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Not satisfied with their dominance in the world of 3D CAD, Dassault Systèmes recently launched its own visualisation format. 3D XML is a universal lightweight XML-based standard for quick and easy sharing of 3D data... [|Read More|](#)

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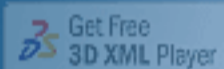
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IPECO Drives Productivity Gains Through the Deployment of CATIA and SMARTEAM
by Darren Cairns

IPECO Holdings Limited is a group of specialised engineering businesses whose core activities include the manufacture of flight deck and cabin interior equipment for the aircraft industry. Based in Southend, Essex, IPECO Seating Products produce seats for a number of the world's major airlines as well as the executive and military aircraft markets. IPECO crew seats are the preferred choice of over 300 airlines and operators with more than 45,000 seats in service.

Intrinsys has had a successful working relationship with IPECO since 2002 with the first project, to migrate the companies existing CATIA V4 capability to V5. Following this migration, engineers quickly recognised the benefits offered by the toolset and embraced the software with enthusiasm. Continued growth of the business means that IPECO now employ 14 seats of V5.



Ipeco is the leading supplier of flight deck and specialist crew seating

Increased design productivity requires more comprehensive data management.

Following the rapid take-up of CATIA V5, IPECO took the decision to investigate the full PLM capability offered by the SMARTEAM product suite, with a view to implementing a PDM system. SMARTEAM was proposed as the backbone for the engineering design group.

Technology workshops were conducted by Intrinsys to evaluate SMARTEAM 'out of the box' functionality and identify how it may be configured and customised to meet IPECO's business needs. The results of this work were positive and development of a production system was given the go-ahead.

Extensive customisation was undertaken to streamline the way the product is used within the business, resulting in IPECO now being viewed as a world leader in the use of SMARTEAM. With the implementation now complete, CATIA V5 and SMARTEAM are in full productive use facilitating the design and manufacture of a wide range of crew seats for a variety of applications including the BOEING 787 Dreamliner.

"Over the last couple of years the company has been extremely successful and been awarded a number of major projects. The deployment of CATIA and SMARTEAM within the design department has allowed us to support this workload and we are now looking to widen the exposure of SMARTEAM within the company in order to provide greater collaboration between internal departments. Intrinsys has been a significant partner and supported us with the implementation, training and software customisation to suit our business needs" says Dave Scott, Technical Director, IPECO.

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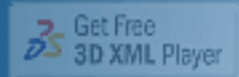

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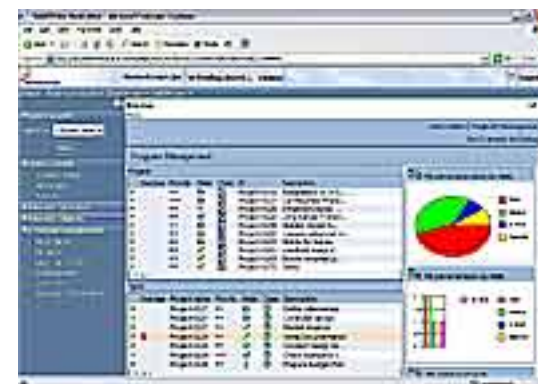
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SMARTEAM - Programme Management
by Graham Keating

A true understanding of a product development requires an appreciation of how a product is described (documents, BOMs, etc.) and the process of developing it (tasks, time, resources etc.). Whenever an organisation considers development of a new product, there is strong motivation to capitalise on past experience and reuse knowledge.

Traditionally, project and product knowledge are managed by two different systems - Project Management systems (such as Microsoft® Project) and PLM systems (such as SMARTEAM) respectively. This segregated approach has the following shortcomings:



SMARTEAM Programme Management Module

- A PLM system allows easy retrieval of product-related knowledge (drawings, BOM's etc.) making it easy to answer questions such as "What was in the previous product?" and "What parts do I need to purchase?" but is almost impossible to answer questions such as "How much will it cost?", "How long will it take?"
- A project management system makes it easy to reuse past project timelines but difficult to retrieve documents and other deliverables associated with the project.

SMARTEAM - Program Management (PGM) provides a collaborative & integrated environment where both project & product knowledge can be managed in a controlled manner across a team.

Business Benefit		
Domain	Business Issue	PGM Solution
Decision support	Decisions are not based on up-to-date, reliable and clear information.	Guarantee that problems and deviations from the global plan are identified before they happen. Identify and treat bottlenecks.
Project Lifecycle Management	Hard to determine the current status of projects, impossible to assure the integrity of the project.	Business rules govern what can be done in each state and what the conditions are before a state can be promoted to the next state.
Reuse	Company's practices and processes are not repeatable, project knowledge is not systematically stored for reuse.	Reuse of project know-how and standard practices. Use of project templates, predict and prevent risks based on previous project experience.
Productivity	Hard to know what to do and when to do it, hard to locate task assets and task dependencies.	Increase in overall productivity. Be aware of your tasks and their dependencies. Associate tasks with any other type of information.
Resource Management	Information on resources not shared between projects, difficult to assign a resource based on its capabilities or properties (Security, maintenance)	All resources are stored and managed, and can be used across multiple projects and tasks. Keep rich information for each resource. Project-based authorisations.
Collaboration	Project information not accessible to everybody, hard to work in large distributed teams, miscommunication	Project information in one place, accessible to all. Supports collaboration and management of large product development teams.

The area in which SMARTEAM excels is collaboration and product lifecycle management, while project planning is the core competency of systems such as Microsoft Project and Primavera. PGM delivers useful Program Management capabilities that complement the project planning tools, rather than competing with them. PGM provides the means to store and manage a project plan (created in Microsoft Project, for example) and to allow people from across the enterprise to access and make collaborative use of this knowledge.

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CATIA V5 R16 Seminar Report
by Andrew Early

In February, Intrinsys welcomed around 20 customers to gain a better understanding of what CATIA and SMARTEAM products had to offer at release 16.

The seminar commenced with an overview of the new products and enhancements announced with R16 and a live demonstration of the more detailed improvements that users might notice on a day-to-day basis. This was reinforced with a 'Hints & Tips' session showing a few tricks that attendees might not be aware of.



CATIA V5 R16 Seminar

One of our resident SMARTEAM experts, Graham Keating, gave a memorable demonstration of how SMARTEAM can become the hub of an engineering business. The ability to manage data from a seemingly endless list of sources (including FEA and NC) and to bring order to multi-disciplinary engineering projects with workflow and web access, struck a chord with the audience who were impressed with how SMARTEAM made this all so seamless.

Derek Bailey showcased the CATIA Finite Element Analysis workbenches. Drawing on work done for our engineering consultancy business, Derek showed how CATIA V5 Analysis could be used by designers to get results without the need for weeks of training. For more complex analysis cases a selection of Analysis Templates were demonstrated. These templates may be set up by specialists for use by designers on parts or assemblies that fit the template criteria.

Finally, our visitors were treated to a display of Imagine & Shape. Introduced at R14, new sub-division surface technology is used to deliver a product that is unique in the market place. Aimed at styling and product design, users can simply drag simple primitive shapes into complex 3D forms without the need to set up reference geometry etc. Mike Russell, our tame product design specialist gave a virtuoso demonstration of the product, which certainly caught the imagination of the audience.

Once again the post-seminar audience feedback was overwhelmingly positive, encouraging us to run more of these types of events. Watch this space for advanced warning of our next seminar, and feel free to contact us with suggestions for seminar content that would be of interest to you and others – they are for your benefit after all!

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The New Intrinsys Point Support System
by Ghassan Sultan and Ross Baines

This spring Intrinsys is offering all existing and new customers the opportunity to invest in a comprehensive support agreement. Entitlement to support is based on a points system, with one point equivalent to 15 minutes of support. 3 distinct levels of support package have been introduced, the details of which are outlined below:



Intrinsys Support Centre

Level 1 [CATIA] – 32 points

- Telephone support – 15 minutes support consumes 1 point
- Hints, tips & FAQ's – Access to Website containing useful hints, tips & FAQ's.
- Software download - Provision of a secure and confidential download area facilitating transfer of data from consultant to client.
- Data upload – Provision of a secure and confidential upload area to enable the transfer of data from client to consultant.

Level 2 [CATIA & PDM] - 100 points

- Training – 1 delegate per days training consumes 10 points (standard course)
- On-site consultancy support – 1 day consumes 32 points
- Telephone support – 15 minutes support consumes 1 point
- Remote dial-up Webex support – 15 minutes support consumes 1 point
- Hints, tips & FAQ's – Access to Website containing useful hints, tips & FAQ's
- Software download - Provision of a secure and confidential download area facilitating transfer of data from consultant to client
- Data upload – Provision of a secure and confidential upload area to enable the transfer of data from client to consultant
- Software support - Supply of fixes, patches and refreshes upon request
- Virtual Machine – Where applicable a “virtual machine” (VM) replicating the clients environment will be configured to assist with offsite support

Level 3 [CATIA & PDM] – 320 points

- Training – 1 delegate per days training consumes 10 points (standard course)
- On-site consultancy support – 1 day consumes 32 points
- Telephone support – 15 minutes support consumes 1 point
- Remote dial-up Webex support – 15 minutes support consumes 1 point
- Account Engineer - The client is assigned a dedicated account engineer to provide a single point of contact for any support issues
- Hints, tips & FAQ's – Access to Website containing useful hints, tips & FAQ's
- Software download - Provision of a secure and confidential download area facilitating transfer of data from consultant to client
- Data upload – Provision of a secure and confidential upload area to enable the transfer of data from client to consultant
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AIRBUS Tooling Project
by Rohan Chalmers

Over the last 12 months Intrinsys Aero has been working in partnership with the Hyde Group (Tooling). Based in Manchester, HG(T) are a globally respected 1st tier supplier to the aerospace industry and are currently involved with Airbus UK's A400M program.

The A400M, a military transport aircraft, represents a departure from Airbus's core business and is also their first aircraft to incorporate leading and trailing edge carbon fibre composite spar assemblies. In partnership with HG(T), Intrinsys Aero led the design of lifting and handling equipment used in the build of these assemblies.

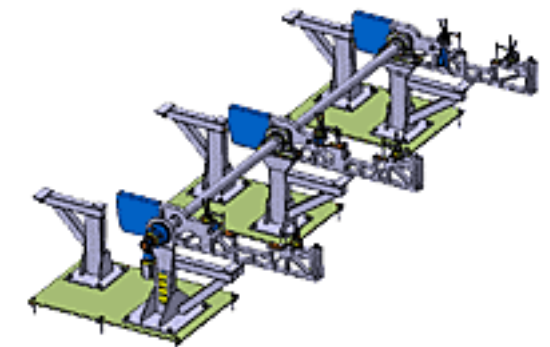
This project involved a great deal of detailed analysis in areas of balance, stress and deflection in order to ensure that the resulting tooling was successfully certified for safety and fit for purpose. Standardisation of design was implemented throughout to reduce cost across both design and manufacture. This also brought improved usability for operators using the tools within the shop floor environment.

The project demanded a high level of liaison with Hyde Group (Tooling). Intrinsys Aero also represented HG(T) at Airbus for each of the critical tooling design reviews. This close collaboration ensured that Intrinsys Aero reached the best overall solutions to suit all parties. Intrinsys Aero has received some very positive feedback from both Airbus and HG(T) regarding their work on this project and the first use of the tool set at HG(T) is imminent.

The project also allowed Intrinsys Aero to identify areas in the CATIA V5 process where significant increases in productivity could be made through the use of automated scripts. These scripts were primary used in the generation of laser tracker setting data which is supplied to the tracker operator and captured on the tool drawings. Significant timescale reductions were made in this area.



The A400M



Mechanical Handling Tooling

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Using SMARTEAM to Manage Manufacturing Data

by Nick Lawther

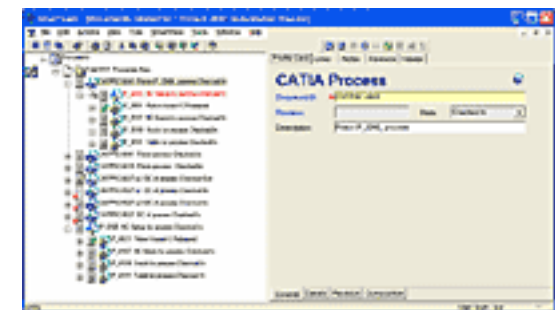
The use of PDM systems to manage design data is well established, and many companies are realising the benefits of doing so. Manufacturing departments however are frequently left out of the loop. Design data is often passed to production and then worked on within the context of an internally defined file-based structure which stores all process files, fixtures, stock models etc.

There are serious drawbacks to working in this file-based manner. How do you know whether you are working to the correct design revision?

When a production engineer generates a manufacturing process for a single component, several different files may be created, each linked to the CATProcess. How many times have you picked up a job from another engineer only to find data missing with broken links and references to data in personal work areas or local hard-drives?

Intrinsys has demonstrated that SMARTEAM can be used to manage all data produced during the manufacturing process. Any manufacturing data from CATProcess files and related setup parts and products, to external computation files, CGR stock models, and the resulting NC output files can be stored in a single SMARTEAM database. A key benefit is that all these files are revision managed in the database - there is no longer a need to rely on manual file-based revision control. Workflow can be used to keep the production department in the loop with design and ensure that they are fully informed when required to accept design changes.

SMARTEAM also provides a platform to make use of advanced CATIA functionality, improving efficiency and storing process knowledge through the use of template processes for similar components. Furthermore SMARTEAM's capabilities extend beyond just CAD data management. Any type of document may be managed, for example operator instruction sheets, tool lists, inspection reports and other ancillary documents. As a full end-to-end PLM solution SMARTEAM is truly able to address the needs of a manufacturing organisation, something seldom addressed by other PDM solutions.



SMARTEAM - CATProcess

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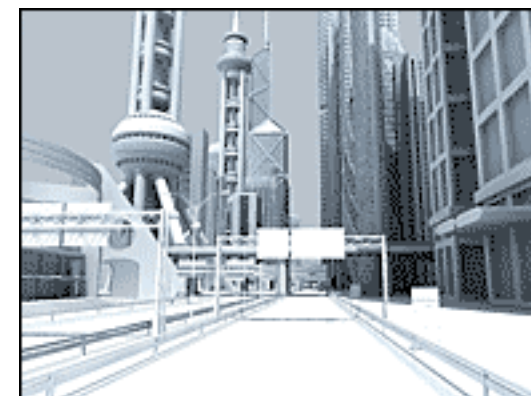


Intrinsys Moves into the World of AEC

by Mike Russell

Architectural, Engineering and Construction is perhaps one of the most established industries. Ever since man harnessed his creative abilities, he has strived for better housing, public and industrial buildings, bridges and so on. Despite the prevalence of AEC, more recently industries such as Automotive and Aerospace have led the field in terms of technical innovation. Today's sophisticated design and manufacturing methods and project management techniques can largely be attributed to advances within these sectors. Digital mock up, just in time build process, to name but a few; were all conceived in response to a need within the auto or aero industries.

Having helped many companies within the Automotive and Aerospace world achieve their PLM goals, Intrinsys is now applying their know-how to leading AEC organisations. Using SMARTEAM as a vehicle to demonstrate gains made through good qualified communication, program management, collaboration and archiving, Intrinsys has begun to make a massive impact on the AEC market place.



“At the moment we have a massive overhead for storing archived data, using SMARTEAM, not only can we reduce this cost, anyone we want can have access to data, plus we can learn from previous projects problems and success” Destiny USA



Intrinsys has identified several common problem areas across the whole AEC sector. Thanks to months of research in partnership with key market players Intrinsys is now able to offer a number of PLM solutions each geared specifically towards the AEC market.

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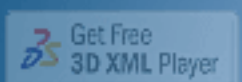
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Featured Product – 3D XML Viewer
by Huw James

Dassault Systèmes Launches New 3D Visualisation Technology

Dassault Systèmes have developed a 3D XML viewer and made it available as a free download. This useful tool allows any user to view and manipulate rich 3D data, the CAD neutral format facilitates quick and efficient exchange of 3D engineering data. 3D XML offers compression with file sizes up to 90 percent smaller than those of existing formats, without compromising the geometric representation. As a result 3D XML is the ideal format for loading and transferring 3D data rapidly via email or the Web.

Those familiar with CATIA V5 will recognise the 3D XML viewer's intuitive look and feel. Creating a 3D XML representation for a CATIA V5 assembly could not be more straightforward – simply perform a *Save As* on any CATProduct and specify 3D XML as the file type. Not only is the 3D geometry captured in a light tessellated format, but the full assembly structure is encapsulated in the 3D XML file. The product tree in the 3D XML viewer allows the



Full assembly structure is accessible via 3D XML Viewer

user to navigate assembly levels, identify and zoom in on selected components and hide/show elements within the structure. 3D manipulation is achieved in the same way as CATIA – either using the compass, manipulation icons or a combination of mouse clicks.

A key advantage of the 3D XML format is that it supports seamless integration with Microsoft Office applications. The viewer's quick and easy install process deploys plug-ins for both MS Office and Internet Explorer. 3D XML files can be embedded into a Word or PowerPoint document by simply dragging and dropping the files straight into the document's window.

The 3D XML viewer is a valuable communication tool which makes 3D data created by engineering departments accessible to the extended enterprise as a whole. In short 3D XML technology allows users to add that extra dimension to their documentation and in doing so improve their collaboration with others.

[Click Here](#) to find out more about 3D XML and download a free copy of the 3D XML viewer.

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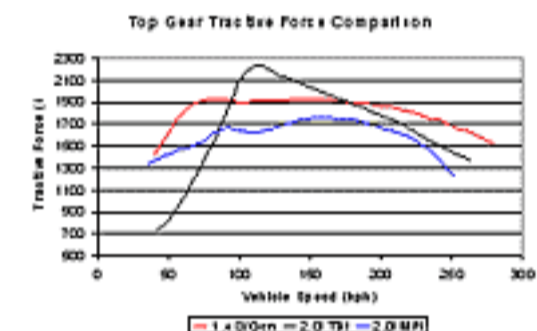
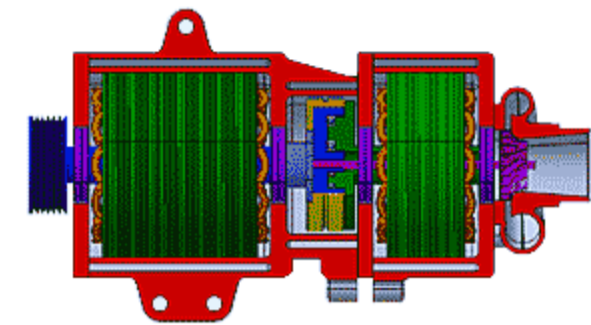
The SuperGen System

by David Meek

Integral Powertrain Ltd, of which Intrinsys is a division, has developed an exciting new pressure charging technology which will enable a new generation of highly efficient, downsized automotive engines that exhibit very low CO₂ emissions and excellent driveability.

Market Drivers - Energy demand for transportation is increasing but global energy supply is rising at a slower rate, limited by many practical and economic factors. The need to reduce fuel consumption is clear, but consumers remain strongly driven by a desire for “fun to drive” vehicles, demanding increased performance.

One route to reducing fuel consumption & CO₂ emissions is the use of a smaller capacity engine; however torque enhancement is required to achieve the required performance. Turbochargers are an efficient boosting system, but suffer from response lag while superchargers offer poor efficiency and present significant NVH challenges.



SuperGen System

How does the SuperGen system work?

SuperGen incorporates an efficient continuously variable drive by combining an epicyclic traction drive with a high efficiency electric motor. The SuperGen system combines two drive paths, one mechanical and one electrical.

Mechanical drive: Power comes in to the SuperGen unit from the crank via a belt, driving a ring “gear” at 2.5 times engine speed. If the planet hubs are held stationary, the sun wheel turns at 13 times input speed (32 times engine speed).

Electrical drive: If the engine were stationary and the small control motor were to turn the planet hubs, the sun would turn at 14 times motor speed.

Combined drive: The compressor speed is the sum of the mechanical & electrical drive; as a result the compressor can be modulated accurately between 0 & 225,000rpm.

SuperGen Improves Driveability - SuperGen enhances vehicle driveability by improving low speed and mid range torque by up to 22 percent. This allows a 1.4 litre engine with SuperGen to have 10% taller gearing and still comfortably exceed the tractive force provided by a 2.0 litre baseline engine.

Content...

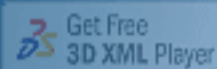
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New Starters
by Nicola Horner

Intrinsys welcomed five new starters to the company...



Ghassan Sultan - Operations Manager *"I joined Intrinsys from Financial Times where I was project manager, managing multiple projects within the IT and business sector. I will be managing the day to day operations at Intrinsys, responsible for project coordination and helping to formalise the overall company strategy"*



Edward Banks – Senior Engineer *"I have come from TTL where I project managed design and manufacture of pharmaceutical machines. Before that I was with Meggitt Aerospace involved with air/space craft ducting systems"*



Rob James – Senior Engineer *"I joined the company from Roush where I was involved in the design of a military vehicle. In the Automotive business for over 15 years, I have worked as a powertrain designer on various Ford & Land Rover projects"*



Mike Orme - Engineer *"My semi-perpetual studenthood finished after 5 years at Brunel University, West London, where I graduated with a Masters in Mechanical Engineering with Automotive Design. During my course, I completed a year of industrial training at Nissan Technical Centre Europe in the engine test section and also survived two years of Formula Student"*



Garry Stubbs - Head of Sales *"I have over 20 years sales and sales management experience working in the CAD / CAM / CAE / PLM arena. I joined Intrinsys from Stilo Epistemics where I was responsible for the sale of high value engineering knowledge capture projects at organizations such as Airbus and Rolls-Royce Aero Engines"*

For more details please contact **Intrinsys**
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Next Period >	Duration (days)	April 2006				May 2006					June 2006			
		3	10	17	24	1	8	15	22	29	5	12	19	26
Design														
CATIA V5 Fundamentals Course	5													
CATIA V5 Advanced Surfacing Course	3													
CATIA V5 Advanced Solids Course	2													
CATIA V5 Drafting Course	2													
CATIA V5 AIRBUS - Fundamentals	5													
CATIA V5 AIRBUS - Methods	5													
Manufacturing														
Manufacturing - Fundamentals	5													
Manufacturing - Advanced	4													
Digital Mock Up (DMU)														
DMU - Fundamentals	1													
DMU - Advanced	2													
DMU - Space Analysis	2													
DMU - Fitting	1													
Kinematics	2													
Finite Element Analysis (FEA)														
FEA - Basic	3													
FEA - Full	5													
Knowledgeware														
Knowledgeware	2													
Product Lifecycle Management (PLM)														
SMARTEAM TEAMPDM User	2													
SMARTEAM Admin	2													
Administration														
V5 Administration	1													
V4 - V5 Interoperability	1													

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