3DEXPERIENCE® FOR ACADEMIA

TURNKEY DIGITAL LEARNING SOLUTIONS ON THE CLOUD
Getting the 3DEXPERIENCE for Academia on the cloud up and running took a bit less than one hour!

Michel Michaud, École nationale d’aérotechnique, Canada

The new assembly system closely reflects processes used in industry, which adds value to the work done by our design teams. Being able to use a PLM tool gives our budding engineers first-hand experience of industrial practice.

Raphael Montavon, Haute École ARC, Switzerland

The 3DEXPERIENCE for Academia on the cloud has revolutionized the way teachers and students approach lessons and projects. Thanks to a unique, shared virtual environment, everyone on the team can collaborate and interact creatively, and then save their work, which can be easily and safely accessed from wherever they may be.

Souad Latorre, ESIEE Paris, France

As we have begun to use the 3DEXPERIENCE platform for academia on the cloud, we are excited by the possibilities for design, design collaboration, and design integration.

Dr. David Gerber, University of Southern California, United States

3DEXPERIENCE® for Academia, the most advanced software for product and learning innovation, is now available in a few clicks, on the cloud, to all educators and students who want to experience the engineering practices of industry leaders for increased employment opportunities in the new global economy. Years of collaboration with educators and students across various institutions and disciplines have led to a flexible, tailored set of learning solutions.

3DEXPERIENCE for Academia encompasses a suite of world-class integrated software:

- CATIA® for product design
- DELMIA® for digital manufacturing
- SIMULIA® for realistic simulation
- ENOVIA® for collaborative innovation
WHY ON THE CLOUD?

Simple IT: Easy installation
On the cloud, 3DEXPERIENCE for Academia works on multiple devices, requiring only a 3D graphics card and Internet access.

Plug & Play start-up: Instant availability
The 3DEXPERIENCE platform—with advanced collaborative features—is downloaded and installed on devices on-the-fly and fully configured in minutes.

Simple maintenance: Secure, available 24/7, always up-to-date
The 3DEXPERIENCE platform has high availability, and data access is kept under subscriber control. The platform and its client software are automatically upgraded when a new version is released.

Simple Access: Anytime, anywhere
3DEXPERIENCE for Academia is available from the lab, from home, from other institutions, or any location, without struggling with firewall issues. Collaborative, regional, or international projects have never been as easy and natural.

Simple acquisition: Predicable and affordable
Pricing includes all use and service costs and any configuration is easily scalable.

THE DIGITAL UNIVERSE FOR PROJECT BASED LEARNING

• 3DEXPERIENCE for Academia is the ideal platform to enhance project based learning by providing an integrated, distributed, collective digital universe for project oriented learning methods such as “Conceive – Design – Implement – Operate” (CDIO ®) “Project (Problem)-based-learning” (PBL®).

• 3DEXPERIENCE for Academia comes as a multi-disciplinary social collaboration baseline. It can be extended with dedicated packages supporting educational, research, and organizational processes in Design and Engineering, Systems Engineering, Manufacturing and Production, and in two new domains: Architecture and Civil Engineering and Governance Project and Management.

• Through an intuitive, web-based user interface, teachers can easily create domestic or international collaborative environments, such as student projects or exams, and assign roles to participants. Students can start projects on campus, continue at home, and discuss issues over online communities or screen-sharing sessions. The platform ensures that they always have access to the latest version of their work. At any time, educators can remotely monitor projects, manage idea maturity, and assign grades. Collaboration becomes easy, dynamic, and natural among teachers, researchers, students, and industry mentors.

• 3DEXPERIENCE for Academia provides a proven environment to deploy digital labs involving realistically behaving virtual 3D equipment, bi-directionally coupled with real remote devices. By creating an Internet of Things (IoT) across dispersed learners, educators, devices and content, the platform opens new horizons for innovative educational practices, such as distant education, Massive Open Online Courses (MOOCs), and Flipped Learning.
SCALABLE PACKAGE SIZES TO MEET YOUR GROWING NEEDS

All packages are available in four sizes (S, M, L, XL) to meet the needs of diverse institutions in higher and secondary education:

- **Small** – for up to 30 users, including 50 GB storage
- **Medium** – for up to 100 users, including 100 GB storage
- **Large** – for up to 300 users, including 200 GB storage
- **Extra Large** – for up to 900 users, including 400 GB storage

Additional storage capacity is available.
PLATFORM CONTRIBUTOR

ENTRY POINT FOR ALL LEARNING ACTIVITIES

Platform Contributor is the baseline block designed for institutions interested in social collaboration and research.

NOT JUST ENGINEERING

With its dashboard capabilities, Platform Contributor enables project follow-up, hands-on exercises, and technology watch through RSS feeds.

COLLABORATION AT THE HEART OF TEACHING AND PEER LEARNING

• Integrated online communities: blogs, Q&As, surveys, idea maturity management
• Instant collaboration enablement: chat, mockup co-design and co-review
• Definition of digital workspaces tailored to teaching strategies: hands-on, student projects, parts library, access list management

ADVANCED SEARCH ENGINE

Find parts, community posts, or documents, whatever their nature, and wherever they are.

CLOUD ACCESS

The platform is accessible from anywhere, anytime, inside and outside the institution: in the lab, at home, and while traveling.
3DEXPERIENCE ESSENTIALS

3DEXPERIENCE Essentials is a broad application set built upon the Platform Contributor foundation, encompassing most Dassault Systèmes solutions.

The ideal basis for universities or technical colleges to support their transition towards project based learning or student centered learning, 3DEXPERIENCE Essentials provides a complete digital framework for team based ideation, contextual learning, collective innovation, solution creation and various methods for project evaluation.

3DEXPERIENCE Essentials provides ENOVIA’s powerful collaborative management capabilities to control and synchronize assemblies, resources, and teamwork. Including a vast set of CATIA design functions, it enables conceptualizing and detailing virtually any type of object. With DELMIA digital manufacturing tools, it makes machining, robotics, and rapid prototyping an integrated exercise, ensuring manufacturability of designs and streamlining manufacturing programming. Right-first-time practices are enforced through mechanism simulation, associative stress analysis from SIMULIA, and ergonomics simulation. Converters to and from other applications, as well as 3D printing output formats, are available to exchange data with various partners and devices.

Mechanical Designer
Mechanism Simulation Designer
Creative Designer
3DMaster Conceptual Designer
Manufacturing Engineer
Robotics Programmer
Shopfloor Equipment Engineer
NC Prismatic Programmer
NC Prismatic & Turning Programmer
NC Milling Machining Programmer
Ergonomics Specialist
Collaborative Innovation
Requirements Manager
Manufacturing BOM Manager
Product Engineer
Project Team Member
Classification Manager
Design Review Manager
Volume Computation
Simulation Foundation
Stress Engineer
Process Simulation Analyst
Plant Layout Designer
Multiple converters to & from other applications
Change Management (NEW)
Configuration Management (NEW)
DESIGN AND ENGINEERING

Design and Engineering extends 3DEXPERIENCE Essentials with capabilities to automate the modeling of parts that will be produced using specific manufacturing processes, such as sheet metal, composite, and molding or routed systems made of pipes, tubes, and wires. The solution also automates the associative design of tooling which is required to actually produce such parts and systems.

Essential to teaching modern development practices in industries such as foundry, automotive, and aerospace, Design and Engineering is also an ideal solution for learning and teaching industrial design and styling.

Powerful process automation tools are provided to template routine work or reuse design expertise.

Mechanical & Shape Designer
3DMaster Designer
SheetMetal Designer
Plastic Mechanical Designer
Reverse Shape Optimizer
Product Industrial Designer
Physical Prototyper/Clay Modeler
Product Optimization Designer
Template Designer
Composites Designer & Manufacturer
Mold & Tooling Designer
Mechanical Tooling Designer
Best Practices Designer
Electrical 3D Systems Designer
Electrical Harness Manufacturing Engineer
Fluid 3D Systems Designer
Class A Modeler
Class A Expert
Car Design Ergonomist
Freeform Surface Modeler (NEW)
Hydroformed SheetMetal Designer (NEW)
Composites Braiding Designer (NEW)
Fasteners Designer (NEW)
Ergonomist (NEW)
Structural Analysis Engineer (NEW)
**SYSTEMS ENGINEERING**

*Systems Engineering* groups a rich set of functions essential for concurrently designing and simulating various types of objects using models that optimize their geometry and their function. Indispensable to modeling modern electromechanical systems, simulating their behavior, and optimizing smart products. *Systems Engineering* comes with numerous libraries describing the physics of diverse technologies and phenomena. Open to other simulation systems, it provides a comprehensive multi-physics design, simulation, and optimization framework for any mechatronic or systems engineering course.

Real electromechanical systems, whether programmable or not, can be completely virtualized, connected, and controlled using the solution, reflecting software-in-the-loop and hardware-in-the-loop methodologies.

These characteristics open the immense field of virtual labs, tele-operated learning devices, and “flip lab” practices.

New capabilities are provided to increase integration across the different levels of systems representations (Requirements, Functional, Logical and Physical). This structured environment creates an ideal framework to learn the principles and practices of systems architecture and tradeoffs.

Dynamic Systems Designer  
Systems Schematic Designer  
Mechatronics Systems Designer  
Systems Behavior Optimization  
Systems Powertrain Library  
Systems Flexible Bodies Library  
Systems Smart Electric Drives Library  
Systems Hydraulic Library  
Systems Pneumatic Library  
Systems Vehicle Dynamics Library  
Systems Air Conditioning Library  
Systems Thermal Power Library  
Systems Hydro Power Library  
Systems Electric Power Library  
Systems Liquid Cooling Library  
Systems Engine Dynamics Library  
Systems Vapor Cycle Library  
Systems Heat Exchanger Library  
Systems Fuel Cell Library  
Systems Flight Dynamics Library  
Systems Simulink Export  
Systems Real Time Execution Export  
Systems FMU Export  
Human Comfort Library (NEW)  
Battery Library (NEW)  
Engines Library (NEW)
ARCHITECTURE AND CIVIL ENGINEERING

Architecture and Civil Engineering is a new set of capabilities expanding the powerful collaborative framework of 3DEXPERIENCE Essentials in the construction field.

Especially targeting early project stages, it provides schools of architecture and departments of civil engineering with an integrative Building Information Modeling (BIM) environment to harmonize interactions between creative architects, architectural engineers, and fabrication and construction engineers. Powerful methods to run multi-disciplinary trade studies help optimize the overall structure of buildings, dams, stadiums, and bridges.

Architecture and Civil Engineering relies upon proven clash management and design automation functionality to produce highly valid designs. It familiarizes students with essential practices such as template-based reuse methodologies or weight and cost management, promoting compliance with environmental regulation and building and fabrication constraints.

Architecture and Civil Engineering provides 2D and 3D capabilities, together with a range of data conversion tools, to engage students with the intrinsically collaborative methods of the fragmented, multi-stakeholder organizations encountered in the construction industry.
**MANUFACTURING AND PRODUCTION**

Manufacturing and Production extends 3DEXPERIENCE Essentials to digital manufacturing for Industrial or Manufacturing engineering programs.

This extended set of functions enables the design, simulation, automation, and control of sophisticated part production as well as assembly-level production. From off-line robots programming to producing ergonomic operator’s instructions, from optimizing automated production cells to balancing complete lines, Manufacturing and Production provides students with an ideal environment to experience methods practiced and required by various industries operating small facilities to large multi-plant production.

Major new functions have been added in the package to further automate the design of assembly processes especially in the field of heavy industry, shipbuilding, automotive and aerospace, when large numbers of assembly points must be managed in a comfortable manner.

- Time Study Analyst
- Assembly Simulation Expert
- Robotics Arc Welding Programmer
- NC Multi-Axis Milling & Turning Programmer
- Process Planner
- Work Instructions Designer
- Robotic Native Program Validation Specialist
- NC Machine Code Validation Specialist
- Ergonomist
- Work Safety Engineer
- NC Multi-Axis Milling Programmer (NEW)
- Industrial Engineer (NEW)
- Drill & Fill Engineer (NEW)
- Fastener Process Planner (NEW)
- Heavy Industry Assembly Planner (NEW)
- Heavy Industry Process Planner (NEW)
- Robotics Spot Welding Programmer (NEW)
GOVERNANCE AND PROJECT MANAGEMENT

Governance and Project Management extends Platform Contributor with numerous organizational and work process-related tools. It targets any educational activity where the development of technical managerial skills is a desired learning outcome. It also provides educators with powerful tools to control and manage their teaching and research processes.

A group work and deliverable management framework is provided to automate academic work processes, to conduct multi-disciplinary, and potentially multi-year, projects such as engineering student competitions or to teach typical engineering management procedures.

A classification management application is included to enable smart library structuring the discovery and practice of rigorous “build-or-buy” methods that drive critical behaviors in modern engineering.

Governance and Project Management also brings a nongeometric option for modeling systems requirements, similar to the one available in the Systems Engineering solution, reflecting the role of systems architects who do not need to model the functional, logical, or physical aspects of a system.

Project Manager
Classification Manager
Requirements Manager
Product Architect (NEW)
Change Management (NEW)
Configuration Management for BOM (NEW)
A large set of adoption-facilitating instruments is made available to enable fast deployments of the 3DEXPERIENCE for Academia. Various types of learning materials and application case studies are provided with a communication program (“3DS Academy member”) for institutions to show employers that they teach with up-to-date technology. A brand new certification program provides students with the credentials they need. With industry-realistic learning material, the 3DS Academy member, and the certification programs, educational institutions can rely on a comprehensive set of employability-enhancing initiatives.

To learn more about the 3DEXPERIENCE for Academia, visit ACADEMY.3DS.COM

Our 3DEXPERIENCE® platform powers our brand applications, serving 12 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the 3DEXPERIENCE® Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced, and supported. Dassault Systèmes’ collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 190,000 customers of all sizes in all industries in more than 140 countries. For more information, visit www.3ds.com.