



ASEE 2010 K-12 Workshop

June 19, 2010

Roy Smolky
Academic Relations





Power to Plan is Power to Build

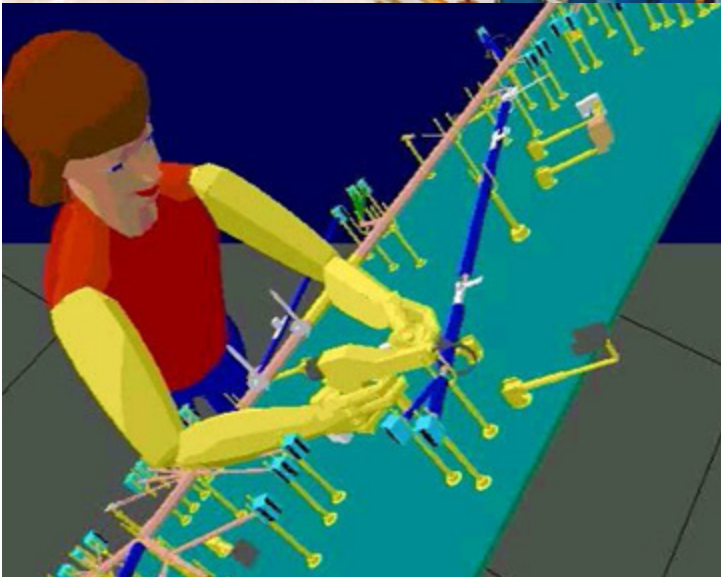
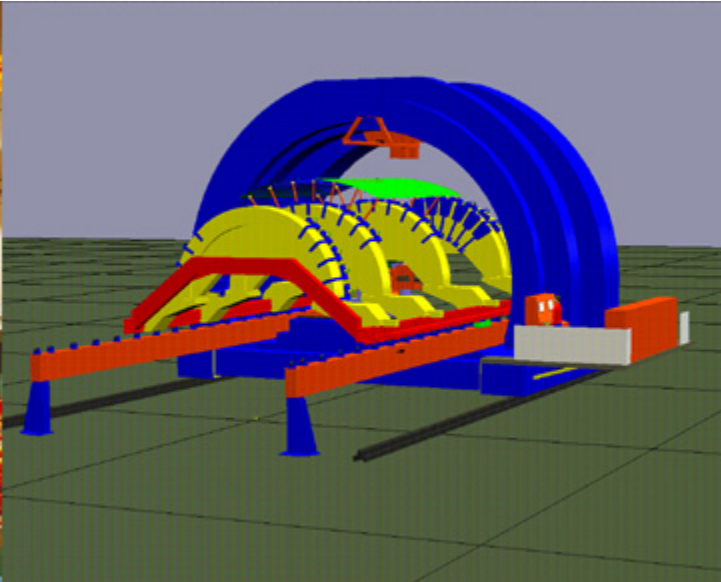


Students should have access to the SAME software that Industry (Boeing, Lockheed, Chrysler, Ford Toyota, etc.) is using to build Cars/Planes and Ships



Power to plan is Power to build

SolidWorks
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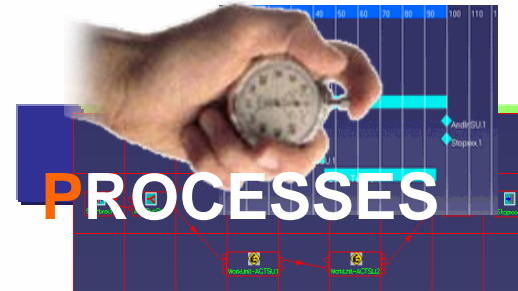


1- What to build?



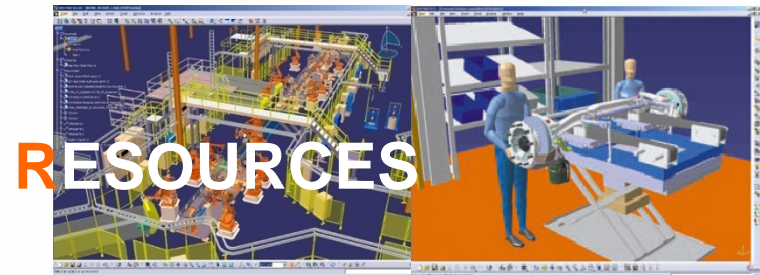
Focus
10 years
ago

2- How to build?

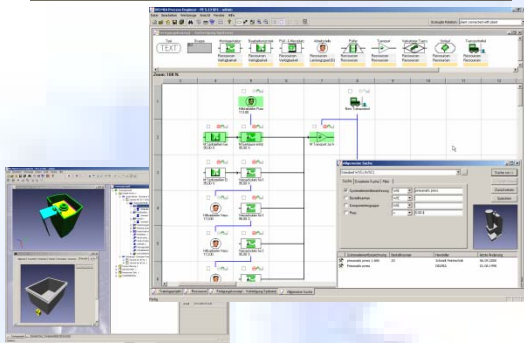


Today's
Focus

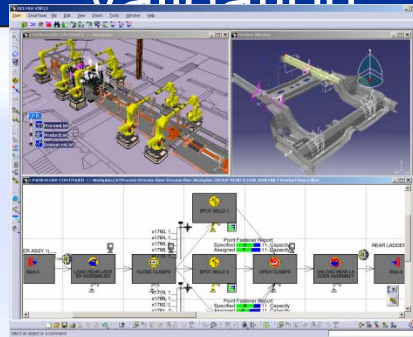
3- With what to build?



Process planning solutions



V5 -3D Process detailing and validation



QUEST Resource modeling and



Collaborative work



Process Engineer/ V5 3D Process Detailing Simulation/ QUEST-RESOURCE Modeling and Simulation (3D Factory)

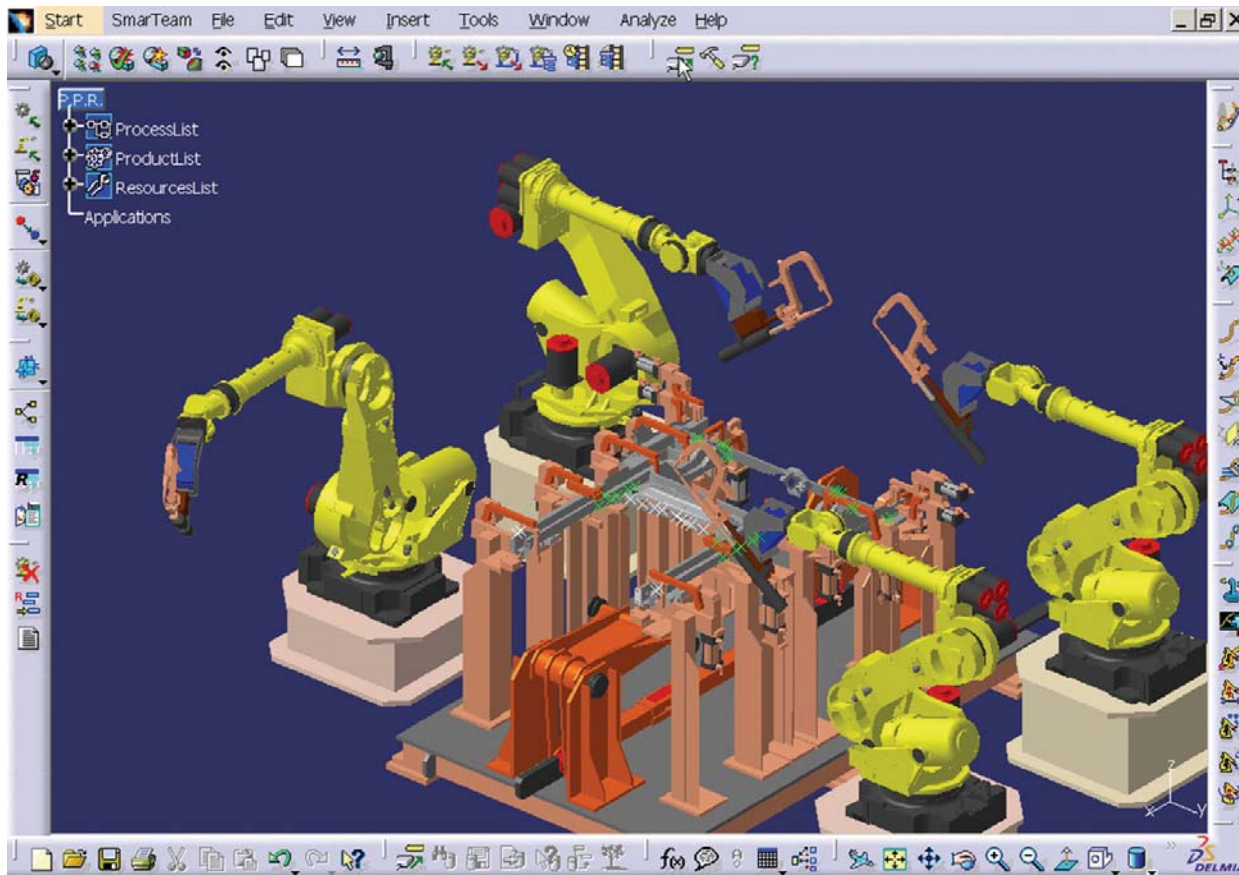
SolidWorks
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- **Process Engineer** enables the Manufacturing Engineer to plan the Processes and Resources required to build the project (Engine) based upon volume or cost. This is a static plan and theoretical plan that can be exported to V5 and QUEST.
- **V5 Process Simulation** has the capability to “Prove-Out” the Processes by Dynamic Simulation-What if scenarios by the Design Engineer.(Collision,Contact or Clearance)
- **Resources** from Process Engineer can be exported to **QUEST for the 3D Factory analysis** such as Line Balancing and show where there are any bottle-necks based upon cycle times. The build plan is now an actual plan that can be exported back to Process Engineer to update the theoretical plan.

Robotics

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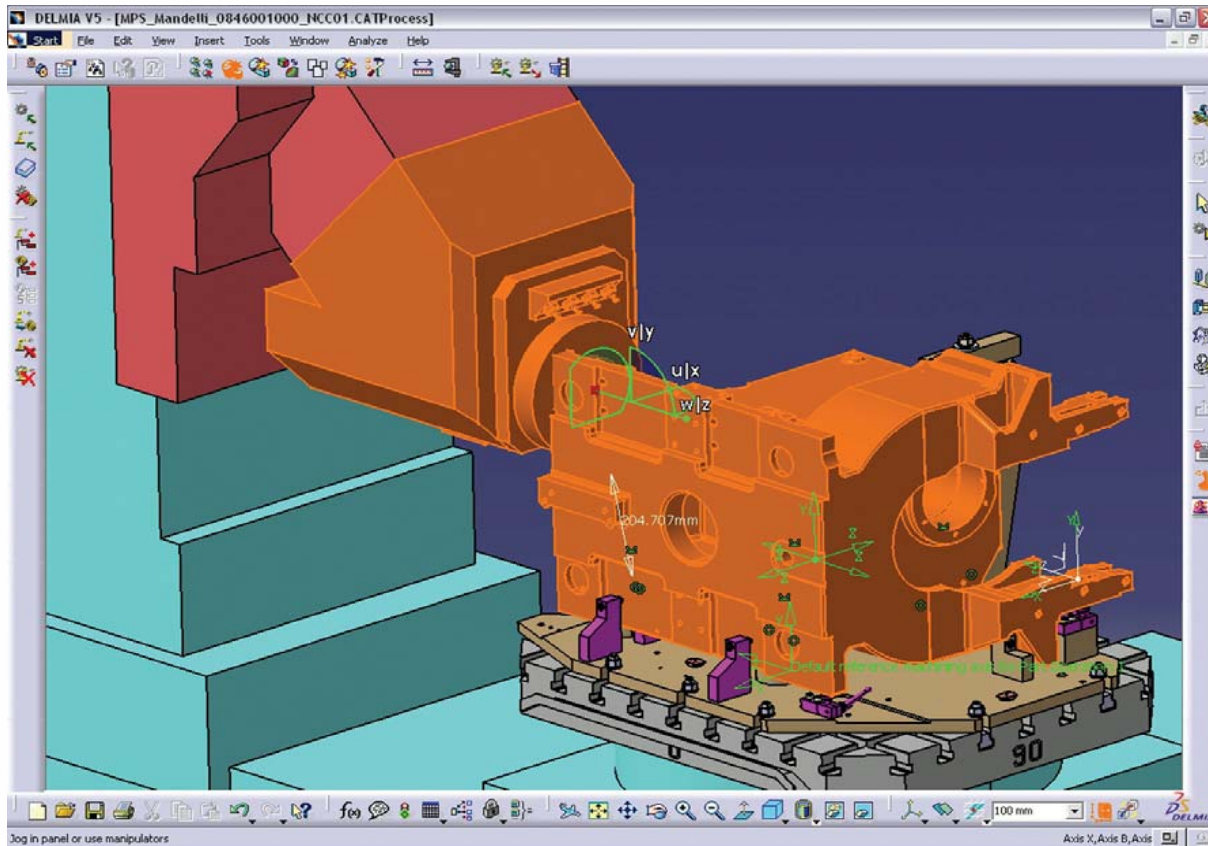
DELMIA Robotics is a powerful, integrated solution that enables manufacturing organizations to design, simulate, optimize, and program robotic workcells in a 3D digital factory environment.



Machining and Assembly

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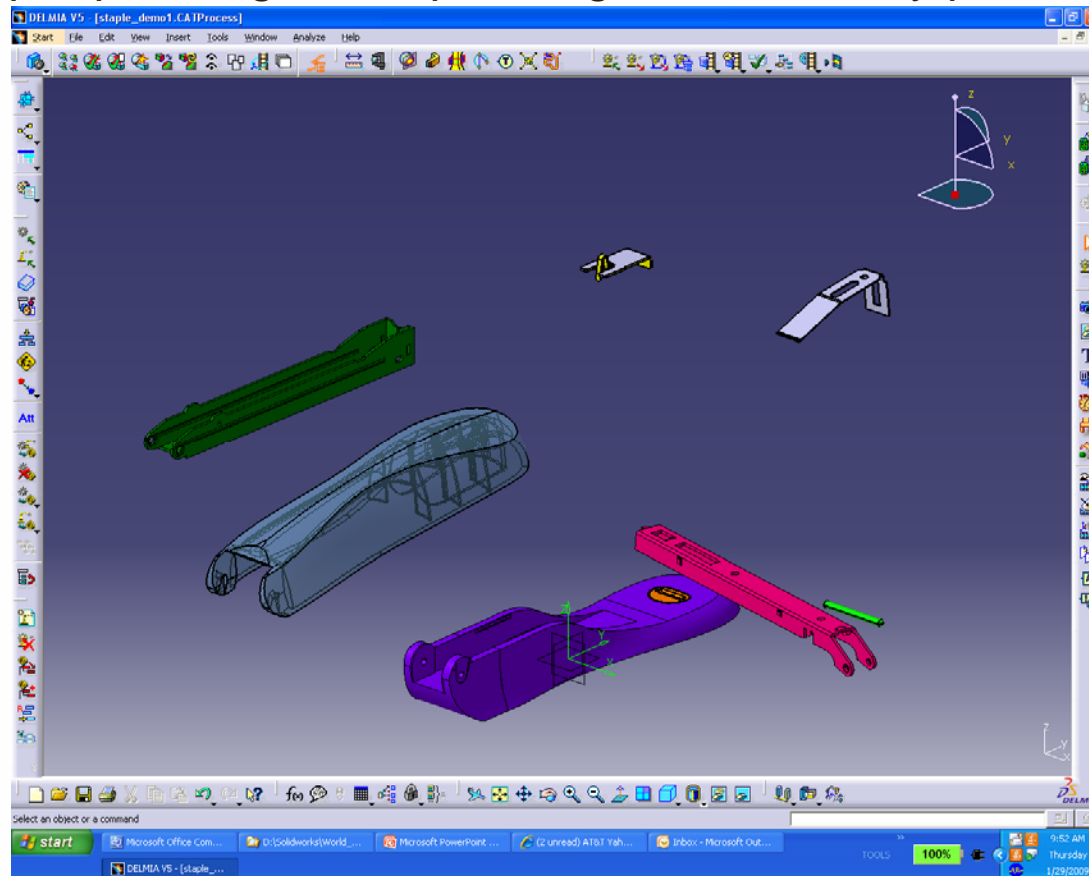
DELMIA DPM Machining seamlessly integrates product engineering and process planning in a collaborative engineering environment, enabling process designing, planning, verifying, managing, and documentation of the machining processes.



DPM Assembly

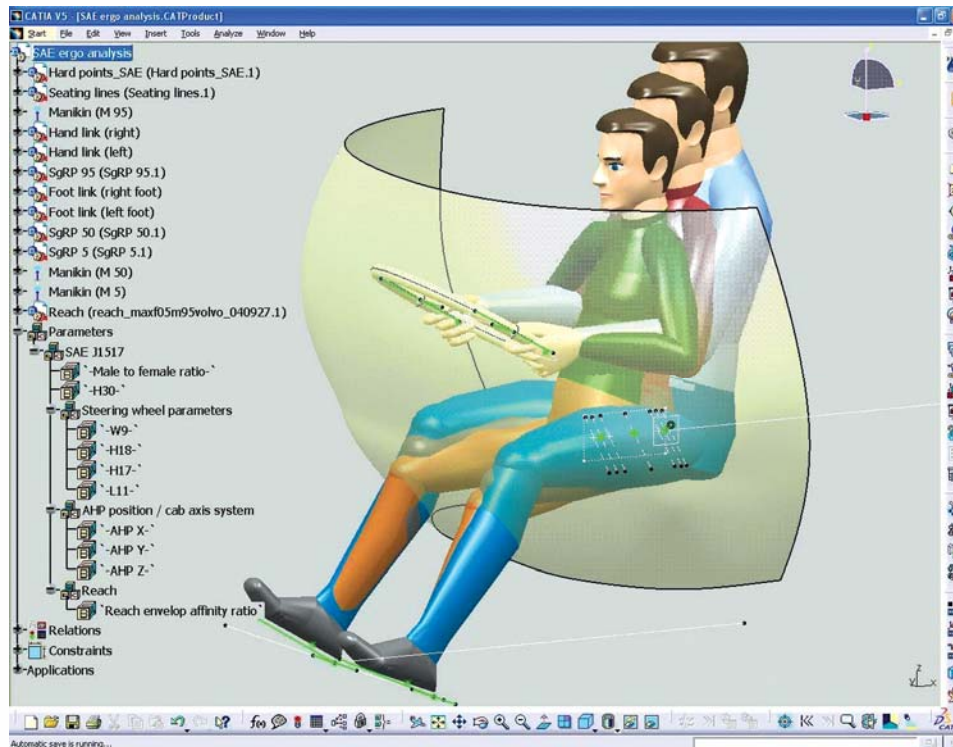
SolidWorks
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DELMIA DPM Assembly leverages and contributes to the concurrent engineering capabilities of the DS Product Lifecycle Management (PLM) solutions, providing an end-to-end solution incorporating a single, unified interface for pre-planning, detail planning, and assembly process verification.



Human Modeling

DELMIA's Virtual Ergonomics suite of digital human modeling tools are fully integrated into the DELMIA Digital Process for Manufacturing (DPM) solutions. It provides such organizations with a comprehensive array of human simulation and ergonomics tools, specifically designed for understanding and optimizing the relationship between humans and the products they manufacture, install, operate, and maintain.



Automation

DELMIA Virtual Commissioning allows the debugging of the code on an actual Programmable Logic Controller (PLC) that will be on the shop floor, weeks or months before the integration of all of the devices- from tooling, robots, clamps, safety devices, electrical, hydraulics, and pneumatics-on the shop floor occurs.

