CATIA Creative Design & Styling

New Creative Design Technologies

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CATIA Design Roles Management
CATIA Design excellence
To gain the competitive advantage by Design

Unified Industrial Design workflow solution
3D accessibility for Creative Designer
Enable Experience Thinking
Streamline Design & Engineering collaboration
Keep Design Network & Data connected
<table>
<thead>
<tr>
<th>Creative Designers</th>
<th>Surface Designers</th>
<th>Decision makers</th>
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</thead>
</table>
| **IMMERSIVE DESIGN**  
CATIA NATURAL SKETCH VR | **SURFACE REFINEMENT**  
Perfection in Surface Quality | **PRODUCT EXPERIENCE**  
To make the right decision |
| **PRODUCTIVITY & EASE OF USE**  
CATIA IMAGINE & SHAPE | **ICEM DESIGN EXPERIENCE**  
NEW GENERATION CLASS-A SURFACE MODELING | **PRODUCT EXPERIENCE PRESENTER**  
**VISUAL EXPERIENCE DESIGNER**  
AI DEEP LEARNING RENDERING |
| **HUMAN DESIGN - VR INCARNATION** | **REVERSE ENGINEERING PRODUCTIVITY** | **VISUAL EXPERIENCE CONTENT COLLECTION**  
INDUSTRY FOCUS |
| **3D GENERATIVE INNOVATOR**  
( xGENERATIVE DESIGN ) | | |

**CATIA Design**  
What’s New | R2019x

**CREATIVE DESIGN** from art to part

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**SURFACE REFINEMENT**  
Perfection in Surface Quality

**ICEM DESIGN EXPERIENCE**  
NEW GENERATION CLASS-A SURFACE MODELING

**REVERSE ENGINEERING PRODUCTIVITY**

**PRODUCT EXPERIENCE PRESENTER**  
**VISUAL EXPERIENCE DESIGNER**  
AI DEEP LEARNING RENDERING

**VISUAL EXPERIENCE CONTENT COLLECTION**  
INDUSTRY FOCUS
CATIA Natural Sketch

Integrated 3DSketching

3D Sketch to express & communicate your creativity

To transform your 2D idea into a 3D reality

Explore design alternatives & details by sketching in 3D
CATIA Natural Sketch
What’s New in 3DEXPERIENCE R2019x

A GAME CHANGER WITH VR IMMERSIVE SKETCHING

PRODUCTIVITY & EASE OF USE
Immersive Experience
AR | VR

2017x
Immersive Visual Experience

2018x
Immersive Collaboration Experience

2019x
Immersive Design Experience

Designers

Collaborators

Social Networks

3DPLAY | VR

SOCIAL COMMUNITY | 360VR
CATIA Natural Sketch VR
The Immersive Design Experience
CATIA Natural Sketch VR
The Immersive Design Experience
CATIA Natural Sketch VR
Introducing immersive sketching

direct ideation in a 3D environment

- 3 drawing modes
- Color palette
- Large scope of functionality available
- Fully integrated in the platform
CATIA Natural Sketch

What’s New in 3DEXPERIENCE R2019x

A GAME CHANGER WITH VR IMMERSIVE SKETCHING

PRODUCTIVITY & EASE OF USE
CATIA Natural Sketch
what’s new 19x on desktop

SMART PLANE
Quick and intuitive new automatic plane mode
« On most visible plane »

TRACES
- Combine traces
  Create a curve from several strokes
- Direct modification enhancement
  Lock point edition on a plane only
- Brush settings shortcut
  Thickness & opacity 3D accelerator

TRANSFORM TOOL
Local / global orientation switch

3D PLANE SELECTION
Drop of the drawing plane

IMAGE CHOOSER
Preserve original image dimension at importation
CATIA Natural Sketch
Enhance the sketching workflow
CATIA Imagine & Shape

*Virtual Clay for freeform modeling & Quick concept exploration*

**Quick 3D Design Exploration & Modification**

Subdivision surfaces for **Virtual Clay modeling**

**Easy** to use & easy to learn
CATIA Imagine & Shape

Virtual Clay for freeform modeling & Quick concept exploration

Release FOCUS

- Productivity & Ease of Use
- Competitiveness
- Unified Workflow
CATIA Imagine & Shape

Virtual Clay for freeform modeling & Quick concept exploration

UI simplification
Selection Improvement
Robot 2 in 1
Align
Edge Extrusion Improvement
New Symmetry
Fitting
Polygonal view mode
Cut the mesh by 2 points
Drawing Tubes enhancements
Mesh Tool – Bizone constraints integration
UI Improvements

Productivity & Ease of Use

New ACTION Pad

New PRE-VIZ Widget

One single IMA action bar
Ul-Action Bar

Merge, rationalization & simplification for better productivity

R2018x

R2019x

Creation and Modification section becomes Shape Sculpt
New Pre-Viz Widget

Productivity

What’s new
3DEXPERIENCE R2019x

R2018x

R2019x
Selection improvement

Productivity

Linear Propagation

Loop Propagation

Fill Propagation
Linear propagation with Vertices
Linear propagation with Edges
Linear propagation with Faces
Use double click to navigate between your propagations
Use double click to navigate between your propagations
Use double click to navigate between your propagations
Use double click to navigate between your propagations
Use keyboard to navigate between your propagations

Use Home Key to go to the next propagation

Use Home Key + Shift to go to the previous propagation
Use keyboard to navigate between your ranks (ex: linear propagation)

Use Home Key + Alt to go to the next rank

Use Home Key + Alt + Shift to go to the Previous rank

What’s new
3DEXPERIENCE R2019x – V5-6 R2019
Use keyboard to navigate between your ranks (ex: linear propagation)

Use Home Key + Alt to go to the next rank

Use Home Key + Alt + Shift to go to the Previous rank
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What’s new
3DEXPERIENCE R2019x – V5-6 R2019
Robot 2 in 1
Ease of use & Sculpting Productivity

Translate

Translate on a plane

Rotate

Hold Alt Key
Scale on 1 axe, or a plane, or all axis (with Ctrl)
Align on body gives now the possibility to project points on body using the meshline direction of each point by pushing Alt Key
Edge Extrusion Enhancements

Sculpting Productivity

Use your mesh line to manage the direction of your extrusion

Manage the Weight of the start of your extrusion

Use others elements to choose the direction of your extrusion (Line, Plane, Axes)
Symmetry Enhancement

Sculpting Productivity

Symmetry on YZ plan appears directly when you launch IMA – Symmetry.

Use your mesh to define your symmetry plane.

Translate and rotate your symmetry plane dynamically.

Define the position of your symmetry plane.

What’s new

3DEXPERIENCE R2019x – V5-6 R2019
Fitting
Productivity & Quality of Shape

Fit a Subdivision to Surface

What’s new
3DEXPERIENCE R2019x – V5-6 R2019
Additional evolutions

• Polygonal view mode

• Cut the mesh by 2 points

• Mesh Tool – Bizone constraints integration
• Drawing Tubes enhancements (*only in 3DEXPERIENCE)
CATIA Imagine & Shape

Virtual Clay for freeform modeling & Quick concept exploration

UI simplification
Selection Improvement
Robot 2 in 1
Align
Edge Extrusion Improvement
New Symmetry
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Polygonal view mode
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Drawing Tubes enhancements
Mesh Tool – Bizone constraints integration

What’s new
3DEXPERIENCE R2019x – V5-6 R2019
Experience thinking
Human design centric
CATIA Human Design
Design within the context of human

Human Design
Posture, gender, behavior...

Transportation Design
Design around human

Product Design
Design on human
CATIA Human Design

what’s new 19x

HUMAN APPEARANCE
- Hairs and clothes dynamic behavior during posing
- New Display mode for Humans

HUMAN FUNCTIONALITIES ENHANCEMENTS
- Convert Human into new Geometry: IMA new feature
- Human connection to product

VR PASSIVE HUMAN INCARNATION
- Combine Human and VR for a better Design Decision-Making
New display mode available for humans
Human connection to product
VR passive human incarnation
(Immersive Collaboration Experience – FD01)
"Inspired by nature"
bio-mimicry design & additive manufacturing

Inspiring, Innovative, Infinite source of ideas...

... for a new era for shape freedom
**3D Generative Innovator**

for Creative Designers to explore design patterns « inspired by nature »

*Create & Explore Generative Patterns “Inspired by Nature”*

*Web App - xGenerative Design*

**Highlights**

- Smart operations-based approach to dynamically create & modify all types of wireframe & surface
- Graphic scripting to generate patterned shapes
- Create & Reuse templates
- Generative Modeling
- Easy & scalable Patterns
- WebApp available on cloud

**User Value**

- Quickly Generate 3D Patterns for Styling exploration
- Creates bio-inspired shapes patterns, including advanced wireframe & surface design with high automation
- Flexible Pattern Modification User Experience to explore many styling ideas.
- Companion of 3DEXPERIENCE CATIA Design Roles to extend the Design capabilities with 3D Gen patterns.
- Anytime, anywhere & any device
Design Hackathon | Projects

Team A | Wind Flower City
TEAM A

Team B | Mobile Transport Unit
TEAM B

Team C | Drone Flyback
TEAM C

Team D | City Capsule Concept
TEAM D

Team E | City Tube Concept
TEAM E

TEAM D | City Capsule Concept
TEAM E | City Tube Concept
CATIA Creative Design & Styling

New Creative Design Technologies