Boost CATIA with Cloud Services

DASSAULT SYSTEMES

Increase the value of your CATIA V5 DATA by sharing and collaborating on the 3DEXPERIENCE® platform

This interactive e-book is designed to show how CATIA V5 data can be stored on the **3DEXPERIENCE®** platform and used collaboratively throughout the project by CATIA V5 users and many others
The demonstration is built around a design change process that will involve multiple users such as marketing, designers, managers and procurement.
By taking a first step into the **3DEXPERIENCE** platform, you can extend the performance of CATIA V5 with cloud services and prepare for further transformation at your pace.

Scenario Overview

You will see the 8-step process involving multiple roles, such as the market analyst, CATIA Designers, Managers and procurement. These people have different needs and skills. In this case we need a new drone with camera at a specific final target price taking into account weight requirements.

Step1: The market analysts wants to explain some requirements and share some ideas.
Step2: The CATIA V5 designer starts to work on the 3D data, respecting what the market analyst has explained. He begins with an existing design, and shares this data with everyone.
Step3: The designer adds the camera and creates a new revision of the product.
Step4: A manager reviews the revision and creates the detailed design request.
Step5.A second CATIA V5 designer opens up the new project and creates the part to connect the camera to the original drone model and saves it inside the platform.
Step6: Back to the first CATIA V5 Designer, he modifies the body of the drone and adds a protective glass sphere to the design.
Step7: The manager reviews and validates the design work.
Step8: Another type of user, in procurement, needs to access the 3D Design to create a cost analysis.

1 Unique collaborative environment for the team

- Create product specifications and share with team

Process Step 1

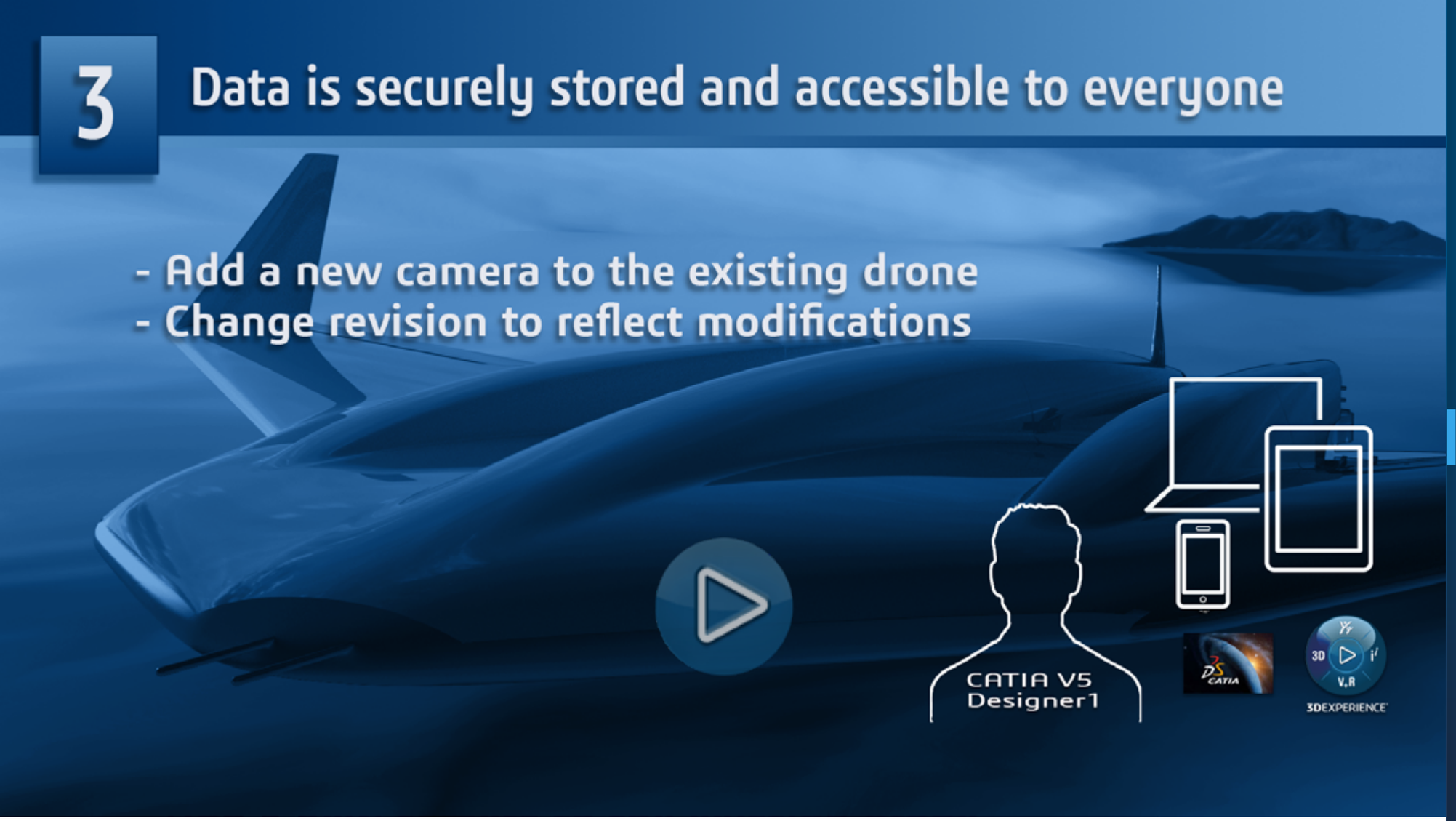
We start with the Market Analyst, working with Microsoft Word, for example, editing an existing requirement and saving it on the **3D**EXPERIENCE platform. The data is saved in a collaborative environment where you can find types of data, documents and 3D data. This 3D Dashboard is accessible on the web by many users and inside this environment we can share all the project data.
As well as marketing specifications, he can share some sketches and ideas, to indicate what is required.

Process Step 2

The CATIA V5 designer is going to take his existing file-based CATIA V5 drone design, and save it in a collaborative space. This will make the project securely accessible to everyone anytime, anywhere and on any device.

We have a **3D**EXPERIENCE menu inside CATIA V5, so we can save this drone inside the **3D**EXPERIENCE platform. Having done that, the project is available to everyone through the dashboard.

Using players and viewers, anyone can browse and view the product that has just been saved by the designer. This is web-based technology allowing fully mobile access. In this viewer, for example, we have some basic functionality such as sectioning and we can take some measurements.



Process Step 3

The designer will create a new project by adding a camera to the existing drone.
In CATIA V5 he finds and opens the existing drone, and we can see the sub-assembly structure.
And inside he will add the new camera. He searches for the camera in a library, something not possible if simply using file based CATIA V5, finds it and with a single drag and drop adds the new camera to the existing drone.
The user then creates a new REVISION, going from revision A to revision B.

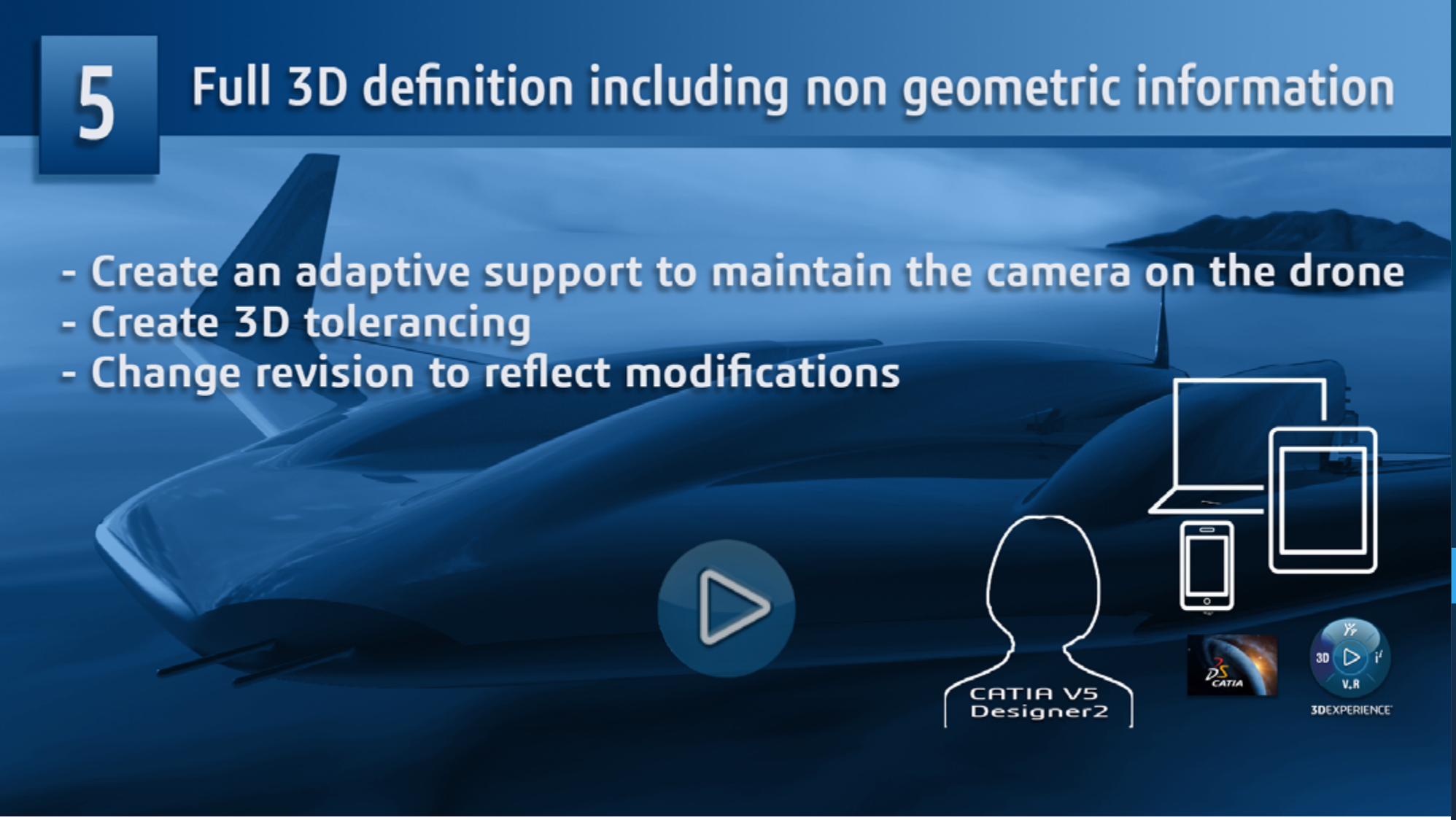
4 Online design management

Process Step 4

The manager will conduct a mobile review of the new drone and communicate the required modifications to the team.
Here he will use a specific application called "Design Review". He creates a circle to identify the area of interest and adds text to explain the work required to create a new glass sphere to protect the camera and to modify the drone structure plus add a support to connect the camera to the structure.

5 Full 3D definition including non geometric information

- Create an adaptive support to maintain the camera on the drone
- Create 3D tolerancing
- Change revision to reflect modifications



Process Step 5

A new CATIA V5 designer will carry out the job. The designer first opens the product and directly loads the data into V5
The designer sketches and creates a new part, a support to connect the camera to the structure.
In parallel, the Design Manager would like to add 3D tolerances on the adaptive support. He creates a collaborative task online by giving description, context, maturity, estimated date and attachments to the assignee.
The designer receives the task to execute, he reopens his CATIA V5. Here we are using 3D Master, we can create functional tolerancing and annotations directly on the 3D parts. So this definition is saved on the **3D**EXPERIENCE platform, so it will be available to everyone.

6 Design, manage and control modifications

- Create a glass sphere and modify the external body of the drone
- Change revision to reflect modifications

Process 6

Designer 1 will create a modification of the drone body to create a sphere to protect the camera and save it in the **3D**EXPERIENCE platform. This step also requires the change in version of some parts of the drone body. The system helps the user by prompting the user with an exclamation mark – asking the user what he wants to do and the user creates the revision.

7 Online design management

Process Step 7

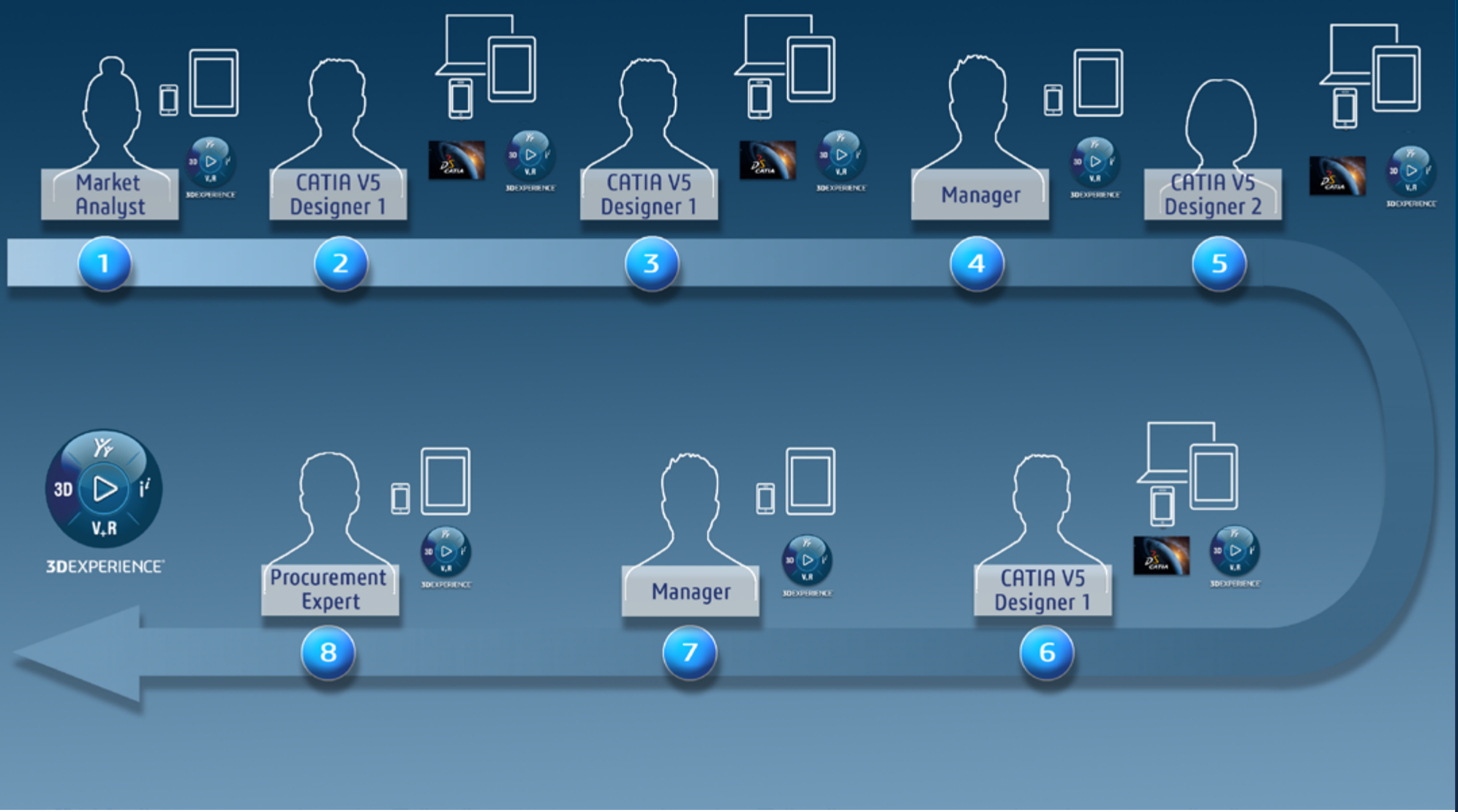
Now the design is complete, the manager will review and validate the project.
The manager has access to the new data. First he checks that it is the right revision and version. Then he will check in 3D that the design is consistent using the design review application.
This is not simply a viewer, but annotations can be saved as slides with the product, so the comments are persistent. They can even be versioned, so it is a great way to follow and track design discussions.
So the manager checks the support, the new camera and the structural modification.

8 Non-specialist access to full 3D definition

- 3D tolerancing and annotation review for cost estimation

Process Step 8

In the final step a procurement user needs to access the 3D Part to create a cost estimate.
She searches for and finds the support. The geometry, the dimensions and the tolerancing information are all visible and available.
She can check the quality required and use filters to limit the display.
And this can be done on any device, such as a phone or tablet.



Conclusion

So you have seen an existing drone, designed with CATIA V5, modified to include an integrated camera.

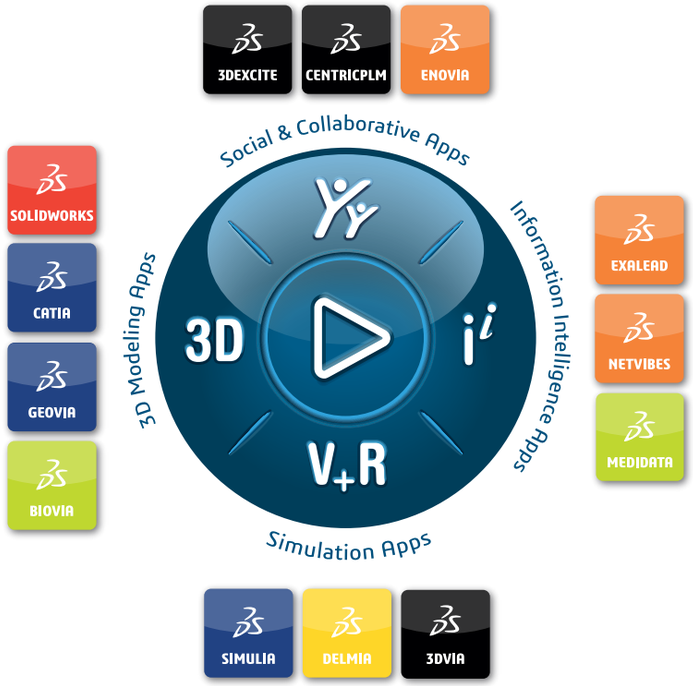
Some of the key points were:

- The secure collaboration of multiple users, with different needs.
- In addition, very importantly, collaboration is not about duplicating information, reinterpreting information. This is collaboration with connected engineering. Every participant used the same data – a single source of truth – whether it is the designer sitting at his desk or the manager connecting from his phone.
- And of course, doing this in the context of continuing to use, and protecting the investment in CATIA V5

Our 3DEXPERIENCE® platform powers our brand applications, serving 11 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the **3DEXPERIENCE** Company, is a catalyst for human progress. We provide business and people with collaborative virtual environments to imagine sustainable innovations. By creating 'virtual experience twins' of the real world with our **3DEXPERIENCE** platform and applications, our customers push the boundaries of innovation, learning and production.

Dassault Systèmes' 20,000 employees are bringing value to more than 270,000 customers of all sizes, in all industries, in



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