

# Augmented Reality, IoT and the Connected Product Experience

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# Visual Product Configurator

## Ski-Doo configuration example using Microsoft HoloLens

- Accurate real-size 3D visual representation
- Interactive configuration selection
- Natural user interaction with the virtual model
- Configurable parts with multiple choices
- Colour selection
- Accessories selection





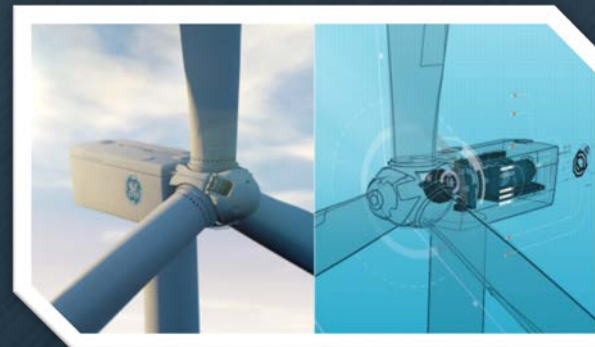
# SAP Does Visual!

- Visualisation of Digital Twins and IoT data on any device
- Real-time IoT data monitoring
- Analytics, predictive maintenance
- Virtual training with visual work instructions
- Collaboration on design, consumption, maintenance...
- Product configurators
- Customer engagement tools



“Digital twins are becoming a business imperative, covering the entire life cycle of an asset or process and forming the foundation for connected products and services”

Thomas Kaiser, Senior Vice President of IoT



# IoT data monitoring with Digital Twins

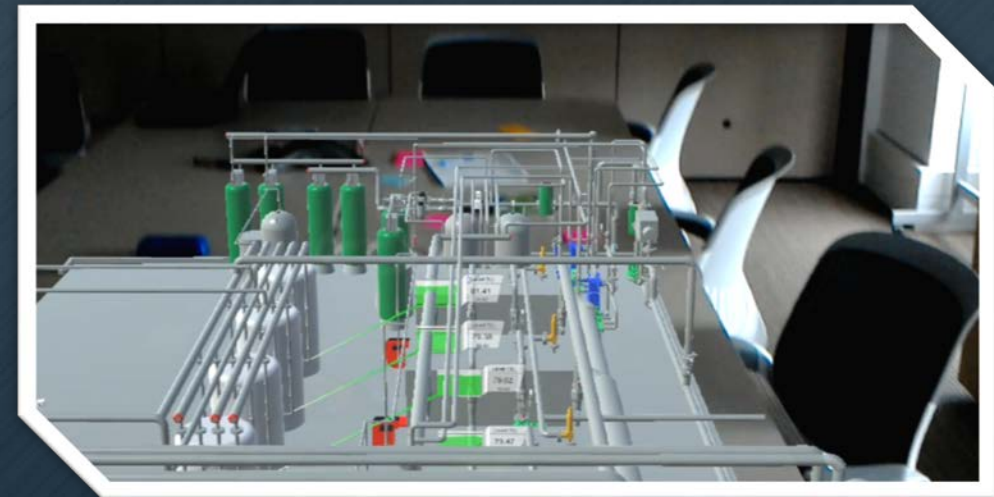
## Power generator example

- Visual 3D representation of a remote installation
- Real time IoT data monitoring
- Visual warnings
- Switching to detailed view of problematic part



## Boiler plant example

- Visual representation of a remote facility
- Real time IoT data fed into visual data
- Visual warnings for out-of-bounds data
- Selective data display





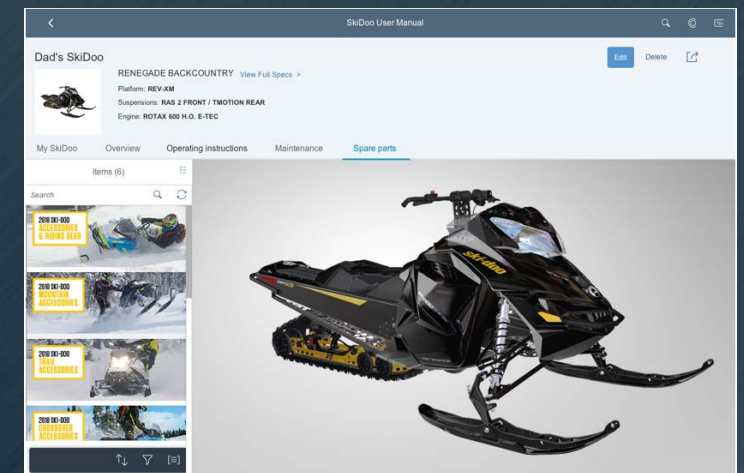
# Transforming the humble user manual into a customer engagement tool

## Classic user manuals

- Every manufacturer has to create, maintain and deliver User Manuals
- In a world of highly configurable products and digital native customers, this is an expensive, and often wasted effort with limited use (paper manuals are discarded or lost when you most need them).
- And it is one-way, non-interactive. No up-sell, accessories, consumables or spare parts.

## Customer engagement tool

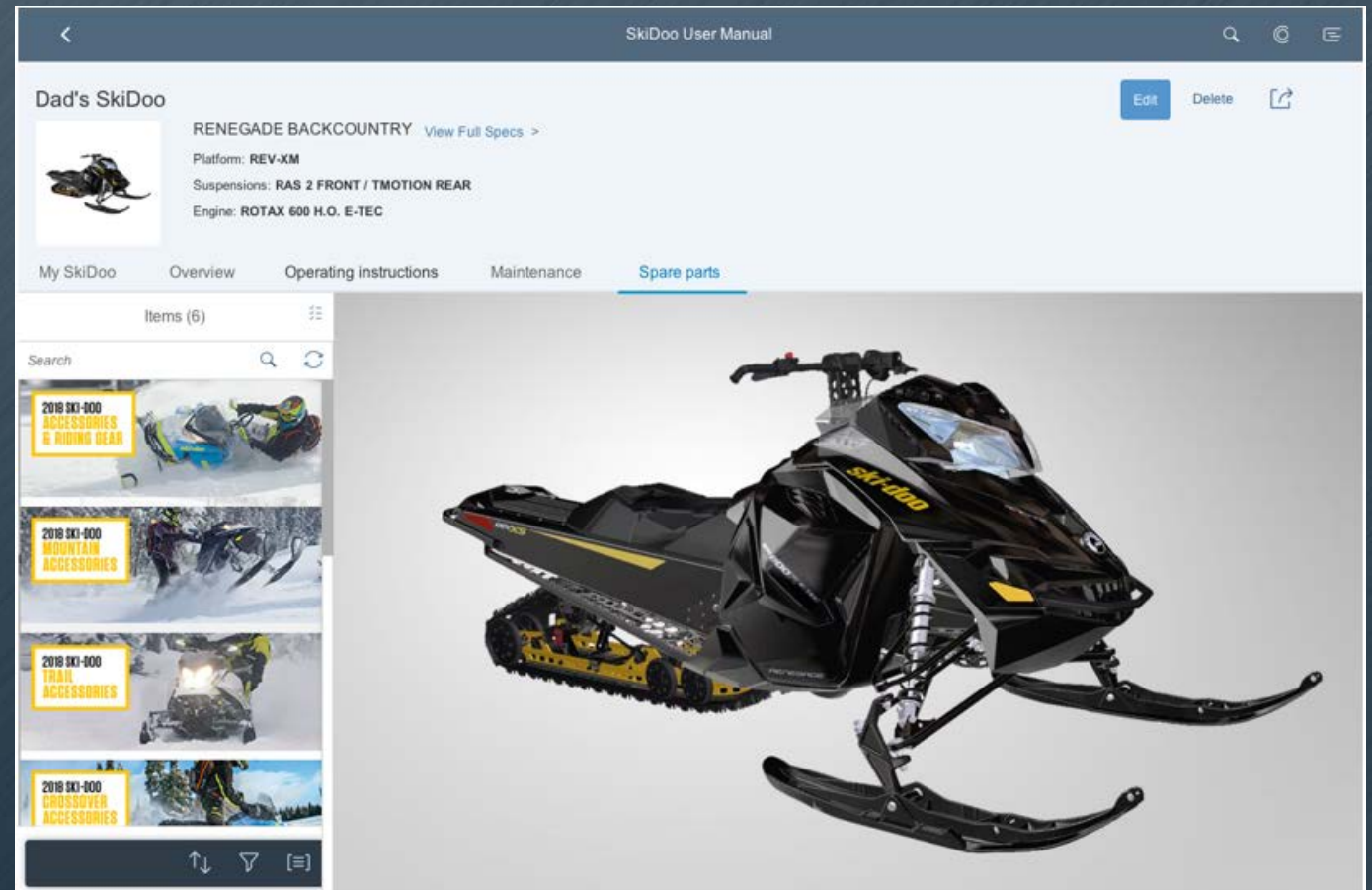
- Always available on any device
- Configured for your particular product
- Interactive and visual
- Can offer new upgrades and accessories
- Service reminders



# Interactive Connected User Manual hosted in SAP Cloud Platform

Enabling the intelligent user manual

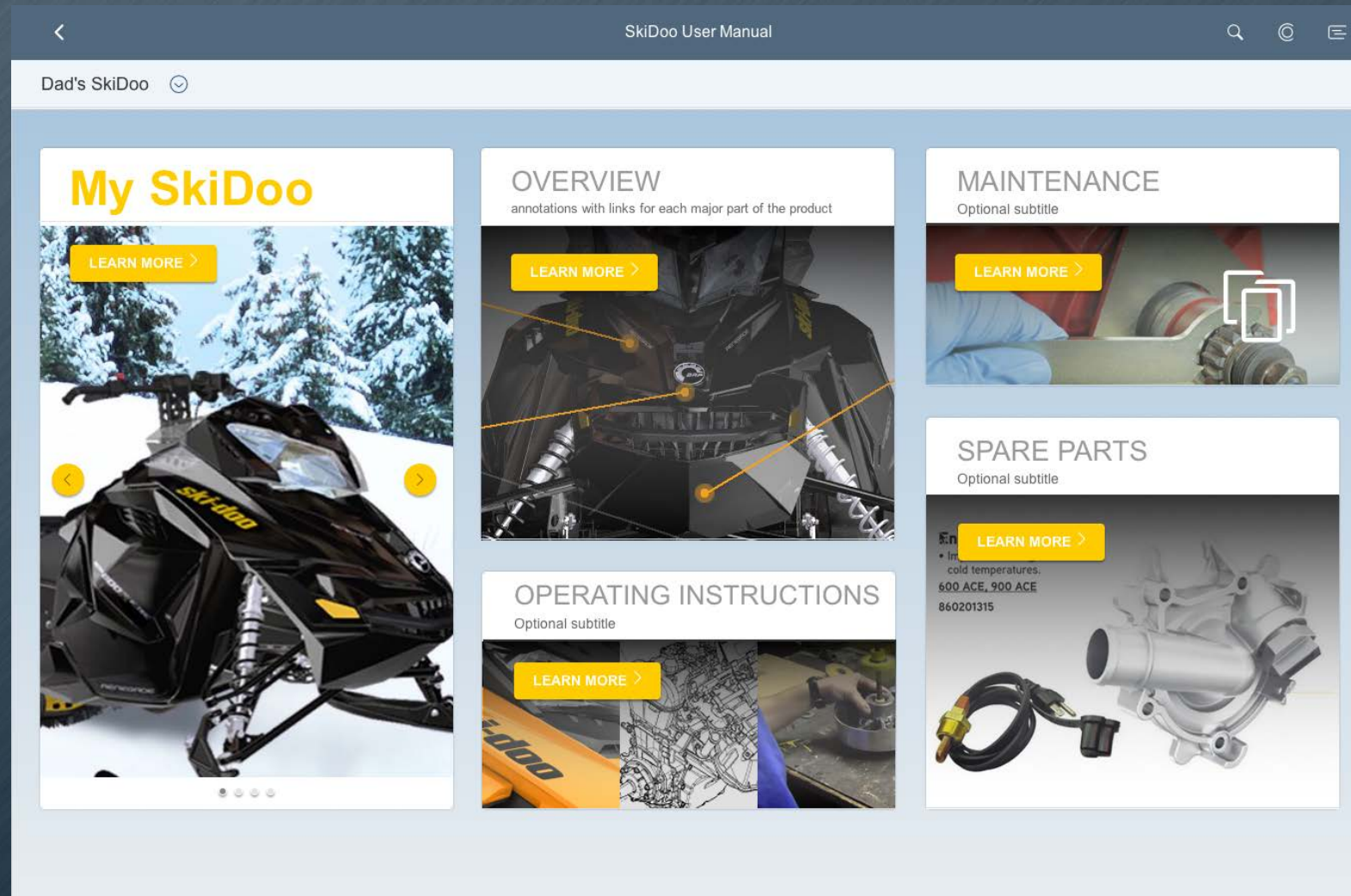
- Available and connected
- Modern, Fiori UI design
- On your phone, tablet or headset
- Will know which model you bought
- Will know if it needs a service
- Provides access to spare parts and warranty information
- Provides video or animated operational or maintenance procedures





# Interactive Connected User Manual hosted in SAP Cloud Platform

Enabling the intelligent user manual





# Interactive Connected User Manual hosted in SAP Cloud Platform

Enabling the intelligent user manual

The screenshot displays the 'SkiDoo User Manual' interface. At the top, the title 'SkiDoo User Manual' is centered, with search, refresh, and menu icons on the right. Below the title, the user's profile 'Dad's SkiDoo' is shown with 'Edit', 'Delete', and share icons. The main content area features a product overview for 'RENEGADE BACKCOUNTRY' with specifications: Platform: REV-XM, Suspensions: RAS 2 FRONT / TMOTION REAR, and Engine: ROTAX 600 H.O. E-TEC. A navigation bar includes 'My SkiDoo', 'Overview', 'Operating instructions', 'Maintenance' (highlighted), and 'Spare parts'. A sidebar on the left lists 'Instructions (10)' and a search bar. Below the search bar, three maintenance-related items are listed: 'Must-Do Snowmobile Maintenance' (Web Link), 'Ski-Doo Maintenance' (PDF Doc, 15 pages), and 'Skidoo Rev-XM Maintenance before the trip' (YouTube Video). The main content area is dominated by a video player titled 'Ski-Doo 1200 4TEC eDrive2 clutch maintenance', showing a close-up of a person's hands working on the engine's clutch mechanism. The video player includes a progress bar at the bottom showing 0:06 / 11:32.

# Interactive Connected User Manual hosted in SAP Cloud Platform

Enabling the intelligent user manual

The screenshot displays the 'SkiDoo User Manual' interface. At the top, the title 'SkiDoo User Manual' is centered, with search, refresh, and menu icons on the right. Below the title, the product is identified as 'Dad's SkiDoo' with a small image and 'RENEGADE BACKCOUNTRY' model name. Technical specifications are listed: Platform: REV-XM, Suspensions: RAS 2 FRONT / TMOTION REAR, and Engine: ROTAX 600 H.O. E-TEC. Action buttons for 'Edit', 'Delete', and a share icon are visible. A navigation bar includes 'My SkiDoo', 'Overview', 'Operating instructions', 'Maintenance', and 'Spare parts' (which is highlighted). On the right of the navigation bar are 'SHOPPING CART (1)' and 'MY ACCOUNT >' buttons. The main content area is split into two columns. The left column, titled 'Items (15)', contains a search bar and a list of four items, each with a small image, a title, a short description, and a shopping cart icon. The right column features a large, high-quality image of a SkiDoo snowmobile.



# Interactive Connected User Manual hosted in SAP Cloud Platform

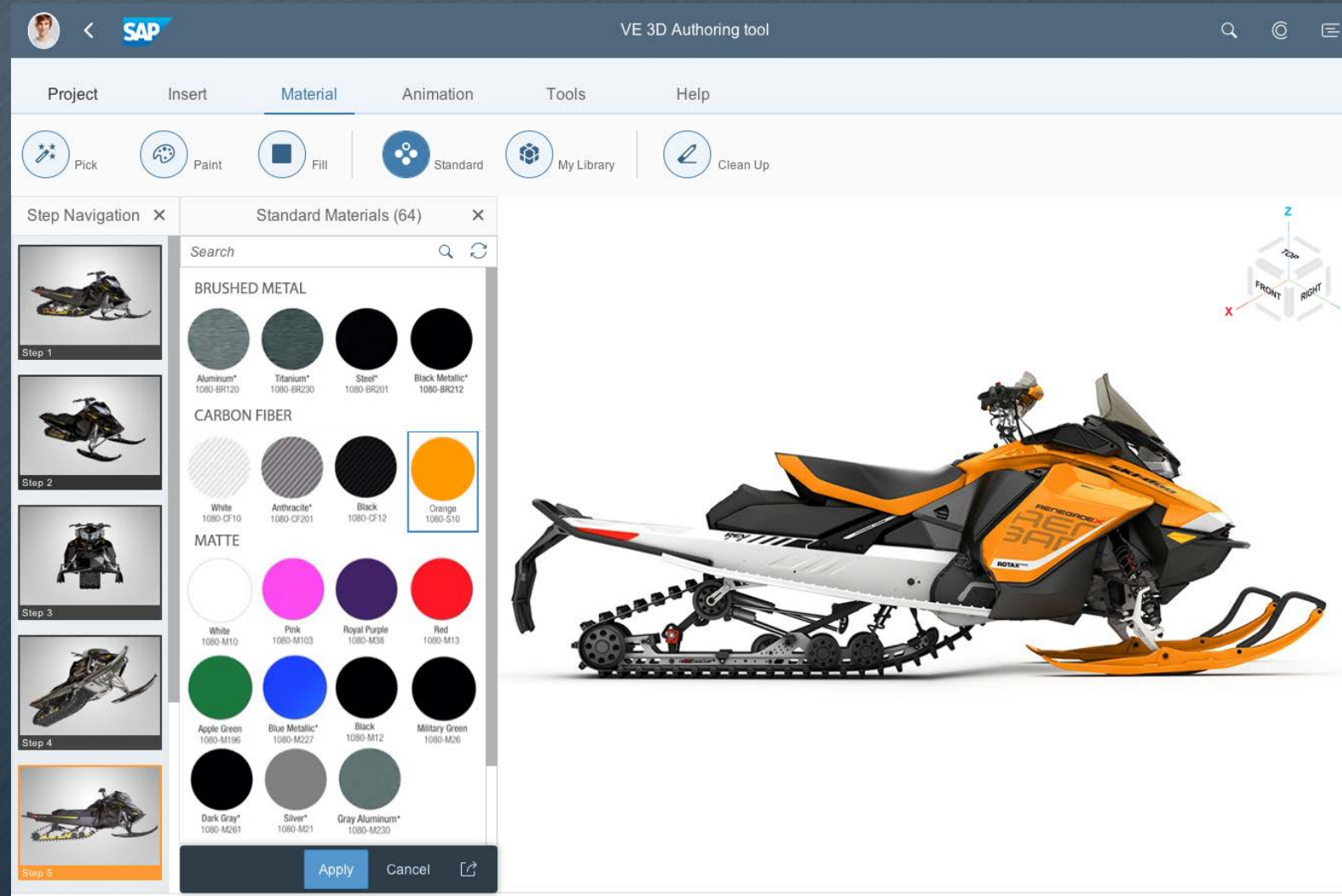
Enabling the intelligent user manual

The screenshot displays a mobile application interface for a SkiDoo user manual. The top navigation bar includes a back arrow, the title "SkiDoo User Manual", and search, home, and menu icons. The main content area is titled "Dad's SkiDoo" and features a product image and specifications: "RENEGADE BACKCOUNTRY", "Platform: REV-XM", "Suspensions: RAS 2 FRONT / TMOTION REAR", and "Engine: ROTAX 600 H.O. E-TEC". Below this, there are tabs for "My SkiDoo", "Overview", "Operating instructions", "Maintenance", and "Spare parts". A shopping cart icon shows "SHOPPING CART (1)" and a "MY ACCOUNT >" link. The "Spare parts" section lists 15 items, with a search bar and a list of items (Item 1 to Item 4). A modal window titled "Mountain Accessories" is open, showing "Item 3" with a 4-star rating, "In Stock" availability, and a cost of 1,459.00 USD. The modal also includes "Add to Cart" and "Cancel" buttons.

# Communicating Product Information

Simplified technical authoring for cloud and AR consumption: user manuals, simple configurators

Assign materials





# Communicating Product Information

Simplified technical authoring for cloud and AR consumption: user manuals, simple configurators

## Annotate

The screenshot displays the SAP VE 3D Authoring tool interface. The top navigation bar includes 'Project', 'Insert', 'Material', 'Animation', 'Tools', and 'Help'. Below this is a toolbar with icons for '2D images', '3D files', 'Video', 'Background', 'Light', and 'A-z Annotate'. The main workspace is divided into three sections:

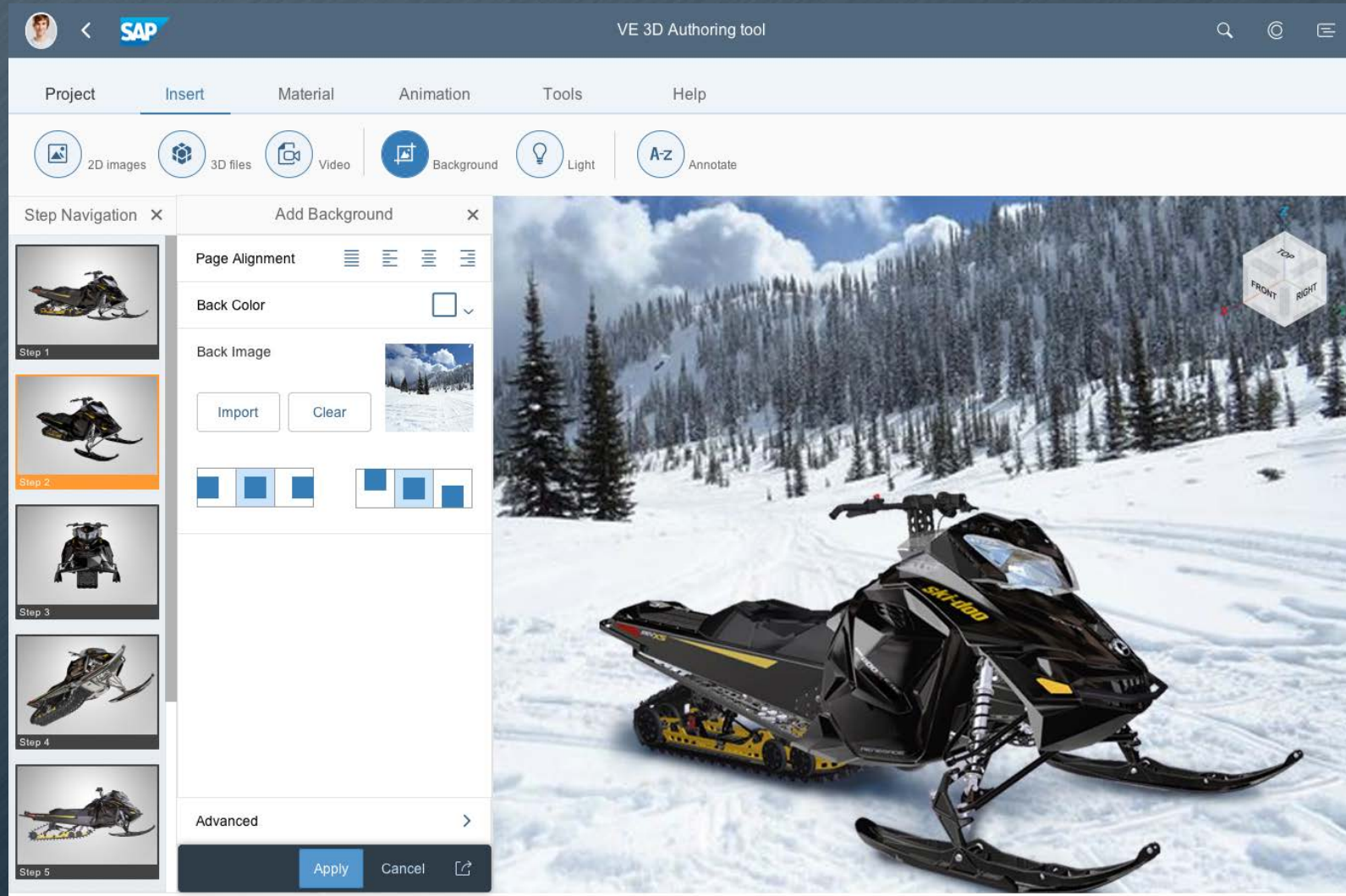
- Step Navigation:** A vertical list of five steps, with 'Step 2' highlighted in orange. Each step shows a thumbnail of the snowmobile.
- Annotate Panel:** A central panel with a 'Create New Callout' button, an 'Edit' button, and a 'Content Editor' dropdown. It contains a text input field labeled 'Enter text...' and an 'Add Link' button. At the bottom are 'Apply', 'Cancel', and a refresh icon.
- 3D View:** A central 3D model of a snowmobile with four callout boxes connected by orange lines:
  - ENGINE ROTAX 850 E-TEC:** Includes a sub-image and the text: "POWER WITH CONTROL. Proven and recognized by riders for reliability. Preparing for the off-season is easy with built-in automatic summerization function."
  - FRONT SUSPENSION RAS 2:** Includes a sub-image and the text: "ULTIMATE PRECISION. Ultimate geometry and lighter components deliver excellent precision and stability and reduces roll in corners. Sharp styling, too."
  - 2 SKIS PILOT DS:** Includes a sub-image and the text: "DEEP SNOW CONTROL. Single-keel with excellent sidehilling bite, thanks to thin outer edges. Narrow and thin, yet stiff. Shorter behind its complementary spindle with flat tail for easier counter-steering and sidehilling."

A 3D coordinate system (X, Y, Z) is visible in the top right corner of the 3D view.

# Communicating Product Information

Simplified technical authoring for cloud and AR consumption: user manuals, simple configurators

## Backgrounds





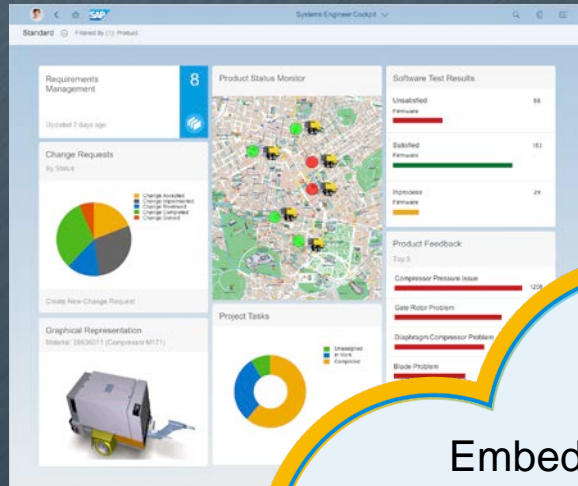
# Connected Products

Storyline

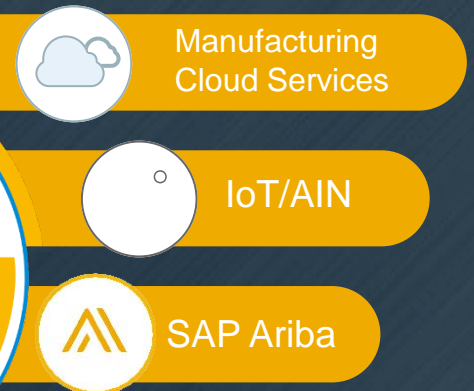
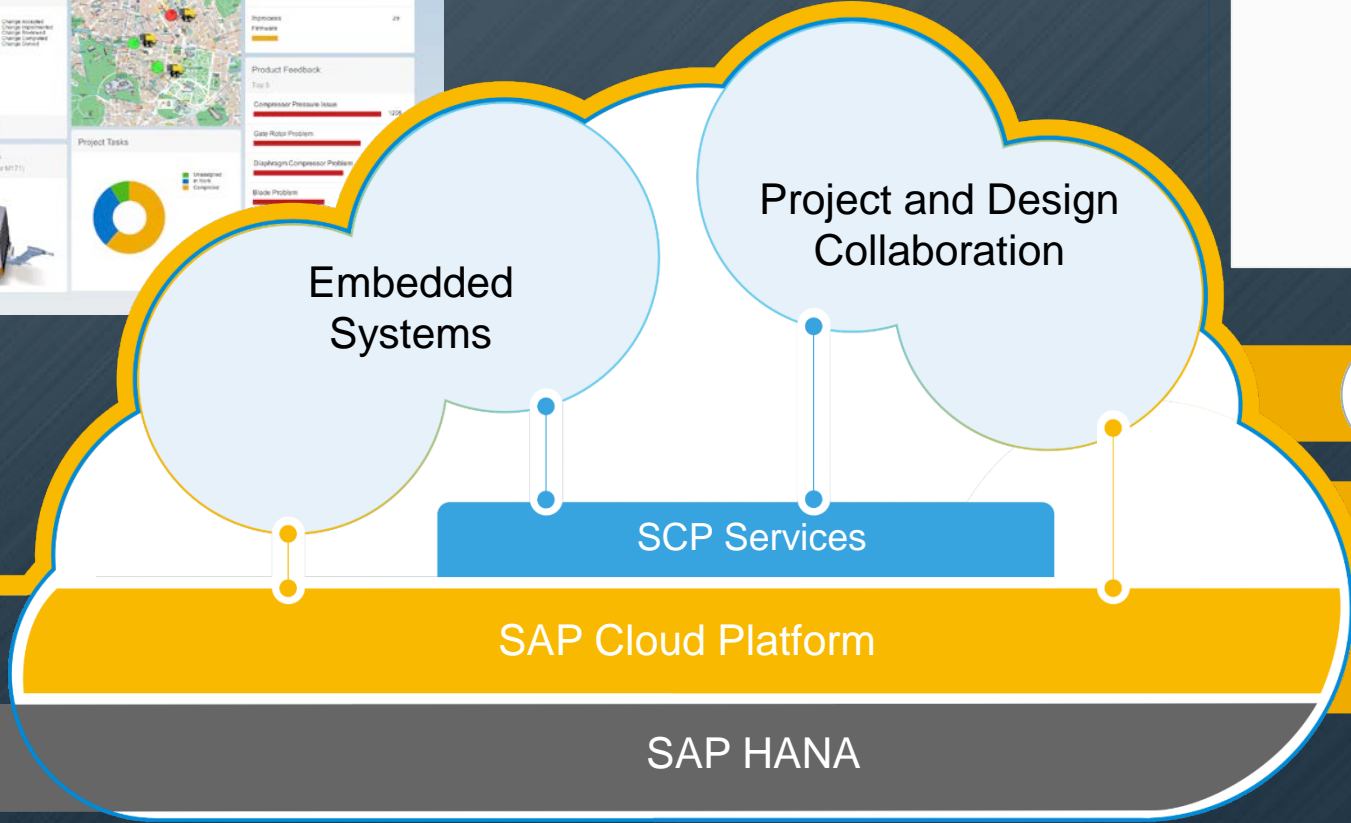
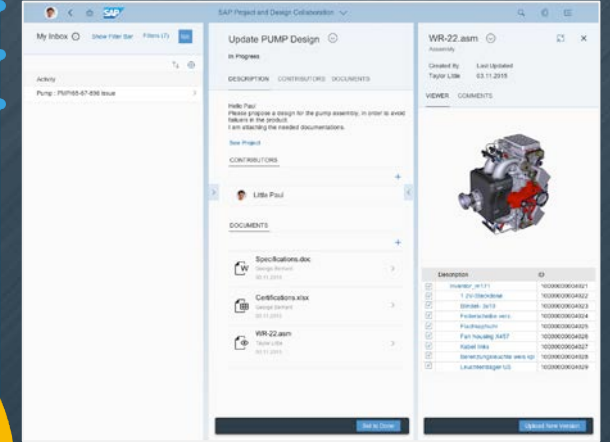
- Integrate software as part of the Smart Connected Product
- Seamless systems engineering
- Ensure compatibility between the software and hardware

- Closing the process gaps between engineering and the digital twins
- Share, submit and collect engineering documents
- Execute task structure across company boundaries

- Systems Engineer Cockpit
- Embedded SW
- Requirements Management
- Functional Structure Management
- Where Used Analysis
- Compatibility Management
- Test Validation
- IOT Analytics



- Collaborative Engineering and Document Collaboration
- Collaborative 3D Visual Design Review
- Simple Task/Worklist Management
- Change Management Integration



# Want to Influence SAP Product direction?

The Visual Enterprise team vision is to transform industry with Digital Twin visualisation and Interactive Connected user manuals

- We plan a Connected Product Experience on SAP Cloud Platform
- Next: Customer Engagement Initiative to test concepts and design product
- This is great opportunity for innovative customers to work with us and influence SAP product direction





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# Thank you

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