can be used at every academic level – from middle schools to graduate engineering research programs. UGS leads the industry in the commercial value of its in-kind academic grants and provides a complete range of applications from its product portfolio, including NX, Teamcenter®, Solid Edge®, E-factory and PLM Components. UGS' **Regional Productivity Program** creates manufacturing technology environments where communities worldwide can work to improve their economic conditions. Under this program UGS recently provided a PLM software grant valued at \$4.2M to Makerere University in Uganda to help that country's efforts to strengthen engineering programs at its universities and elevate its technology base. The program, which is part of a larger initiative to improve technology access in western Africa, creates expanded career opportunities for Makerere graduates, and a means for Ugandan manufacturing companies to increase their global stature. UGS' **Youth Development Programs** develop advanced manufacturing career opportunities for at-risk and underutilized youth and displaced workers. For example **GO PLM** supports the Detroit Area Pre-college Engineering Program (DAPCEP) with software and instruction to support the organization's mission to increase the number of historically under-represented minority students (African American, Hispanic, Native American) who are motivated and prepared academically to pursue careers in engineering, science, and mathematics related fields.

The **PACE Partnership (Partners for the Advancement of Collaborative Engineering Education)** links GM, Sun Microsystems, EDS and UGS in the support of strategically-selected academic institutions worldwide, to develop the automotive product life cycle management teams of the future. Since its founding in 1999, the PACE program has provided over \$2 billion in software, hardware and training to 26 global institutions in the program.

In addition to providing these programs, **GO PLM** promotes and maintains UGS corporate affiliations with a worldwide network of organizations dedicated to manufacturing and engineering education, community development and opportunities for underutilized citizens.

"**GO PLM** was developed to benefit UGS clients and their communities," said Hulas King, director of UGS Community Relations and **GO PLM** programs, "but it has grown beyond that. Whether it is helping schools improve their technical sta-



ture and career opportunities for their graduates, helping communities attract industry to strengthen their economic base, or opening doors for disadvantaged individuals to develop new, marketable skills, the program is all about a opportunity. PLM technology is proving to be the competitive edge for the world's leading manufacturing companies and we are very pleased to be able to provide the industry's most comprehensive program for helping make that technology accessible."

**Learn More:** <http://www.ugs.com/partners/goplml/>



# PACE

The PACE Partnership links GM, Sun Microsystems, EDS and UGS in the support of Strategically selected Academic Institutions worldwide, to develop the automotive PLM team of the future.

Partners for the Advancement of Collaborative Engineering Education

## PACE Makes \$208 Million In-Kind Contribution to Rev-Up Computer Education at Georgia Tech

Atlanta, GA – Partners for the Advancement of Collaborative Engineering Education (PACE), a corporate alliance between General Motors Corp., EDS, Sun Microsystems Inc. and UGS has recognized the Georgia Institute of Technology and its students as a solid investment in the future of engineering. PACE has selected Georgia Tech to join its academic partnership and receive an in-kind contribution of software and other technology with a commercial value of more than \$208 million. The in-kind contribution includes computer-aided design, manufacturing and engineering software as well as hardware and training. The PACE contribution represents a significant investment in Georgia Tech and also fits nicely with Tech's multi-disciplinary approach to innovation, according to Georgia Tech President Wayne Clough. "Our partnership with PACE



strengthens Georgia Tech's relationships with each of these top companies," said Clough. "And in the hands of more of our students and faculty across many disciplines, the contributed technology will strengthen Tech's push to innovate through collaboration." And for General Motors, the new partnership with Georgia Tech is an investment in the company's future. "Today, working in the automotive product

development arena demands a firm grasp of computer-based design and analysis tools," said Lutz. "General Motors is pleased to be a part of investing in the intellectual capital of tomorrow's engineers." One of the largest corporate in-kind contributions ever given to Georgia Tech, the PACE contribution will give students access to the same programs used by leading industry professionals, including those at General Motors.

"This contribution will allow us to train our students on the latest and greatest technology. Our students will be in very high demand because they'll be using all the same programs that many of the top companies are using," said Tord Dennis, PACE Program Integrator at Georgia Tech. The software Tech will receive includes modeling and simulation programs such as Fluent, Unigraphics and MSC Nastran. With these programs, students will have new, powerful tools to design everything from hybrid vehicles or airplanes to biomedical devices. And with Fluent, for instance, a user can design and run a simulation of how blood flows through arteries and veins or how fluids move through an engine. Other contributed software includes Teamcenter, E-factory and Solid Edge. Georgia Tech is the 27th institution to join the PACE program. Since its inception in 1999, the corporate partnership has contributed software, hardware, training and technical support to schools like Purdue, Michigan State, Northwestern and Virginia Tech, and institutions in Canada, China, Germany, Mexico and Sweden. The Georgia Institute of Technology is one of the nation's premiere research universities. Ranked among U.S. News & World Report's top 10 public universities, Georgia Tech educates more than 16,000 students every year through its Colleges of Architecture, Computing, Engineering, Liberal Arts, Management and Sciences. Tech maintains a diverse campus and is among the nation's top producers of women and African-American engineers.



## PACE Partner in the News: Tuskegee U. Preps a New Generation for Flight

Read More: [http://www.blackengineer.com/artman/publish/article\\_216.shtml](http://www.blackengineer.com/artman/publish/article_216.shtml)

## PACE Team Supports Formula SAE '04

As a major thrust for linking Academia and Industry to prepare the Automotive Team of the Future, Partners for the Advancement of Collaborative Engineering Education (PACE) provided Best Engineering Design Awards for top Teams during SAE Formula

'2004. In addition to Plaque awards PACE gave cash awards of \$1,000, \$700, \$300 to the 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> place Teams. The winners included:

- \* University of North Australia - 1<sup>st</sup> Place
- \* Cornell University - 2<sup>nd</sup> Place
- \* University of Texas - 3<sup>rd</sup> Place



The SAE Formula Program allows students to design, fabricate and compete with small formula-style racers. Restrictions are placed on the car frame and engine so the students' knowledge, creativity and imagination are tested. The vehicles are judged in 3 categories: static inspection and engineering design, solo performance trails and high-performance track endurance. The PACE Partners are proud to support this activity.

## 3rd Annual PACE Conference at PLM World is Best Yet

Anaheim, CA - The PACE team held numerous workshops and featured presentations during PLM World annual meeting in Anaheim, California. PACE Academic Partners attended training classes and special interest group seminars. The PACE core team provided an update on CY 2003 successes including:

- \* 16,122 seats of PACE software deployed
- \* 1,000 projects completed using UGS & PACE sponsored software
- \* 21 new PACE labs developed
- \* 405 students received internships with PACE partners or contributor companies

A highlight of the conference was the presentation of the GO PLM Excellence Award to Tanya Jordan - PACE Marketing Coordinator.



Tanya Jordan congratulated by:  
Dr. Paul Zang, Elaine Chapmen-Moore and Hulas King



Create manufacturing technology environment where underutilized citizens of the world can work together to improve their economic conditions and promote world peace.

## Cairo University UGS Team Accelerates Regional Productivity in Egypt

**Giza, Egypt:** The Center for Advancement of Post-Graduates Studies at Cairo University (CAPSCU) recently implemented UG NX software to assist in training 600 undergraduate and 100 postgraduate students yearly in the fields of machine design, Systems dynamics, vibration & control, Manufacturing and materials engineering, industrial engineering and solid mechanics. This PLM upgrade is only part of the CAPSCU/UGS partnership to increase the regional productivity of small to medium sized manufacturers throughout Egypt.



"We are delighted to have this world-class PLM software to upgrade the quality and quantity of our engineering graduates, the engineering analysis performed by students and the competitiveness of practicing engineers in Egypt and beyond, says Dr. Mokhtar Omar Abbas, Chairman of the Mechanical Design and Production Department at Cairo University. Dr. Adel Taha Abbas, the Industrial expert on CAD/CAM and collaborator with Cairo University added, "We were particularly impressed with the Computer Aided Self Teach (CAST) module and real time support provided during our initial implementations." CAPSCU is administering this Grant for the development of the new CAD-CAM laboratory in the Mechanical Design Department", added Prof. Mohammed M. Megahed, CAPSCU Director.

"Today's leading companies compete on the basis of quality, time to market, product cost innovative value, flexible processes and product variation", said Greg Nutkins, President Distribution Channels – EMEA. This partnership demonstrates UGS' commitment to student career opportunities and Regional Productivity in Egypt. We are pleased to team with the dedicated faculty and talented students at Cairo University to support the vision of innovation and education leadership with CAPSCU."

**Learn More About Cairo University:** <http://www.cu.edu.eg/default.asp>



Dr. Adel Taha

## UGS Products help Monash University Design/Build the fastest Formula Car in Australia

**Monash, Australia** -The Formula SAE competition allows student teams to conceive, design, fabricate and compete with small formula style racing cars. The restrictions on the car frame and engine are limited so that the knowledge, creativity and imagination of the students are challenged. The Monash PLM Formula SAE racer was designed to maximize team concepts focusing on weight removal, improved manufacturing techniques and continuous geometric refinements. The extensive use of Solid Edge and Unigraphics NX software during the design and development stage was a huge contributor to the Monash Formula SAE car. "We are grateful to PLMA (UGS Australian Distributor) for making these tools available for the Monash," Team said Alistair McVean, team leader.



The use of UGNX and Solid Edge enabled the team to:

- Save 22 kilograms, or 8% off the overall car weight.
- Reduce the car length and width by 100mm.
- Finish the car a full month earlier, gaining valuable testing time to tune & develop to SAE Formula demands.
- Reduce manufacturing tolerances to .02mm thus enabling tighter packaging.
- Develop professional quality presentation material utilizing impressive visual aides

## AMIE Chairman Honored with NSBE's Educator Award

The National Society of Black Engineers honored Dr. Allen Atkins, general manager of Technology, Phantom Works and AMIE Chairman with the NSBE Engineer-



Ron Moore (VP-NSBE);  
Abe Adewale (CEO-ABNA Engineering)  
Dr. Allen Atkins (Chairman - AMIE)  
Hulas King (Director - UGS Corp. ~ GO PLM)

ing Edu-  
cator of  
the Year

Award. The St. Louis Gateway Chapter of the National Society of Black Engineers held its eighth annual awards and scholarship reception Sunday, July 18, 2004 at the St. Louis Engineers Club. Keynote speaker for this event was Commander Ava-Marie A. Howard, Director of Diversity Recruitment Programs, US Navy. Dr. Atkins has played a tremendous role in improving technology acquisition processes and career development opportunities for youth via partnerships industry, government and academic sectors. NSBE's mission is to increase the number of culturally responsible African American engineers to excel academically, succeed professionally and positively impact the community.

Under the leadership of Dr. Atkins, AMIE has forged numerous corporate/government /academic alliances that serve to promote quality engineering



AMIE / NSBE Teammates w/  
Commander Howard

programs. AMIE partners include over 30 Academic, Industry, Government and Community Partners, who provide a proactive approach to fostering diversity as an essential business strategy. Dr. Atkins was instrumental in forging the AMIE public/private partnership with USAID, Boeing, NSBE, UGS and Computers Frontiers Inc. This partnership is facilitating economic development in Uganda while providing rewarding outreach experiences for AMIE Partners. "One of AMIE's goals is to get actively involved in engineering education for the underrepresented populations", said Dr. Atkins. "It's an honor to partner with and NSBE, UGS and Boeing to accomplish this initiative for next generation engineers and technologists in the Greater St. Louis Metropolitan Area and our global communities".

Dr. Atkins received his Bachelor's degree in Electrical Engineering, Master's degree in Systems Engineering, and Doctoral degree in Engineering – Solid State Physics from Tennessee Technological University. He also holds an MBA from San Diego State University.

**EDS / UGS Partner In Local Education Outreach Program ~ Women in Action**

*Connecting with our community and empowering our future workforce!!!*

**St. Louis, MO** - Corporate efforts like the EDS /UGS education outreach program have made a profound impact on the quality of education by offering special attention and creative learning experiences. Over the course of 12 weeks, several EDS /UGS volunteers facilitated sessions as part



of an exciting after-school mentoring program called **Women in Action**

*Left to right Linda Presley, Michael Landeck (mentor/ EDS - UGS employee) Christopher Blake Executive Director of St. Vincent Home for Children*

**(WIA)**. WIA's mentoring program focuses on the diversity of young women while providing exposure to career options and reinforcing self techniques. The program works to uniquely apply life skills to help enrich the students over all development. Mentors and community role models worked to develop a relationship with the students to help each girl grow educationally, socially and personally. Through the weekly sessions, volunteers shared information on their talents, job responsibilities and demonstrated real world experiences while focusing on the use of practical school subjects at work and in life. Through positive reinforcement techniques the students are encouraged to see that they have a great future ahead of them and that anything is possible! Participation in this mentoring program is meant to give the girls a head start on their very long journey through life and it is hoped that the program has given each of the students a push in the right direction that leads to a long road of successes, says Desiree Smith Business & Community Relations (program coordinator). "I really enjoyed mentoring and hopefully making a difference in some small way for the girls. I definitely found it very worthwhile for me" Terry Farwell (EDS employee) "It was very rewarding participating in WIA's mentoring program", said Keasha Orban (EDS employee) "The program uniquely applies life skills and career options that enrich the students over all development. It was my pleasure to be involved", said Tavia Carson (UGS employee).

**UGS Accelerates Youth Education Initiatives for K-12 Students**

**St. Louis, MO** - UGS developed a partnership with Pure Gospel Temple, United Church of America, Inc. and Jennings City Schools to refurbish computers for K-12 students in the St. Louis metropolitan area. Pure Gospel Temple has developed the John B. Williams memorial library to provide homework assistance and technical support for area youth ages 5-12. "This program is an outstanding success, says Bishop Bose Bradford, Pastor of Pure Gospel Temple. "We are thankful to UGS for their active support of our youth. The computers are great in exposing them to new career opportunities and preparing their homework."

Jennings City Schools are also using refurbished computers to assist grade school students with science and math projects. "We want to thank UGS for this donation of the computers- this will help the Jennings neighborhood children learn cutting edge software and expose them to leading technology" says Demitra Bell mother of one of the youth (Devonte Cannamore) and neighborhood leader. "Our kids will benefit greatly from this donation as it will prepare them for new challenging responsibilities."

" We are happy to help the kids by providing computers and PLM software

**UGS PLM Solutions Software Grant Supports Innovative Education Programs in Michigan's Second Largest School District**

*\$8.9 million grant expands career opportunities for students by providing product development and management tools widely used in industry*



**Livonia, MI** - UGS Corp., announced it is providing a PLM software grant with a commercial value of \$8.9 million to Utica Community Schools.

The PLM software will be used by Utica Community Schools' Career & Technical Education Department to provide project-based education that reflects real-life product design and development challenges. Student teams will simulate actual industry practice by cooperatively designing, building and assessing products using the same PLM software and methodologies employed by today's leading global manufacturers. The software includes Teamcenter®, a portfolio of lifecycle management solutions, Solid Edge®, a 3D Computer Aided Design (CAD) and design management application and Unigraphics® NX, a comprehensive 3D modeling system that provides product design, analysis and manufacturing capabilities.

"We are excited by the opportunities this grant offers," said Utica Community Schools' Career & Technical Education Director Pamela Schaffer. "Utica Community Schools is located in the heart of engineering country. By providing access to the same software tools used by the companies that surround us, we will be able to give students the technical skills and process knowledge that will prepare them for eventual employment by top companies locally and globally. Furthermore, since UGS is the leading supplier of PLM software in the automotive industry, this grant enhances our ability to expand our local industry partnership for the benefit of our teachers and students."

"This is an excellent opportunity for our students to gain real life experience while still in high school," said Dr. Joan C. Sergent, Superintendent of Schools-Utica Community Schools.

"UCS has created exceptional programs to increase awareness of career opportunities and to advance education in design, engineering and related fields," said Ed Arlin, executive vice president of UGS Corp. Global GM Account. "We are very pleased to be able to support these programs through this in-kind grant."



*Bishop Bose Bradford - Pastor of Pure Gospel Temple, UHC of America w/ UGS Employee Jerry Dovel*



*Tech Support Staff Ron Gray with Demitra Bell of the Jennings Neighborhood Outreach & her son Devonte Cannamore*



to enhance their technical skills. "In this world in which technology is so profoundly embedded, knowing how to use these tools has become a basic life skill. Today's technical challenges are unlocking opportunities for tomorrow.", says Ron Gray, Tech Support Staff -UGS.

## UGS / MTA Provides Helping Hand For Youth Displaced Workers

**St. Louis, MO.** -UGS Corp. and Manufacturing Training Alliance (MTA) recently formulated a partnership to facilitate career development opportunities in Advanced Manufactures for St. Louis area youth and displaced workers. MTA provides urban youth, dislocated workers and the underemployed access to hi-tech training and employment in the manufacturing industry. UGS provided a \$2.1M GO PLM grant to MTA including UGNX and Solid Edge software. "This grant allows our students to be exposed to the industry leading Product Lifecycle Management (PLM) Software, placing them at the cutting edge in hi-tech manufacturing," stated Jacob Johnson, President of MTA. MTA has enrolled over 100 students in this intensive hands-on program. "Each student receives training in shop math, blueprint reading, precision measuring and CAD. Students then move on to become Computer Numerical Controlled machine operators. The final component to the program is CAD where they get extensive training using Unigraphics 3-D software."

*The Computer Aided Manufacturing (CAM) Class  
Bob Voegele (MTA-Recruiter),  
Kevin Strong, Bryant Turner, Corbett Smith, David Lee,  
Woodrow Harris, Lyle Davis, William Culbreath and  
Jacob Johnson (MTA-President)*

**Steven Hartnett** a graduate of the first MTA CAD class is currently working as an engineer's assistant at Federal Mogul Headquarters in Wellston MO. "The MTA program helped open the door for me to get this job," stated Hartnett. "Without the help of the staff and the availability of the equipment in the CAD lab at MTA, I would not have been able to practice on my CAD skills and gain confidence to do all the things I do in my job."

**William Culbreath** and **Kevin Strong** are recent graduates of MTA. The two grads are now working as CNC operators earning \$11.50 with full benefits. "This program has really changed my life. I now have a good paying job and health insurance for my family. I want to continue learning more about CAD and use my tuition assistance to get my degree." Remarkd Culbreath. Strong, who graduated from high school over 10 years ago, had been working as a stock clerk and had taken several engineering classes at a local community college. "I really didn't know what I wanted to do, but I knew being a stock clerk wasn't it," Stated Strong. MTA gave me the training to get a good paying job and introduced me to Unigraphics. The staff gave me personal attention and mentoring to help me with math, blue print reading and measuring. "Manufacturing employers are looking for people with good basic skills and a general knowledge of the manufacturing process. There are 100's of jobs each year in advanced manufacturing. "Here at MTA we give them the skills to get the job," Stated Bob Voegele, Recruitment and Placement Director. "The UGS grant is critical to the success of MTA. Without it we could not provide this kind of training to the manufacturing workforce of tomorrow."



## Aspiring Engineers Prefer Solid Edge Technology

**Southfield, MI** -The Solid Edge Academic Partnership Program brings innovative 3D modeling into the classroom and dormitory. This feature provides more flexibility for students working on competitive projects e.g. the Society of Automotive Engineers (SAE) Formula teams. Already in place at more than 2,400 institutions worldwide, Solid Edge is open to accredited universities, colleges and high schools that wish to implement the same powerful 3D CAD software that allows manufacturing companies to design and achieve competitive advantage through cost reductions and improved quality. A number of Michigan's leading universities already have taken advantage of this program in support of existing PLM technology initiatives. Lawrence Technological University (LTU) for example, installed Solid Edge in the computer lab at the College of Engineering, as well as the laptops of all mechanical engineering students. This Southfield institution began to provide laptop computers to incoming freshman in 2001. The Academic Partnership Program made it possible for LTU to provide students with individual copies of Solid Edge for home use. "We are very please with the support we have received" said Steven Howell, Chair of Mechanical Engineering. "One of the things that make this decision easy is the licensing agreements. The license obtained through Oxford based reseller, CAM Logic (representing UGS) provided 4,000 software seats and 700 mechanical engineering undergraduates now have this software installed on their personal laptops. Empowering students as freshman with this state-of-the-art software really gives them an edge," Howell explains.

## Archway Systems and Solid Edge help drive EAST Program for Kids

**Eureka, CA**- During the 2004-05 school year, sixth through eighth-graders at Winship and Zane Middle Schools will create their own project-based learning lab similar to Eureka High School's EAST Lab. Eureka City Schools received

a competitive grant worth \$335,000 through Enhancing Education Through Technology (EETT) to offer the EAST Lab experience to its middle school students.

The national-award-winning EAST Lab (Environmental and Spatial Technology) is a student-driven high-tech learnin environment that connects the classroom with the community through a variety of service-learning projects.

Archway Systems Inc. in Huntington Beach, CA is a Solid Edge reseller that has been providing software, training and support to East Program schools in California, Arkansas, Louisiana, Illinois and Hawaii for the last three years. Solid Edge was selected as the mechanical design package for the program and the kids have loved designing with it - everything from skateboards to spacecraft.

According to Michelle Hutchins, the district's Learning Director for Educational Technology, EETT will benefit middle school students in much the same way that EAST teaches Eureka High students. "We have documented through student portfolios including journal reflections, that students in the EAST program have experienced improved attendance, increased interest in school, and are better prepared for employment and higher educational pursuits," said Hutchins. "EAST students initiated the writing of this grant application through their dedication and belief that students in grades 6 through 8 will greatly benefit. The EAST program promotes the creation of a dynamic learning environment in which students with all degrees of skills, experience, and aptitudes work together. While students concentrate on projects that foster academic growth, their teacher focuses on developing students' intellectual capacity and skills such as teambuilding, responsibility, accountability and personal initiative."



For information on

CAM Logic & Archway Systems;- see pg 10

## Northern Illinois University & UGS Expand Opportunities for Future Engineers

UGS' Global Opportunities in PLM (GO PLM) program enables students to experience real world methodologies used by leading industry employers

**DeKalb, IL** – Engineering students returning to Northern Illinois University in the fall will find an array of new software at their fingertips thanks to a \$14.25 million grant from UGS to the NIU College of Engineering and Engineering Technology. The grant provides a broad spectrum of UGS software for computer aided design (CAD), computer aided manufacturing (CAM), computer aided engineering (CAE) and collaborative visualization with advanced features such as finite element analysis, optimization programs and advanced solid modeling. The software will allow students to experience firsthand the current industry standards for managing the entire life cycle of a product from concept, through production, delivery, maintenance and retirement. "This grant allows us to put the latest in manufacturing, engineering and design software into the hands of our students, enabling them to develop the skills demanded by industries competing in today's global economy," said Promod Vohra, acting dean of NIU's College of Engineering and Engineering Technology who secured the grant. "Our engineering school has always been committed to providing our students with the most current, technologically relevant education possible to ensure that they have the skills demanded by the manufacturers of our region," said NIU President John Peters. "We at UGS believe that our GO PLM program is the strongest and most far reaching program in the Industry. The academic partnership element covers educational institutions around the world at many different levels. UGS is especially pleased by the opportunity to work with Northern Illinois University, one of the top education institution in Illinois", said Jon Heidorn, Vice-Pres. of Americas Marketing, UGS.



Dr. Promod Vohra



**Learn More :** [http://www.ugs.com/about\\_us/press/press.shtml?id=3779](http://www.ugs.com/about_us/press/press.shtml?id=3779)

## UGS Software Grant Accelerates Opportunities For Global University Students

Grant Will Help Students Gain Practical Experience With the Premier Product Lifecycle Management Technologies Used By Leading Global Manufacturing Companies

**Indianapolis, IN** – UGS, a leading global provider of product lifecycle management (PLM) software and services, and Global University (GU) announced an in-kind software grant that will prepare GU's graduates to more quickly and productively enter the corporate world. UGS provided Global University with industry leading software tools for product lifecycle management (PLM) with a commercial value of \$119 million. The in-kind grant, made through the Global University Foundation and UGS' GO PLM initiative, is the largest in GU's history. The UGS grant will allow students to gain practical experience with a full range of PLM technologies, including computer-aided design (CAD), computer-aided manufacturing (CAM), computer-aided engineering (CAE), visualization, digital manufacturing, collaboration, product data management (PDM) and engineering process management. GU's research plan calls for students to have simultaneous access to 3-dimensional data in specific applications for engineering, life-sciences, advanced manufacturing and other scientific courses and applications. "This is great for Global University, and we thank the people of UGS for making it happen," Said GU Chairman Dr.. Nema. "We are building our global visual collaboration infrastructure based on UGS' PLM technologies in addition to using it in classroom teaching and learning. This industry-leading software will have a very significant and positive impact on all three aspects of our mission. It will help us do an even better job of preparing students to get top jobs in industry. It will help us meet the critical research needs of industry. And it will provide the technology to help our partner industries be more competitive and achieve a higher return on investment," "This grant is proof that our effort is gaining momentum," Nema said. "It sends a clear message that GU is committed to becoming a premiere program, and UGS is helping us make that happen by providing software that will give our students a critical edge in the marketplace."



### Global University Consortium - Board of Advisors



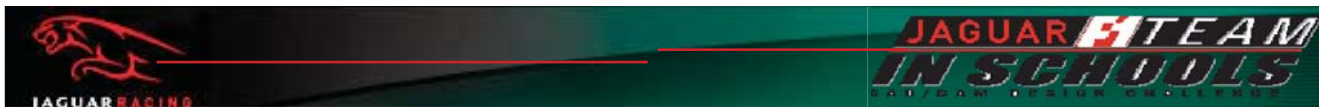
## Marquette University Expands Opportunities for Students to Gain Industry-Critical (PLM) Skills

UGS' Global Opportunities in PLM (GO PLM) program enables students to experience technologies used by leading industry employers

**Milwaukee, WI** – UGS, a leading global provider of product lifecycle management (PLM) software and services, presented Marquette University with an in-kind grant of its NX PLM software with a commercial value of over \$30.5 million. " This is very valuable because it allows us to further the fine educational experience we offer our students," says Dr. James Factor, Faculty Member of Marquette University. The grant, which follows a 2002 UGS software contribution valued at \$10.7 million will enable the university to enhance its mission of academic excellence, providing students with state-of-the-art product development technology and training that mirrors that of the professional world. This investment by UGS is the largest in-kind gift given to Marquette University and the largest gift ever received by the College of Engineering." He went on to say, "This software is considered a university resource for use by faculty for both research and for incorporation into university coursework." Dr. Factor is specifically using the software to build the foundation of cutting-edge geometric modeling lab. It will server as a state of the art tool for research analysis. Other divisions such as Chemistry, Biology and Engineering are going to incorporate UGNX in their curriculum. "We are proud to team with Marquette's strong academic leaders and gifted students," said Dave Shook, president of UGS' Americas central region. "Our expanding partnership with Marquette will enable us to strengthen the bond between UGS and our core customers by developing future employees that have experience with the newest developments in technology and design. It is crucial that students are trained in industry standards and gain practical knowledge of today's business."



Hulas King (UGS - GO PLM) with Marquette University Staff - Dr. James Factor



## Jaguar F1 in Schools Announces Winners

Middle and high school students compete in the inaugural CAD/CAM Design Challenge

**Nashville, TN** - Top middle and high school students were recognized for success in the inaugural Jaguar F1 Team in Schools CAD/CAM Design Challenge that was part of the National TSA 26th Anniversary Conference.



*Pictured from left to right: Andrew Denford, Chairman of F1 in Schools UK; Winners: Justin Wilcott, Alex DeRose, Will Ferry, Bloomsburg Area H. S. Ruth Lung, Manager, Sponsorship Marketing, UGS*

Students had the engineering opportunity of a lifetime: designing, building, and racing their very own model Formula One (F1) race cars. Denford, Pitsco, Jaguar, and BAE Systems – in cooperation with the Technology Student Association (TSA), UGS, and Pathtrace – presented the design challenge. Fifteen middle and high school teams composed of no more than six members each designed, analyzed, made, and tested their F1 race cars. Jaguar F1 Team in Schools competitions have attracted more than 20,000 students in England and are rapidly gaining an international foothold. The design challenge was initiated in the United Kingdom to raise student awareness of careers in engineering. After a successful start in the UK, South Africa, Australia, and Asia, sponsors chose to emphasize engineering careers to U.S. students as well.



Denford, Pitsco, and Jaguar united with UGS to introduce students to Solid Edge and industry standard equipment that helps them make informed engineering career choices. TSA students work with CAD/CAM software as they follow specific guidelines while constructing their F1 model race cars. Students create a 3-D prototype as they progress through design, manufacture, assembly, testing, and racing. They design everything from the car body to the wheels and axles, and they assemble the components after generating drawings of the race cars. CO2 cartridges provide the power during the races and are distributed at the events. **Learn More:** <http://www.f1inschools.us>.



*Upper Right: Prime Minister Tony Blair with F1 in Schools student  
 Below: 2 Jaguar Racing Driver w/ George Clooney, Brad Pitt, & Matt Damon  
 Lower Right: F1 Teams in South Africa and Asia Pacific*

## Society of Manufacturing Engineers ~ Great Lakes Region 6

2004 Region 6 3D Design Competition Results



The SME Great Lakes Region 6 Team in cooperation with UGS and Macomb Community College, hosted a design competition for student chapters in SME Great Lakes Region 6 using 3D solid modeling software (Unigraphics). The event was held at Macomb Community College in Warren, Michigan on Saturday March 6, 2004. Teams representing the SME student chapters at Macomb Community College, Eastern Michigan University and Western Michigan



University participated in the competition. Each team was given three weeks to parametrically design the necessary components and complete the assembly of the four-cylinder engine (shown here) at the school. The designs and the design logs showing the design progression were brought

*From Left to Right, Russ Rhoton (EMU), Jim Link (UGS), Milon Wild (EMU), Brian Bovair (EMU), Dan Wozniak (EMU), Rao Potru (GM), and Peter Klein (MCC)*

to the competition and demonstrated for the judges. Participants were asked to re engineer five interior components of a four-cylinder engine. The components ranged in complexity of their design, with the simplest being the connecting rod cap, and the most complex being the crankshaft. Participants were also asked to create an additional part (Wristpin) on their own. As a team they had to decide how to approach this overall task, and how to divide the individual tasks among members based on their skills. The team needed to complete the job with quality and innovation while maintaining program timing. The teams were judged for creativity and teamwork.

## PLM World ~ Design Competition



**Anaheim, CA** - PLM World and UGS Corp. co-sponsored a National Design Team competition for students during the PLM World Annual

Conference May of 04. Student competitions projects were drawn

*Dr. Zang & Dr. Lee -SIU Chairmen, PLM World Academic SIG*

from real world applications promoting effective and effective use of PLM software tools. In addition to a beautiful plaque the winning teams received cash awards of \$1500.00 for 1st place and \$1000.00 for 2nd place. Lehigh University received the 1st place award for design of a Composite Access Panel on a Chevy Kodia truck. "We are grateful to PLM World and UGS for creating a learning environment for students to participate in this outstanding competition," said Dr. John Ochs-Lehigh University. "The UG NX software allowed our team to evaluate several design options, currently saving time and providing value for our industry partners. The Southern Illinois University team won the 2nd place award. "The objective of our project was to develop parametric and associative functional operation 302 Cylinder Air-Cooling Engine Assembly Model," said Aaron Hainaut, ISU Team Leader. "Our model was able to support design and analysis and move to factory activities. Covering many phases of product life-cycle management. Unigraphics enabled us to integrate and deliver a great engine faster and more economically."

**Learn More:** <http://www.plmworld.com>

## UGS Boosts TenLinks' Bike Fund raiser with Solid Edge Grants

*At-Risk Youth and Displaced Workers are Benefactors of Unique Partnership to Provide Technology Career Opportunities*

**Novato, CA** - UGS Corp., a leading global provider of product lifecycle management (PLM) software and services, and TenLinks Inc. announced UGS Corp - GO PLM Programs will provide Solid Edge software grants to 31 youth development organizations in support of the TenLinks Bike Across America 2004 initiative to help needy students attain a technology education. GO PLM will provide site licenses of Solid Edge computer-aided design (CAD) software to selected institutions in 31 communities across the U.S. to complement the efforts of TenLinks CEO Roopinder Tara as he rides his bike 3,400 miles from Irvine, Calif. to Boston. The goal is to raise \$25,000 from company and individual sponsorships to create a scholarship for students who may not be able to attain a technology degree without financial help. The Solid Edge academic grants will supplement this goal and extend the reach of the program. GO PLM chose to offer 31 grants in honor of the number of days in Tara's journey. Youth development organizations and not-for-profit retraining programs across America are eligible to apply for Solid Edge academic grants during the ride. Electronic grant applications are available here. Hard copy grant forms can also be requested by calling (314 - 264 - 8655). "TenLinks is proud to partner with GO PLM in accelerating career development opportunities for at-risk youth and displaced workers," said Tara. "The Solid Edge grants will help these underutilized groups to gain practical experience with premier design tools used by leading global manufacturers." To date \$1.8 M of Solid Edge software have been granted to 23 schools.



Learn More: [http://www.tenlinks.com/NEWS/PR/ugs/solidedge/051904\\_tl\\_bike.htm](http://www.tenlinks.com/NEWS/PR/ugs/solidedge/051904_tl_bike.htm)



**Roopinder Tara & Dave Melvin (UGS - Acct Exec)**

## Principia Solar Car Takes Bronze in Athens

**Athens, Greece** - The Principia College Solar Car team recently returned from Greece with the Bronze medal for a third place finish in Peaton 2004, The Cultural Olympiad Tribute to Alternative Energy. When the Greek race officials asked the world solar challenge organizers in Australia to recommend a proven US team they responded, "you need to invite Principia College," says Joe Ritter, one of the two faculty advisors for the team. Principia's team proved they were the right choice by beating out the only other US team, Yale University, as well as three of the teams that topped their sixth place finish in the 2003 World Solar Challenge in Australia. One of these teams was sponsored by the European Space Agency, another Ford Motor Company of Australia. While the solar cars covered 807 kilometers total, the race itself consisted of the sprints of about three to seven kilometers each on winding roads and hill climbs up to 2,390 ft with numerous hairpin turns. "We have to make a lot of adjustments in driving strategy," says Science Professor Steve Shedd. "Our car (Ra V) is built for long distance endurance racing using a minimum amount of energy. Adjustments made to RaV's air gap prior to the race, essentially increased the number of gears the car had to work with. The use of Unigraphics has elevated us to another level of competition. UG allowed us to create a very aerodynamic body and lightweight frame, both of which are critical in fielding a competitive car."



The Principia Team in front of Famous Anropolis -



which are critical in fielding a competitive car."



## Knowledge Begets Knowledge ...

The 2004 Wireless Educators of the Year Award honors the achievements of two undergraduate instructors - one at the associate degree program level and one at baccalaureate degree program level - whose demonstrated leadership in wireless education is given a grade of "A+." Presented by the Global Wireless Education Consortium (GWEC), the award acknowledges the fundamental and foundational work of educators in preparing students for employment in the wireless and wireless-related industries.

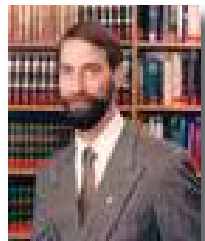
Learn more: <http://www.gwec.org>



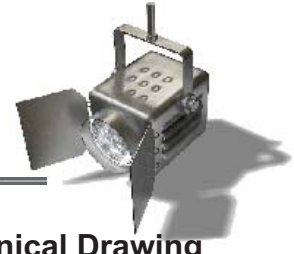
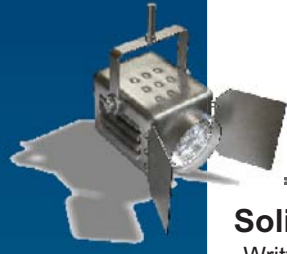
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Sr. Professor,  
Electronics &  
Computer Technology  
DeVry University, Chicago



Dr. Bruce A. Black  
Professor, Electronics &  
Computer Engineering  
Rose-Hulman Institute of Technology



# Featured Textbooks ...



## Solid Edge for Designers v15

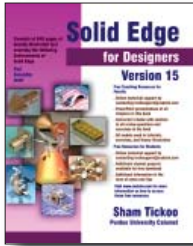
Written by Dr. Sham Tickoo with the tutorial point of view; learn-by-doing as the theme. Approx. 35 mechanical engineering industry examples are used as tutorials in this book and an additional 25 as exercises to ensure that the user can relate his knowledge of this book with the actual mechanical industry designs.

This textbook consists of 13 logically sequenced chapters covering the Part, Assembly, and Drafting environments of Solid Edge V15.

● Dr. Tickoo provides free technical support to all the users of this textbook. Contact: [techsupport@cadcim.com](mailto:techsupport@cadcim.com)

● Dr. Tickoo provides teachings aids free to faculty using this textbook. Contact: Dr. Tickoo [stickoo@calumet.purdue.edu](mailto:stickoo@calumet.purdue.edu) or [tickoo@cadcim.com](mailto:tickoo@cadcim.com)

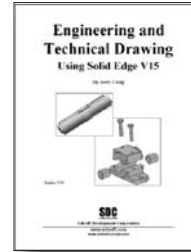
Learn More: <http://www.cadcim.com>



## Engineering and Technical Drawing Using Solid Edge v15

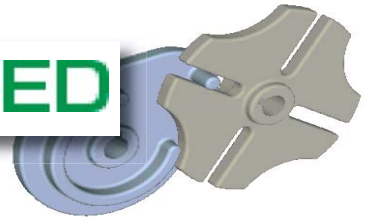
Written by Mr. Jerry Craig and published by Schroff Development Corporation (SDC Publication) This tutorial style introduction to Solid Edge V15 that covers modeling as well as the creation of working drawings. The net (wholesale) price to college / university bookstores is \$27.50. Additional information and sample chapter of the book are available Complimentary examination copies are available to instructors.

Learn More: <http://www.schroff.com>



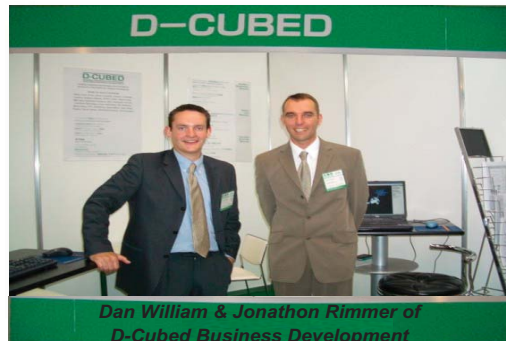
STUDENT / FACULTY  
RESOURCE CENTER

# D-CUBED



## UGS Offers D-Cubed Bundle for Academic Partners

Plano, TX and Cambridge, England – UGS recently announced the purchase of D Cubed Ltd, a Cambridge, England-based supplier of embedded technology used by virtually all of the world's leading computer-aided design (CAD) application developers and used for research in numerous universities



Dan William & Jonathon Rimmer of D-Cubed Business Development

around the world. D-Cubed develops and markets a suite of software component products that manage various aspects of geometric modelling functionality. The components are licensed by software development organizations for integration into their own end-user products. The majority of the world's leading mechanical CAD applications – including AutoCAD, CATIA, Inventor, One Space Designer, Solid Edge®, SolidWorks, thinkdesign, Unigraphics® NX, and many more – contain one or more of D-Cubed components, making its solutions the de facto industry standard.

These components are also highly valuable research tools for universities. Engineering faculties conducting research into the next generation of digital design, visualization and manufacturing systems benefit from the ability to include industry standard technology in support of their own innovations.

Institutions such as Arizona State University, York University Toronto, The University of Salford, UK and the Korea Advanced Institute of Science and Technology and many more are currently using one or more of D Cubed's components to allow them to conduct research into areas such as virtual reality interface design, advanced digital mock-up, haptic device interface software and virtual manufacturing. Using D-Cubed's components, application developers can rapidly deploy support for a wide range of modelling capabilities, including variational sketching, offsetting profiles, constraint based assembly, hidden line computation, collision detection and motion simulation With the addition of these 6 new products to the PLM Components portfolio, UGS has further reinforced its position as the premier provider of advanced PLM technology for research to the academic engineering community.

The D-Cube Academic Bundle Includes:

**2D Dimensional Constraint Manager (2D DCM)** - Recognized worldwide as the leading geometric constraint solver, the 2D DCM brings intuitive and highly productive sketching capabilities to CAD/CAM/CAE applications.

**Profile Geometry Manager (PGM)** - Enabling high-level sketch editing techniques, this innovative technology will reduce design-to-manufacture cycles in the next generation of PLM design systems.

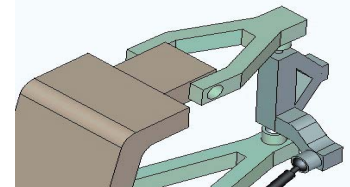
**3D Dimensional Constraint Manager (3D DCM)** - The 3D DCM has been integrated in most of the major mechanical CAD systems to provide constraint-based part/assembly modelling and 3D sketching capabilities.

**Assembly Engineering Manager (AEM)** :The AEM operates directly on 3D assemblies to provide interactive, contact-based motion simulation and to analysis the effects of a wide range of forces and mechanical devices.

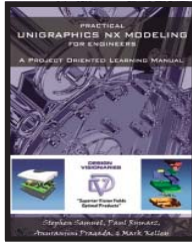
**Hidden Line Manager (HLM)** - The HLM computes accurate visibility information about 3D models for creating high quality engineering drawings and technical illustrations.

**Collision Detection Manager (CDM)** - The CDM detects collisions, measures clearance and computes touching solutions between assembly parts with exceptional speed and accuracy.

Learn More: <http://www.d-cubed.co.uk>



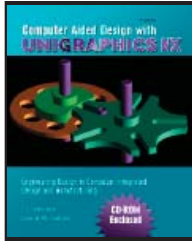
Here are the UGS recommended textbooks that are available in detail.



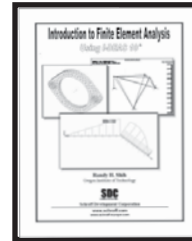
**Practical Unigraphics NX Modeling Engineers**  
 Author: Mr. Stephen M. Samuel  
 ISBN: 0-741-41582-8  
 Website: www.amazon.com



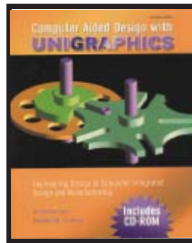
**I-DEAS Student Guide 1st Edition**  
 Author: Mr. Mark Lawry  
 ISBN : 0-07-246065-2  
 Website: www.amazon.com



**Computer Aided Design with Unigraphics NX 3rd Edition**  
 Authors: Dr. H. Felix Lee and Mr. David W. Fulton  
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 Website: www.kendallhunt.com



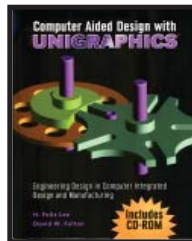
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 ISBN 1-58503-085-6 - V9  
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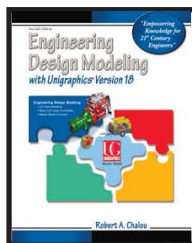
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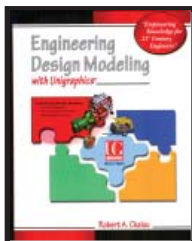
**Dr. Walt's Introduction to Solid Edge**  
 Author: Mr. Walter Silva  
 Website: www/docsilva.com



**Engineering Design Modeling with Unigraphics v18 2nd Edition**  
 Author: Dr. Robert Chalou  
 ISBN: 0-7872-9102-1  
 Website: www.kendallhunt.com



**Dr. Walt's Solid Edge Surfaces**  
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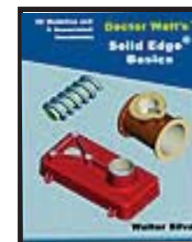
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**Dr. Walt's Solid Edge Assemblies**  
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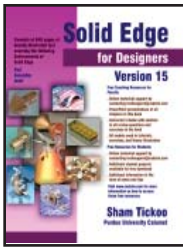


**I-DEAS Student Guide 2nd Edition**  
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**Dr. Walt's Solid Edge Basics**  
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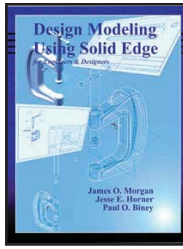
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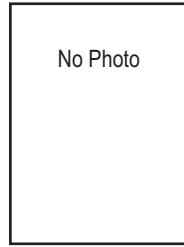
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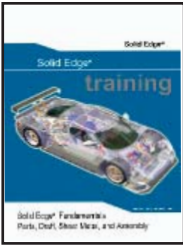
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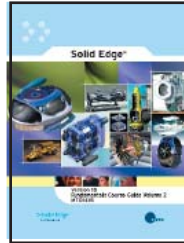
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**The Books About Solid Edge V6-14**  
 Author: Mr. John Haslam  
 Website: [www.cadcamtraining.com](http://www.cadcamtraining.com)



**Solid Edge Fundamentals**  
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 \*\*\*These books can be purchased by university bookstores where Solid Edge is part of the curriculum\*\*\*  
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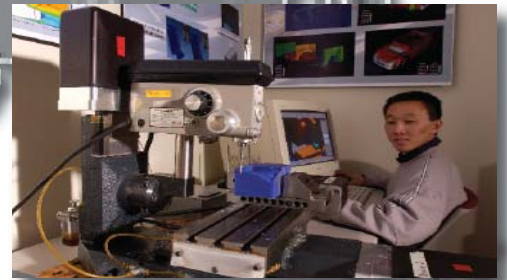
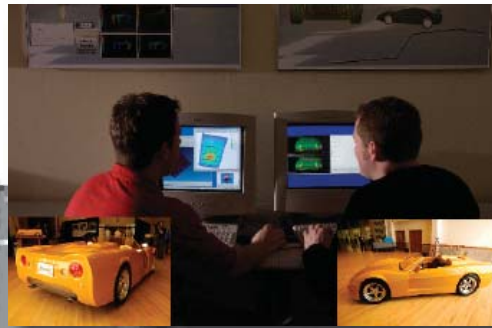


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