•PLM ~ Knowledge 21

"Empowering Knowledge for 21st Century Engineers"

Volume 1 Issue 3 September 2003

Inside this Issue:

Top Stories: Alabama A&M University Becomes Academic Partner Global Manufacturing Training Alliance Received Hardware / Software Grant from EDS ... Pg. 1

PACE:

Software/Hardware Grant to HTU

Students in Sweden using UG on the Volvo Aero Military Aircraft

PACE Partners Take Top Honors at Mini-Baja PACE Program Honored by Academic Magazine ... Pg. 2

Regional Productivity **Programs:**

SMU Hosts PLM Dean's Summit in Dallas, TX EDS Software Reaches Students in: Ghana and Estonia ... Pg. 3

Youth Development Programs:

F1 in Schools Inc. Comes to America EDS, Boeing & Emerson Partner with ABET Georgia Tech Host Pre-College Program ... Pg. 4

Academic Partnership Programs:

Three of the Four Top Finishers at American Solar Car Challenge - EDS Partners

EDS Software Grant Expands Career Opportunities at UB ... Pq. 5

Student / Faculty Info ~ Center...

Last, But Not Least:

AMIE Recognizes EDS STJU / EDS PLM Dedication in Shanghai ... Pg. 7

* Regional Productivity **Programs**



* Academic Partnership Program

Global Strategic Partnerships 13690 Riverport Dr. MC 285

Maryland Heights, MO. 63043

* PACE

* Youth Development Programs

... adding value through Industry, Government, Academic, and Community Leadership

Alabama A & M University Partners with **EDS to Create State of the Art Engineering School**

Normal, AL - EDS in an effort to improve the technical stature of future technologists and engineers has granted \$63M in software to Alabama A&M University State of the Art Engineering School. The School of





Engineering and Technology provides educational opportunities for students with interest in teaching or careers in the industrial or technical areas. The various curricula in the School have been planed and organized in such a way that students may receive, not only a broad knowl-

edge of those areas, but intensive training in their field as well. "EDS is proud to be affiliated with such a prestigious institution with a long history of diversity and academic excellence, " said Mr. Hulas King - Director EDS PLM Solutions Global Strategic Partnerships. Dr. Arthur Bond, Dean of Engineering, said, "We are grateful to EDS for such a generous grant. My staff and students are anxious to get started and apply this knowledge in real world PLM applications." Read More:

http://www.aamu.edu/engineering/default.html



St. Louis, MO - EDS, through it's Youth Development Program has granted Computer equipment and software to the Manufacturing Training Alliance, in support of their efforts to move disadvantage youth and underemployed adults into entry level jobs in the Manufacturing industry. The Manufacturing Training Alliance is a not-for-profit establishment designed to provide educational

skills and training in computer technology, engineering and drafting for youth and unemployed adults. "There are good entry level jobs in the manufacturing industry, but require certain

technical skills. We appreciate

ESD' commitment to our students and

faculty said Jacob Johnson, Executive

Director for the Alliance.

Mr. Bob Parr of EDS PLM Solutions, with Mr. Bob Voegele , Mr. William Gliiispie Mr. Stephen Hartnett of the Global Training Alliance



PACE Grant Adds Value to HTU Engineering Education

Trollhättan Sweden -The festive event at the University of Trollhät-



tan/ Uddevalla (HTU), celebrated the HTU as the first Swedish university to be accepted to the worldwide network of PACE Academic Partners. PACE will support HTU with software, hardware, automotive manufacturing components as well as training and techni-

cal support. This assistance is a big boost for HTU in its continuous efforts to implement highly qualified computer-aided technology in the education of future engineers and scientists. Professor **Lars Ekedahl**, Vice-Chancellor of the HTU, regards the PACE membership as both a recognition and an incentive. "Being a fairly young institution, we are proud to now receive international recognition as a leading university in the area of CAD/CAM/CAE education." said Ekedahl.

Read More:

http://www.pacepartners.org/press_releases/11-apr-2003.html

Example: Two students from HTU, did degree work for Volvo Aero Military Aircraft division, taking the Uni-



graphics NX suite to new levels. The task was to analyze and optimize a linkage in the Saab Gripen fighter aircraft jet-engine for supersonic flight at low altitude. In order to optimize the

forces in the linkage, external measured forces were applied to a Unigraphics Scenario for Motion model. The internal forces were analyzed and correlated to measured results and an optimization was performed in order to reduce the forces. The most stressed components were subsequently analyzed using Unigraphics Scenario for Structures. Matthijs Klomp, at the Mechanical Engineering Department of HTU comments: "The ease of use, and the power of the tools which are integrated within the NX environment, enabled

our students to excel in the task which was given. By using Unigraphics NX Scenario for Motion a 40% torque reduction in the critical joint was achieved, solving the problem for Volvo Aero.



PACE in the News: Virginia Tech Magazine Tells of Great PACE Program

Blacksburg, VA - When Virginia Tech, along with other top engineering schools such as MIT and the University of Michigan, became a member of PACE (Partners for the Advancement of Collaborative Engineering Education) in spring 2002, the university's engineering students tapped into the pulse of cutting-edge, high-powered technology. PACE corporate partners donated a package that ranks as the largest contribution of computer software, hardware, and training to Virginia Tech to date. Because PACE has the potential to change the face of engineering around the world, mechanical engineering professor Dr. Jan Helge Bohn has proposed the formation of a worldwide, 24-hours-a-day, seven-days-a-week collaborative product develop-



ment across international time zones with PACE industry and academic partners.

Read More:

http://www.vtmagazine.vt.edu/sum03/philanthropy.html

PACE Gets a New Identity

As of April 1st, PACE

changed what the letters P-A-C-E stand for.

To reflect the growing importance of collaboration in the design and manufacturing process

PACE will now stand for

"Partners for the Advancement of Collaborative Engineering Education".

Visit the PACE website http://www.pacepartners.org/





PACE Partner Takes Top Honors at 2003 Mini Baja Competition

Provo, UT - The Mini Baja;- an off-road vehicle that is built to survive the severe punishment dished out by the weather and topography. It undergoes various tests: maneuverability, acceleration, braking, hill climb, sled pull, and a 3 hour endurance race. Brigham Young University beat Oregon State University to take first place in the 2003 Mini-Baja West Competition. Vehicle No. 5, a BYU senior team creation, took home top honors, thanks in part to first place finishes in engineering design and technical sales presenta-

tion events. "It was an excellent finish to my school career and my Baja career," said senior team captain Scott Hill, who had participated in three previous contests.

PLM Knowledge 21 FDS Page 2



SMU Hosts Engineering Deans **PLM Summit**



Dallas, TX - An Engineering Deans PLM Summit was held at Southern Methodist University, July 7th in Dallas, Texas. The major objectives of the summit were to discuss PLM curriculum strategies for next generation

Dr. Bond , Mr. Affuso, Dr. Szygenda

engineers and to review common areas for joint partnerships with industry. The INFINITY Project was reviewed to develop a pipe-line of

high school students going into technical career fields. Tony Affuso, President of EDS PLM Solutions was recognized by Tuskegee University, Brigham Young University and Alabama A&M University for outstanding support of Academic Partners.

Summit Attendees included:

- Dr. Robert Mitchell (UM- Rolla),
- * Dr. Rav Ebert (Purdue U)
- * Ms. Charlene Edwards (EDS).
- * Dr. Doug Cabries (BYU),
- * Dr. Arthur Bond (AMU),
- * Dr. Stephen Szygenda (SMU),
- * Dr. Vijgay Vaidyanathan ,
- * Dr. Oscar Garcia (UNT),
- * Dr. Ching-Jen Chen (FA&M/ FSU),
- * Dr. Geoffory Orsak (SMU),
- * Dr. Milton Bryant (PVA&M)
- * Dr. Legend Burge (TU),
- * Ms. Mary Ann Anderson (SMU),
- * Mr. Tony Affuso (EDS)
- * Mr. Hulas King (EDS)
- * Mr. Grady Searcy (EDS)



Read More about the INIFINITY Project:

http://www.infinity-project.org/

EDS PLM Awards PLM Grant to the Kwame Nkrumah University of Science & **Technology in Ghana:**

KNUST/ EDS Partnership facilitates Regional Productivity



Dr. Morgan and Dr. Biney w/ workshop attendees & Dr. Abeeku Brew-Hammond Kumasi, Ghana - The Kwame Nkrumah University of Science and Technology (KNUST) received an Academic Grant Award from EDS for 100 seats of Solid Edge Software, valued at \$501,000.00. In addition to the grant, Dr. James Morgan & Dr. Paul Biney of Prairie View A &

M University conducted a one week workshop on the "Application of Modern Design Modeling using Solid Edge" for the faculty of the School of Engineering at KNUST. Over 25 lectures and teaching assistants attended this workshop. Dr. Brew-Hammond (KNUST Department Head-Mechanical Engineering stated, "The faculty and teaching assistants were highly impressed with the ease of use and advanced modeling features of Solid Edge." Solid Edge has been



adopted as the primary Solid Modeler for the engineering programs at the university. Dr. Brew-Hammond stated, "We are grateful to EDS and Prairie View A&M for their tremendous support of our region and students." KNUST is the premier Technical Institution in Ghana, training engineers for Western Africa and beyond.

Read More:

http://www.knust.edu.gh/

EDS Makes \$1.8 million Worth of its Solid Edge CAD Software Available to Students in Estonia's Leading Technical Education Establishments

mainstream mechanical design software in several universities and colleges of further education in Estonia. The action was part of a programme to make the latest 3D solid modelling design technologies more widely available to engineering students in the emerging



Eastern European countries. At full commercial value, the software and services provided by EDS are worth \$1.8 million. Students at Tallinn Technical University, Tallinn Pedagogical University, the Estonian Academy of Arts Department of Architecture and Urban

Camberley, UK - EDS announced it has recently implemented nearly 200 licences of its Solid Edge

Tallinn Technical University (TTU)

Estonian Academy of Arts Department of Architecture and Urban Planning

Tartu Aviation College

Planning and Tartu Aviation College are among those to benefit from the latest version of Solid Edge. The software has been installed and is supported by EDS PLM Solutions' value-added reseller in Estonia, Pro-STEP OU. "It is vital to the future success of Estonia's manufacturing and engineering industry sectors that our design engineers have the latest

skills and a full understanding of the benefits of today's design technologies," said Indrek Kiolein, managing director, Pro-STEP. "This implementation of Solid Edge in these universities and colleges will not only aid the students' learning processes and ensure that they are familiar with state-of-the-art CAD software but will also full fill the needs of Estonian industry."





Youth Development Programs



Develop advanced manufacturing career opportunities for at risk youths and displaced workers

F1 in Schools Inc. and EDS Partner to Develop Future Automotive Engineers

Orlando, FL – EDS and the F1 in Schools Inc. announced that they have joined together to offer the



engineering opportunity of a lifetime to middle and high school students. Thanks to this partnership students are now capable of designing, building, and racing their very own Formula 1 racecars on an international basis. "Our companies have united in this common goal of introducing students to industry-standard PLM Solid Edge Software to help them make informed engineering career choices," said Harvey Dean, Executive Board Member of F1 in Schools Inc. "We are proud and honored to be a key element in the International F1 in Schools



Inc. Program, preparing high school and junior high school students to be 21st century engineers and technologist," said Steve Brown, President of EDS PLM Solutions Solid Edge – Americas. The Jaguar F1 in Schools Inc. competition has attached more than 6,000 students in

Pictured from left to right is Les Radcliff – Jaguar,
the First Place EDS Design winners Bloomburg High School, PA,
Andrew Denford –CEO of Denford Ltd &
Lonny Greer, EDS PLM Solutions Regional Product Manager.

England and is
rapidly gaining a
foothold in South
Africa, Australia,

Asia and the U. S. This design challenge was initiated to raise the awareness of engineering among students.

Boeing, Emerson and EDS Partner in the World of Academics



St. Louis, MO – EDS, the Boeing Company and Emerson Motor Technologies are the latest industry partners to help foster continuous quality improvement in technology education through the support of the ABET/NSF Technological Education Initiative (TEI).

Keith Rice, Pat Kruse (EDS) Peggy Weeks , Fred Emshousen (ABET) Dr. Askook Agrwal - SLCC Flo-Valley TEI's innovative workshops for engineering technology faculty are having a notable impact on

continuous quality improvement processes at college campuses around the nation. The workshops focus on giving teachers the tools to implement CQI within their technology programs with a unique blend of traditional hands-on group work and special industry interaction. The TEI workshops are managed by ABET, Inc., a strong proponent of continuous program improvement processes and the recognized accrediting body for college programs in engineering technology. The three-day workshops began with Emerging Technologies Day, which are held onsite at the industry partners' campuses. Over 100 Academic Partners attended the workshop in St. Louis. EDS hosted the 1st day with a diner reception and

continuous improvement presentations from Pat Kruse, Keith Rice and Al Del Rosario. Industries benefit as well, from these workshops by helping to ensure the quality of future employees. The industry faculty relationships formed during these

workshops are intended to be long-term.



EMERSON.

Georgia Tech Hosts Pre-College Engineering Program; - Using I-DEAS

Atlanta, GA - Georgia Institute of Technology, in an effort to bring engineering to high school students implemented, the Office of Minority and



Special Programs (**OMSP**) in 1968 to address the academic cycle of pre-college students perusing math, science and engineering. The goal of OMSP is to conduct educational outreach activities geared toward underrepresented groups by offering pre-college programs. These programs inform, expose, and encourage students to consider the field of engineering at both the graduate and undergraduate levels and expand the minority engineering pipeline at every segment. Once such programs is: **Sophomores Exploring Engineering (SEE)** The

Sophomores Exploring Engineering (SEE) program is a two-week program that is open to rising tenth grade students who demonstrate a consistent interest and aptitude in mathemat-

ics and science. SEE features some lectures, a field trip, hands-on experimentation, group projects, and competitions. It is designed to increase and stimulate students' interest in engneering and motivate them to take the appropriate upper-level courses in high school. "Over a course of 10 hours we introduce 42 sophomores from area high schools to CAD using I-DEAS," said Mr. Tord Dennis, Research Engineer, Georgia Institute of Technology. "The students were taught, assembly, creating an assembly, adding parts to an assembly and modifying an assembly all using I-DEAS." The final assembly exercise

was to create a Lego plan with all the parts using I-DEAS. "This was a very successful outreach, upon completion each student was given a Solid Edge CD of their own and was encouraged to inform their schools of CAD and possibly adding it to their curriculum.

Read More:

http://www.coe.gatech.edu/omsp/programs/

PLM Knowledge 21 FDS Page 4



EDS Product Lifecycle Management (PLM) Software Drives Design of Three of the Top Four Finishers in the American Solar Car Challenge

St. Louis, MO - EDS announced three of the top four overall finishers in this year's American Solar Car Challenge (ASC) - the world's longest solar car race - were EDS Academic Partner institutions using EDS product lifecycle management (PLM) software to design, test, build and support their vehicles. The winning entries included the University of Missouri-Rolla (1st place), the University of Waterloo (3rd place) and Principia College (4th place). "EDS has been an outstanding partner in helping academic institutions to obtain state-of-the-art PLM software," said Dr. Robert Mitchell, dean of the School of Engineering, University of Missouri-Rolla. "They have also provided training and encouraged academic, industry and government partnerships in programs like the ASC,

the China Solar Challenge and PACE (Partners for the Advancement of Collaborative Engineering Education). "Due to the availability of this software, our students' experience with it and the outstanding capabilities of our students, we were able to design one of the lightest, most reliable high-performance solar cars, finishing the race more than four and one-half hours ahead of the competition and setting a new record for the race." This year the University of Waterloo team redesigned their entry to reduce the height and improve performance. "The use of EDS' I-DEAS NX Series (computer-aided design, manufacturing and engineering analysis) software in designing Midnight Sun VII allowed the simultaneous design of both the outer shell and the inner frame structure to provide for maximum aerodynamic benefit while maintaining a safe and efficient inner structure," said Greg Thompson, Technical Director for the project. "I-deas allowed the team to bring together each piece of the solar car prior to manufacturing, thereby allowing the team to reduce the size and weight of the solar car and improve its competitiveness." Small Academic Partners such as Principia College also benefited from the use of EDS PLM software. With an enrollment of less than 600 students, Principia recorded a fourth place finish, improving over a seventh place finish in ASC 2001. "The use of EDS PLM software



alo

UNIVERSITY OF MISSOURI-ROLLA

has elevated us to another level of competition," said Steve Shedd, information technology professor at Principia College. "EDS' Unigraphics NX software allowed us to create a very aerodynamic body and lightweight frame, both of which are critical in fielding a competitive car." Long and Winding Road Starting in Chicago on July 13, competitors proceeded along historic Route 66, ultimately finishing in Claremont, Calif. 10 days later. With a require-The PRINCIPIA ment to rely only on solar energy for power, the challenge to the student

Waterloo

teams was to design cars that were aerodynamic, lightweight and reliable enough to meet the real-life obstacles of this grueling race. Bruce Feldt, EDS PLM Solutions' vice president for PLM Open, was in Claremont to hand out awards at the end of the race. "EDS is committed to helping improve the technical capabilities of academic institutions and their ability to develop top-notch PLM engineers and technologists for our global communities, customers and business partners," said Feldt.

EDS Software Grant Expands Career Opportunities For Students At State University of New York @ Buffalo (UB)

Prof. William R. Greiner -UB President and Mr. Hulas King - GSP Director

Buffalo, NY -- EDS announced it will help expand technology education programs at the State University of New York at Buffalo (UB) with an in-kind grant of product lifecycle management (PLM) software to the University's School of Engineering and Applied Sciences (SEAS). The commercial value of the grant is approximately \$53.5 million, making it the largest grant in UB history. In a press conference today, UB president William R. Greiner an-

nounced that the grant also pushes UB's fundraising campaign "The Campaign for UB: Generation to Generation" over its goal of \$250 million. "We are tremendously grateful to EDS for their extraordinary leadership in providing this historic and

groundbreaking grant to UB -- a grant that is both visionary in both scope and content," Greiner noted. "This revolutionary software is a major advancement for UB and for the School of Engineering and Applied Sciences, ensuring that SEAS remains at the cutting edge of engineering education and professional preparation," he added. Since this technology is utilized by industry leaders, our engineering students not only will become fluent in industry standards, but literally will have the future of engineering at their fingertips." The comprehensive suite of software solutions will allow students to gain practical real-world experience with PLM technologies, including Computer Aided Design (CAD), Computer Aided Manufacturing (CAM), Computer Aided engineering (CAE), visualization, digital manufacturing and engineering process management.

Read More: http://www.eds.com/news/news release template.shtml?rowid=3422



Student / Faculty Info ~ Center



- Featu

Featured Textbook



The New Edition is OUT

Computer Aided Design with Unigraphics" NX – 3rd Edition by H. Felix Lee & David W. Fulton ISBN: 0-7575-0472-8



Computer Aided Design with

Unigraphics NX introduces CAD and focuses on 3-D solid and assembly modeling to support various engineering design projects. The key features and functionalities of Unigraphics CAD that are

most commonly used in engineering design modeling are coherently organized throughout the text. Parametric and associative modeling are also introduced to capture design intent and easy changes of designs.

This book can serve as a stand-alone text for Engineering Design or entry-level CAD/CAM courses

in colleges and universities. It can also be used for Engineering Drawing courses that cover 3-D modeling. No prerequisite is required!



4050 Westmark Dr. PO Box 1840 Dubuque, IA 52004-1840

To reserve your complimentary copy ~ For Adoption consideration: Call Jeff Palmer at (800) 247-3458, ext. 7 email:jpalmer@kendallhunt.com



Training Manual Ordering Procedures for Academic Partners

Solid Edge Academic Partners can order Solid Edge training manuals by following this procedure:

- Academic Partner (Bookstore) contacts Tony Logan (Solid Edge Learning Media Group - Huntsville, AL)
 - * 256-705-2670
 - * 256-705-2695 (fax)
 - * tony.logan@eds.com
- On the order specify the following:
 - * Course
 - * Version
 - * Quantity
- Fax order to Tony Logan, make sure the fax includes a shipping address, billing address, contact name and contact phone #

NOTE: As of July 1, 2003 there is no return policy

Important Links:



http://www.journeyed.com/asp/search.asp

Check out our Academic Partners:

GEM: The National Consortium for Graduate Degrees for Minorities in Engineering and Sciences Inc.



GEM and EDS have joined together to offer world-class PLM software for use as GEM Programs Graduate Engineering and Sciences Program.

click the link order & yours today ...

Read More: Http://www.gemfellowship.org

Design News: Online Engineering Magazine Click and Subscribe NOW...



http://www.zinio.com/offer?issn=00119407W&of=pfedu&bd=1&rf=edu

Educators-Contact Us for Desk Copies, Special Pricing!!! Call Today!! 973-364-1120

"The Must Have Guides to Surface Modeling in Solid Edge V14"

Doctor Walt's Solid Edge Surfaces.



The text concentrates on the interplay of surface and solids tools in a hybrid modeling environment. **\$64.95**

Doctor Walt's Solid Edge Basics: The must-have guide to part modeling and the creation of associated draft documents in Solid Edge. **\$64.95**.



Doctor Walt's Solid Edge Assemblies:

Using a proven approach to CAD instruc-



Conceptual Product Development, Inc. 175 Fairfield Ave. Unit 4A. West Caldwell, NJ 07006 TEL: 973-364-1120 FAX: 973-364-1126

email: docwalt@erols.com website: www.docwalt.com

ACADEMIC SPECIALS

ACADEMIC CARTON PRICES (Ten Books per Carton)

Doctor Walt's Solid Edge Basics \$500
Doctor Walt's Solid Edge Assemblies \$400
Doctor Walt's Solid Edge Surface \$450

PLM Knowledge 21 Page 6



Last ... But Not Least



AMIE recognizes EDS: Award transcends the theme, "The Magic of Engineering in the 21st Century"

Orlando, FL. AMIE (Advancing Minorities' Interest in Engineering) recognized EDS, 4 Sept 03, for outstanding support of HBCU (Historical Black Colleges and Universities) Engineering Programs during its 10th National Conference at Walt Disney World. "EDS realizes the advantages of achieving

diversity through partnerships. "says Grady Searcy, EDS Managing Director of Diversity and Center of Learning. "We promote the future of engineering excellence through our alliances with HBCU's. We understand the value of diversity with our clients, our employees, and the communities in which we do business. We recognize that it takes diverse talent and thinking to help business and government develop innovative solutions to meet the ever changing demands of the digital marketplace." AMIE is a nonprofit organization created to provide a proactive approach to fostering diversity as an essential business strategy. "Our relationships with HBCU's through AMIE support our commitment to education - a cornerstone for our philanthropy as well as our commitment to diversity."

Read More: http://www.blackengineer.com/artman/publish/article 146.shtml)



(AMIE) Board Members & HBCU Engineering Deans at Disney World with Mickey Mouse and Minnie Mouse.

EDS Grant to Shanghai's Tongji University Worth \$96 Million

Academic Grant To Establish State-of-the-Art Technology Programs At One of China's Leading Universities

ony Affuso, President EDS PLU Solutions changhai's Mayor Wan, dedicating Tongji-EDS Virtual Automotive Development

Plano, TX and Shanghai, China,

EDS PLM Solutions announced a significant grant of product lifecycle management (PLM) software for the Automotive School Shanghai Tongji University (STJU). With an estimated

commercial value of US \$96 million, the grant is designed to enable the university to support automotive engineering educa-

tion initiatives and establish a state-of-the-art automotive development center. "On behalf of Shanghai Tongji University, I want to express sincere appreciation to EDS PLM Solutions for making this industry-leading software available to the school," said Dr. Gang Wan, Chancellor of Tongji University. "It will enable our students to make significant contributions to the Chinese manufacturing industry upon graduation and has enabled us to establish the new Tongji-EDS Automobile Virtual Development Center, a place where students, faculty and our industry partners can benefit from the latest digital design and manufacturing technologies and research."

Read More:

http://www.tenlinks.com/NEWS/PR/eds/090903 shanghai.htm

DESIGN WITH SOLID EDGE AND WIN!

Enter the Solid Edge Quarterly
Global Design Contest
Sixth Annual Solid Edge Grand Prize contest.
Click the link to find out more ...

http://www.solidedge.com/gallery/designs/contest.htm

Don't Forget!

FREE PLM Software Training

Center Based:

Global Strategic Partnerships offers more than 70 PLM Solutions instructor– led courses at 20 locations, convenient to most metro areas. Visit the EDS learning portal to search for upcoming classes, let us know and we'll send you a class request form... that's it !!!

*** This training is offered to all instructors, teachers, professors and trainers ***

http://education.plms-eds.com



CAST Online Self Teach Modules:

CAST (Computer Assisted Self Teach) is a library of self-paced tutorials covering all the major applications of the Unigraphics NX CAD/CAM/CAE software.

*** This training is for academics only, you must have a "edu" email address to log on ***

http://cast.plms-eds.com



