



3DEXPERIENCE®

HIGH-TECH **HT BODY**

Social Ideation & Creative Design



INTRODUCTION



THE CASSIOPEIA DIGITAL CAMERA IS A VIRTUAL PROJECT PRODUCED WITH ALL DISCIPLINES IN THE CREATION PROCESS OF A HIGH-TECH COMPANY AND ITS ECOSYSTEM.

Cassiopeia imagines the next-generation digital camera experience for creative people. It was completely developed with Dassault Systèmes **3DEXPERIENCE®** platform to reach design excellence by involving the right people in the company.

The unique Dassault Systèmes **“Social Ideation and Creative Design”** approach lets High-Tech companies address concerns throughout the key development phases of an electronic device body.

All disciplines are involved and benefit from the collaborative environment of the **3DEXPERIENCE** user-roles in CATIA® to boost social innovation.

Social Ideation accelerates collaborative creativity and design by making connections to an ecosystem of people, information and trends.

And **Creative Design** offers a full, integrated, intuitive, and easy-to-use workflow solution for shape design, styling, and surfacing.



1 | INSPIRATION

Collaborative Innovation

SUCCESSFUL PRODUCTS COMBINE THE ALCHEMY OF CREATIVITY, SOPHISTICATION, AND DELIGHT

CREATIVITY – The freedom to explore shapes, colors, materials, and combine them to forge the most stylish product.

SOPHISTICATION – Perfection in perceived quality of design, ergonomics, assembly, and surfaces.

DELIGHT – A highly attractive overall consumer experience, including touch, feel, ergonomic manipulation and interaction.

Discover how a High-Tech team developed the **Cassiopeia** camera experience, collaborating across different roles, from Creative Designer to Visual Experience Designer.

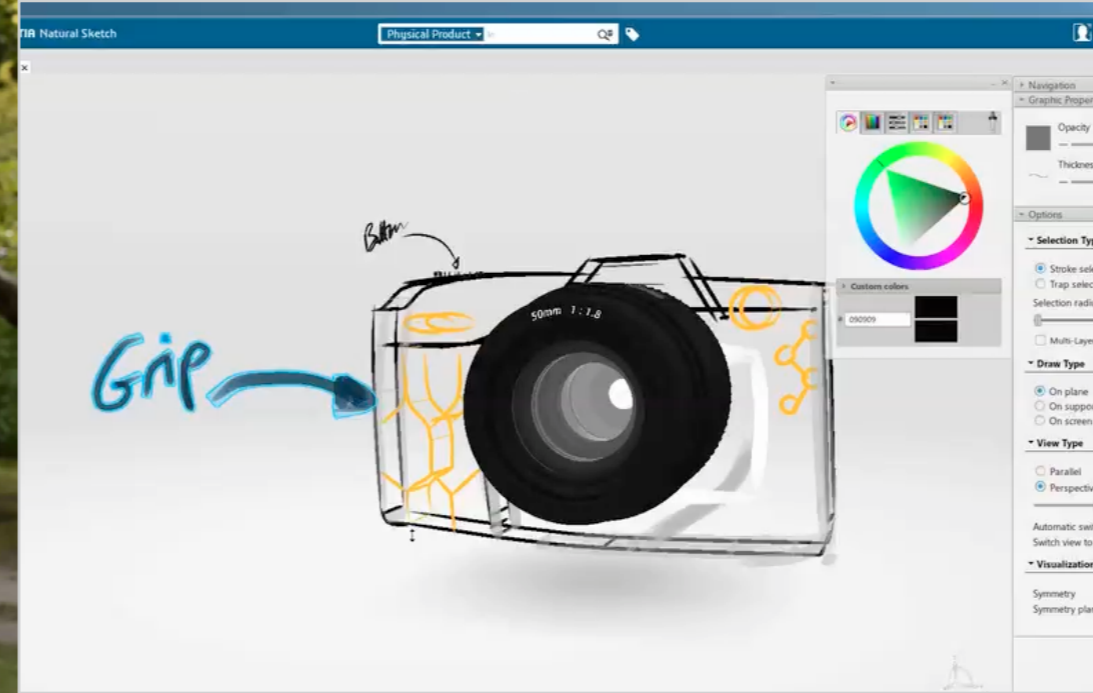
Innovation starts with Experience Thinking and Social Ideation.

Creative Designers can benefit from collaborative ideation and innovation capabilities which monitor and communicate project status, design trends, display inspiration-walls, and blog articles that enrich and feed the creative designer from external communities.



2 | IDEATION

Creative Designer



WHAT IF ALL INDUSTRIAL DESIGNERS AND STYLISTS HAVE POWERFUL, INSTINCTIVE TOOLS TO ALLOW THEM TO FOCUS ON INNOVATION?

Creative Designers will take benefits of a breakthrough concept: CATIA Natural Sketch.

This integrated 3D sketching solution enables industrial designers to create 3D sketches to express and communicate innovative creativity.

This means being more creative by exploring more design alternatives. It gives designers the ability to transform 2D ideas into 3D realities and to explore detailed design variations directly on 3D objects.

3D sketching permits a better understanding of design intent, surfaces, and volumes, which helps avoid misinterpretation of 2D views.

This brings a better level of communication between designers and the rest of the development team to accelerate the creative process.



3 | CONCEPT DESIGN

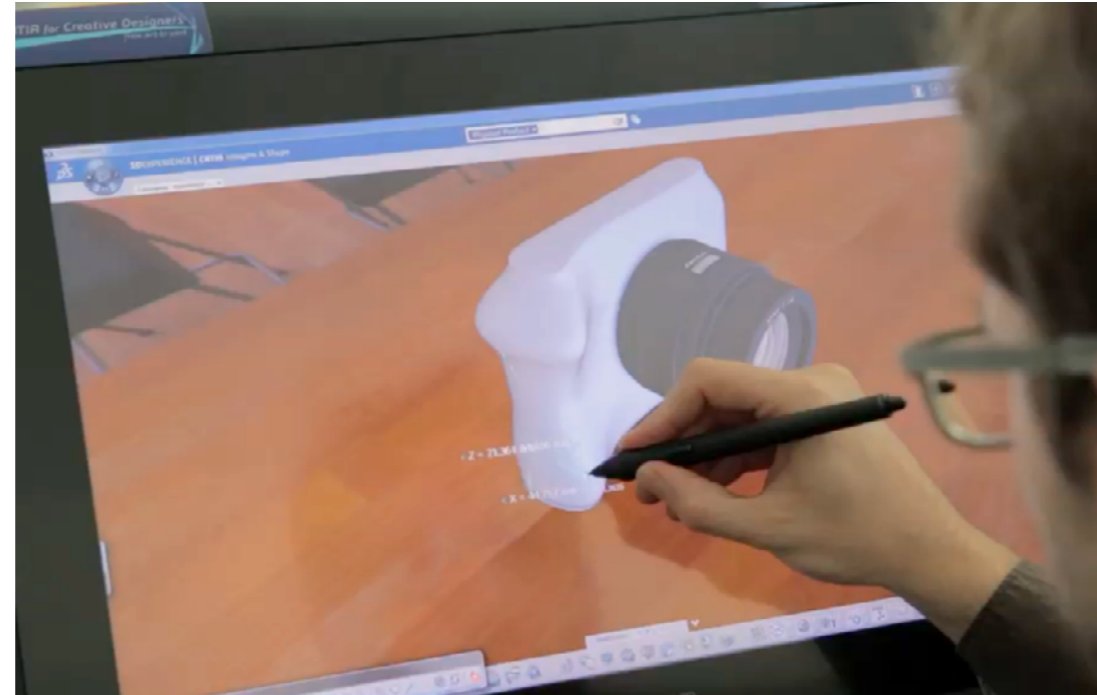
Product Industrial Designer

WHAT IF DIGITAL MODELERS COULD EASILY CONVERT ANY IDEA INTO A REALISTIC CUSTOMER/CONSUMER EXPERIENCE?

The concept design phase can be performed quickly thanks to CATIA Imagine and Shape, an integrated, virtual clay-modeling solution, based on subdivision surfaces technology.

Imagine and Shape enables modelers to “sculpt” very quickly in 3D, while maintaining and controlling the continuity of surface curvature. The process is instinctive and acts closely to clay modeling. The geometry is modeled just by pushing, moving, and rotating the virtual clay model.

This modeling approach gives creativity, flexibility, and freedom.



4 | DETAIL DESIGN

Freeform Surface Modeler

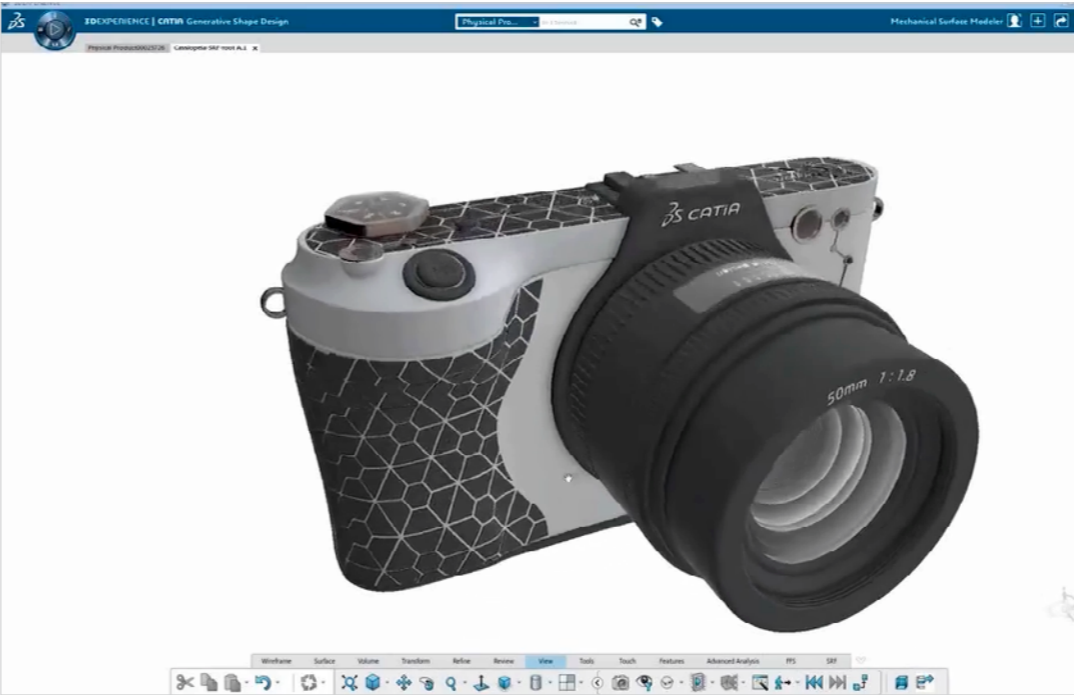
WHAT IF DIGITAL MODELERS AND SURFACE DESIGN EXPERTS COULD BE ON THE SAME PAGE TO REACH PERFECTION IN SURFACE QUALITY?

Thanks to direct modeling, the Freeform Surface Modeler can modify surfaces using control points and interactive tools (such as Zebra highlights) in order to achieve better perceived quality.

Advance surface modeling creates the final high-quality shape, taking into consideration design intent and engineering and manufacturing constraints.

The precision of direct modeling can reach a high-level of highlighting, enhancing reflections for better perceived quality.

This integrated workflow solution enables designers to achieve product design excellence.





5 | DESIGN VALIDATION

Visual Experience Designer

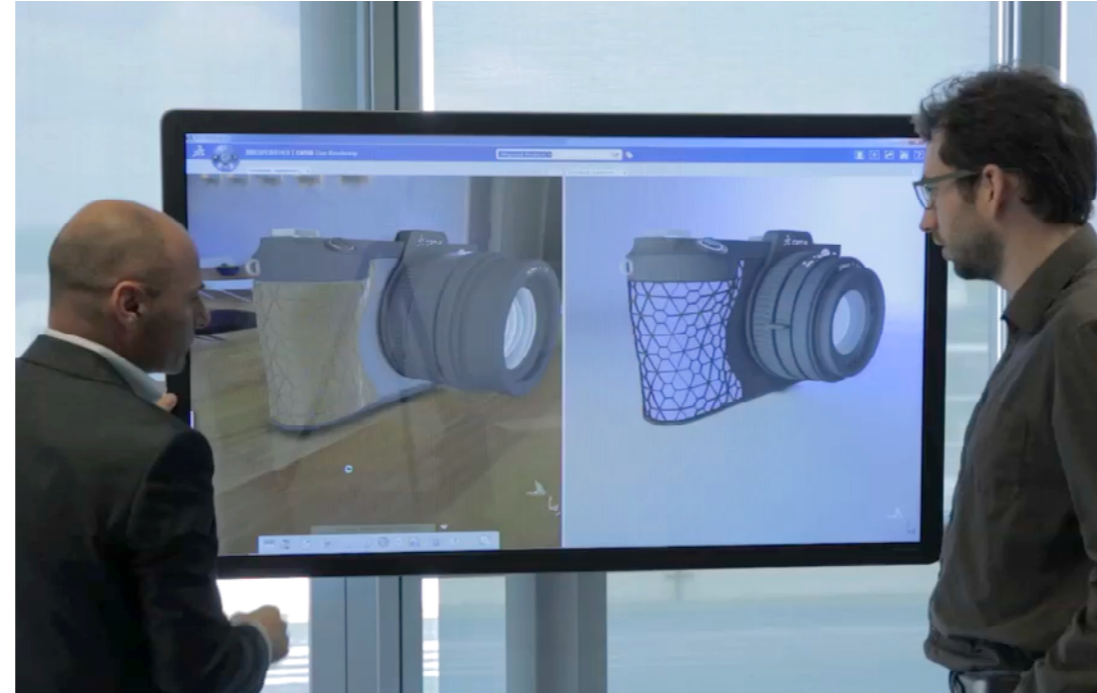
WHAT IF DECISION MAKERS COULD HARNESS ACCURATE INFORMATION TO DEFINE THE BEST CONSUMER EXPERIENCE AND MAKE THE RIGHT CHOICES?

Visual Experience Designer is a high-end visualization and rendering solution for comparing alternatives to make more accurate decisions during interactive team discussions.

CATIA Live Rendering is the integrated application for multiple needs, based on two consistent visualization modes:

- real-time visualization to explore shapes, materials, colors, and trim combinations;
- Interactive ray-tracing to simulate and produce physically correct renderings.

Designers and decision makers can see interactively how reflections of light interact with the material and shape of the object.



5 | DESIGN VALIDATION

Physical Prototyper Clay Modeler

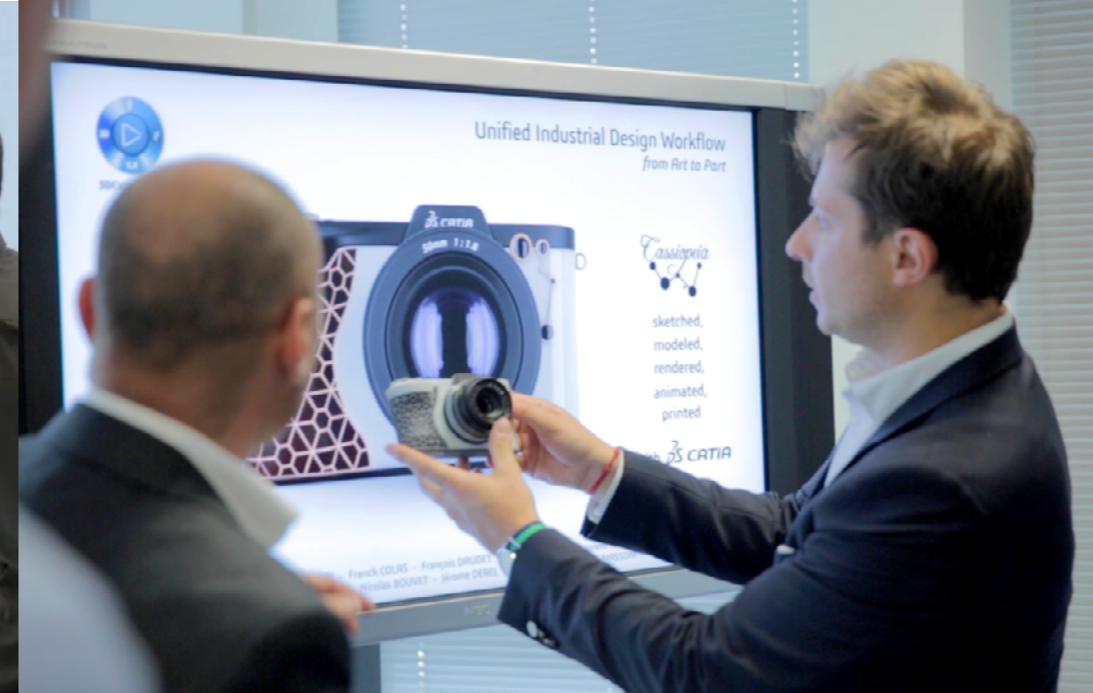
WHAT IF 3D PRINTING COULD IMPROVE DECISION MAKING AT ALL STAGES OF THE CREATIVE DESIGN WORKFLOW?

Design validation is also done with physical prototypes.

3D-print is used all along the creative design workflow, not only at the end to present the final product, but all along the project flow, for multiple uses, to make the right decisions.

Several prototypes can be made, in multi-material for:

- ergonomics study, to validate surfaces and volumes by hand at the concept clay modeling phase;
- physical validation to assemble and combine complex components together;
- complex mechanisms and usability, assembling existing parts with the new concept;
- final validation.



CONCLUSION

FOR HIGH-TECH COMPANIES, DASSAULT SYSTÈMES HAS DEVELOPED A UNIQUE APPROACH: SOCIAL IDEATION AND CREATIVE DESIGN.

THIS IS A COMPLETE AND INTEGRATED WORKFLOW SOLUTION FOR SHAPE DESIGN, STYLING, AND SURFACING THAT IS INTUITIVE AND EASY TO USE.

This unified industrial design workflow solution is tailored for High-Tech companies who need to imagine, create, manipulate, explore, and validate more ideas.

Design teams can create the right design faster by harnessing accurate information and correctly predicting the customer experience.

The **Cassiopeia** digital camera has been

- **sketched**
- **modeled**
- **rendered**
- **animated**
- **3D-printed**

All thanks to **3DEXPERIENCE** user-roles on the **3DEXPERIENCE** platform.



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.

