

Vorteile der CATIA 3DX gegenüber CV5



CORE MECHANICAL

11-2025



CATIA 3DEXPERIENCE ROLES VS CATIA V5 PRODUCTS PACKAGING FUNDAMENTAL



CATIA V5 is made of configurations with add-ons to manage « à la carte » the customers cases

Portfolio figures | 2 portfolios

- **CATIA V5**

- 33 Configurations: node lock
- 172 Add-ons: node lock or shareable



- **CATIA V5 PLM Express**

- 3 Based configurations linked to PLM, 3DEXP, 3DEXP Cloud
- 49 Enablers & Extensions

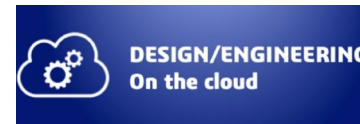


Design / Engineering is made of stand alone roles sustaining processes with user profiles definition

Portfolio figures | 1 portfolio

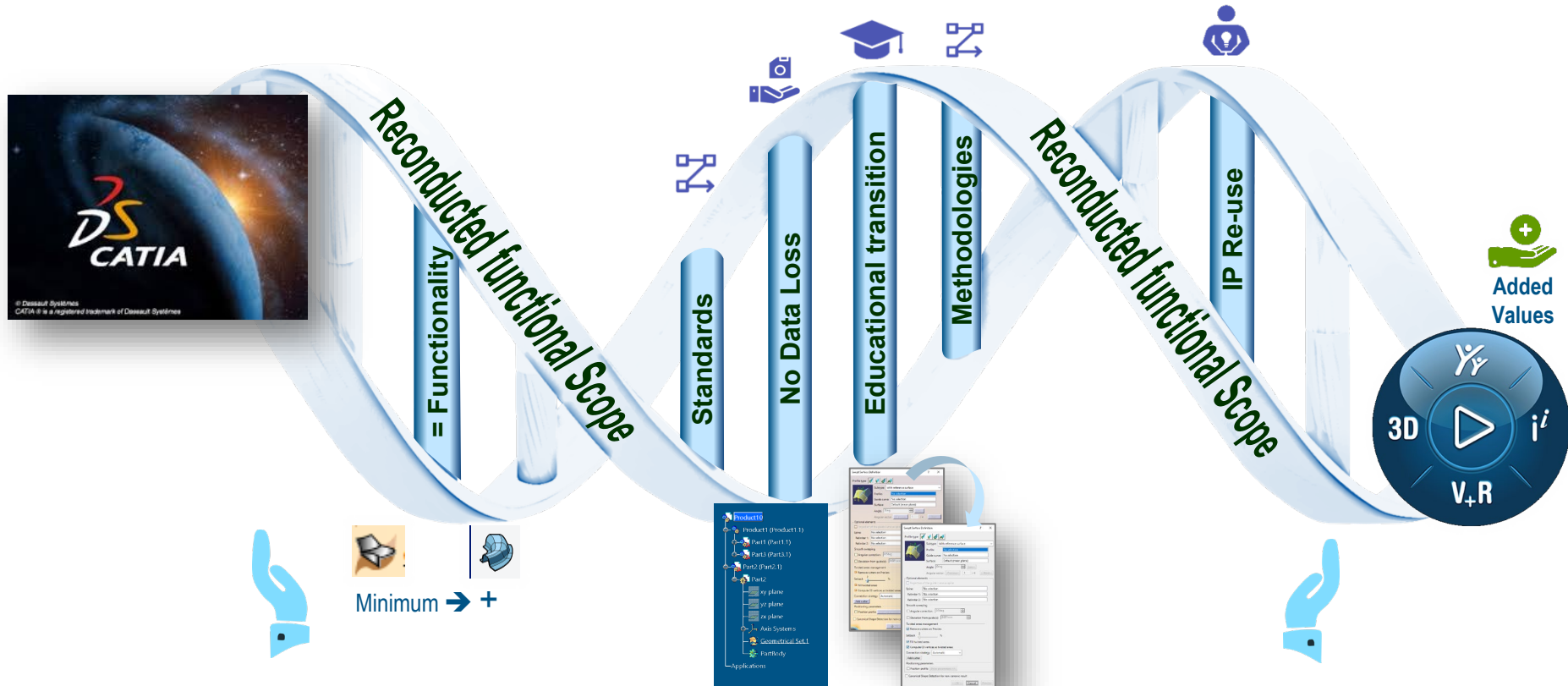
- **3DEXPERIENCE CATIA | « Design / Engineering »**

- 146 Roles (141 cloud, 133 on premise)
- Named User, Shareable only for on premise
- 1 portfolio embedded in Industry Processes experiences value engagement



CATIA V5-6 → 3DEXPERIENCE MIGRATION

Return on Investment Protection  | Reconstructed Functional Scope



CORE MECHANICAL | BEST SELLER EXAMPLE → MECHANICAL DESIGN

Mechanical Design (MD2) Configuration → Mechanical Designer (MDG) role



**Mechanical Design
(MD2)**



**Mechanical Designer
(MDG)**



CATIA ASSEMBLY DESIGN (ASD)



CATIA - GENERATIVE DRAFTING (GDR)



CATIA - GENERATIVE SHAPE DESIGN (GS1)



CATIA - IGES INTERFACE (IG1)



CATIA - KNOWLEDGE EXPERT (KE1)



CATIA - PART DESIGN (PDG)



V5 products consider as "Reconducted"
Apps within the 3DEXP Role



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V5 products consider as "Reconducted"
Apps within the 3DEXP Role

Apps consider as 'Added Values' within
the targeted 3DEXP Role



WHAT ARE THE TOP 3DEXPERIENCE
CATIA
CORE MECHANICAL VALUES
& DIFFERENTIATORS

BUILD YOUR OWN 3DEXPERIENCE COLLABORATIVE EXPERIENCE

Select your objective Build your team



User Groups



People 360

Select relevant data Representation & referential



3DDrive



3DSearch



3DPlay



Metrics Reader



Feed Reader



3DStory



Social Analytic



Project Intelligence



Globe View



Ad'hoc data science

Globe Viewer

Select Business Collaboration method



Collaborative
Tasks



Project
Planning



3DLean



3DSwym



Collaboration &
Approvals



Collaborative
Lifecycle



Route
Management



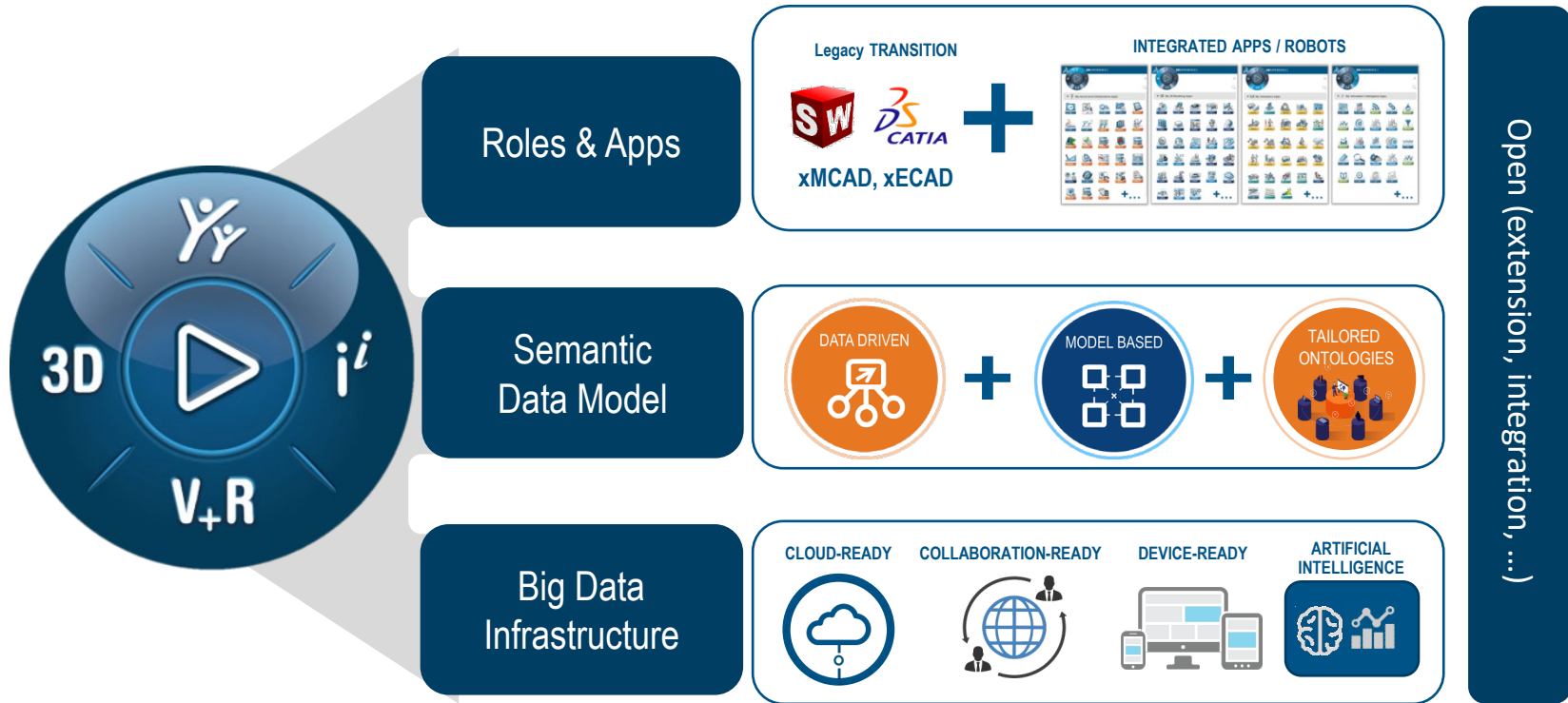
Web Notes

Play & Learn

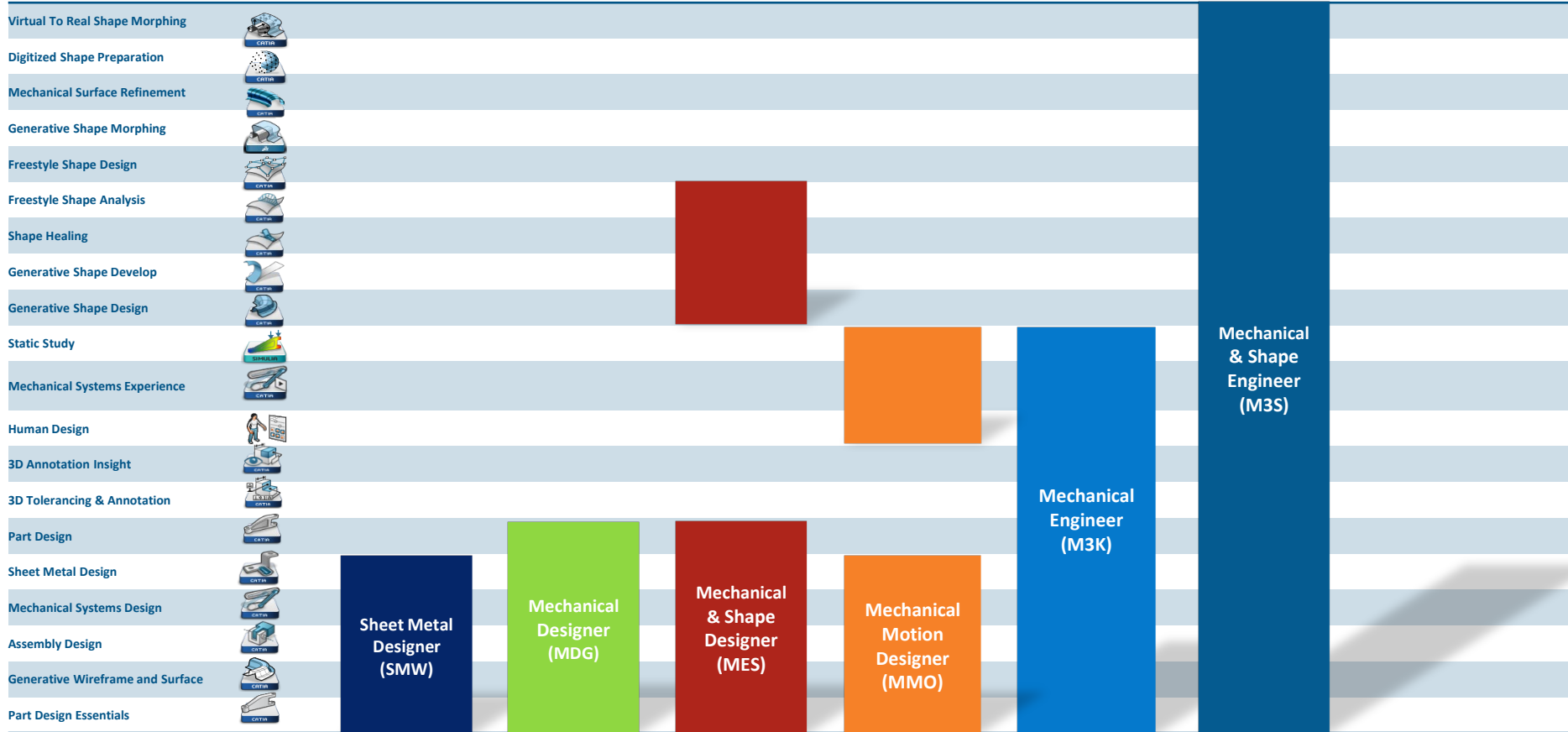


3DDashboard

3DEXPERIENCE PLATFORM ARCHITECTURE

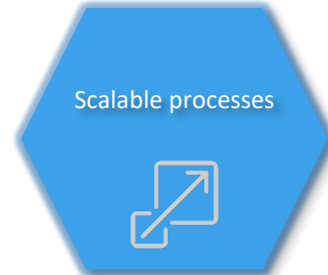


CATIA MECHANICAL & SHAPE ENGINEERING 6 ROLES PORTFOLIO



Major apps differences

TOP 10 3DEXPERIENCE CATIA MECHANICAL ROLES VALUES



1

BEST IN CLASS MODELING | DESIGN ANYTHING

❖ Precision & Capability | High geometric accuracy guaranteed

- Design everything – achieve any complex exact geometries with ease
- Rely on unparalleled precision with the industry's best geometric core modeler
- Create from simple to very sophisticated models

❖ High-end surface quality

- Develop and morph any surfaces
- Advanced healing for repairing imported surfaces
- Quickly flatten ruled & non-ruled surfaces*
- Transfers surfaces and curves between revolution and plane shape*

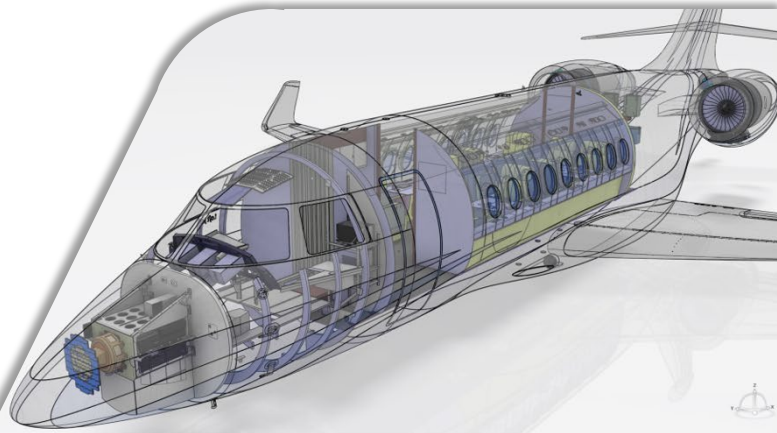
❖ High Performance

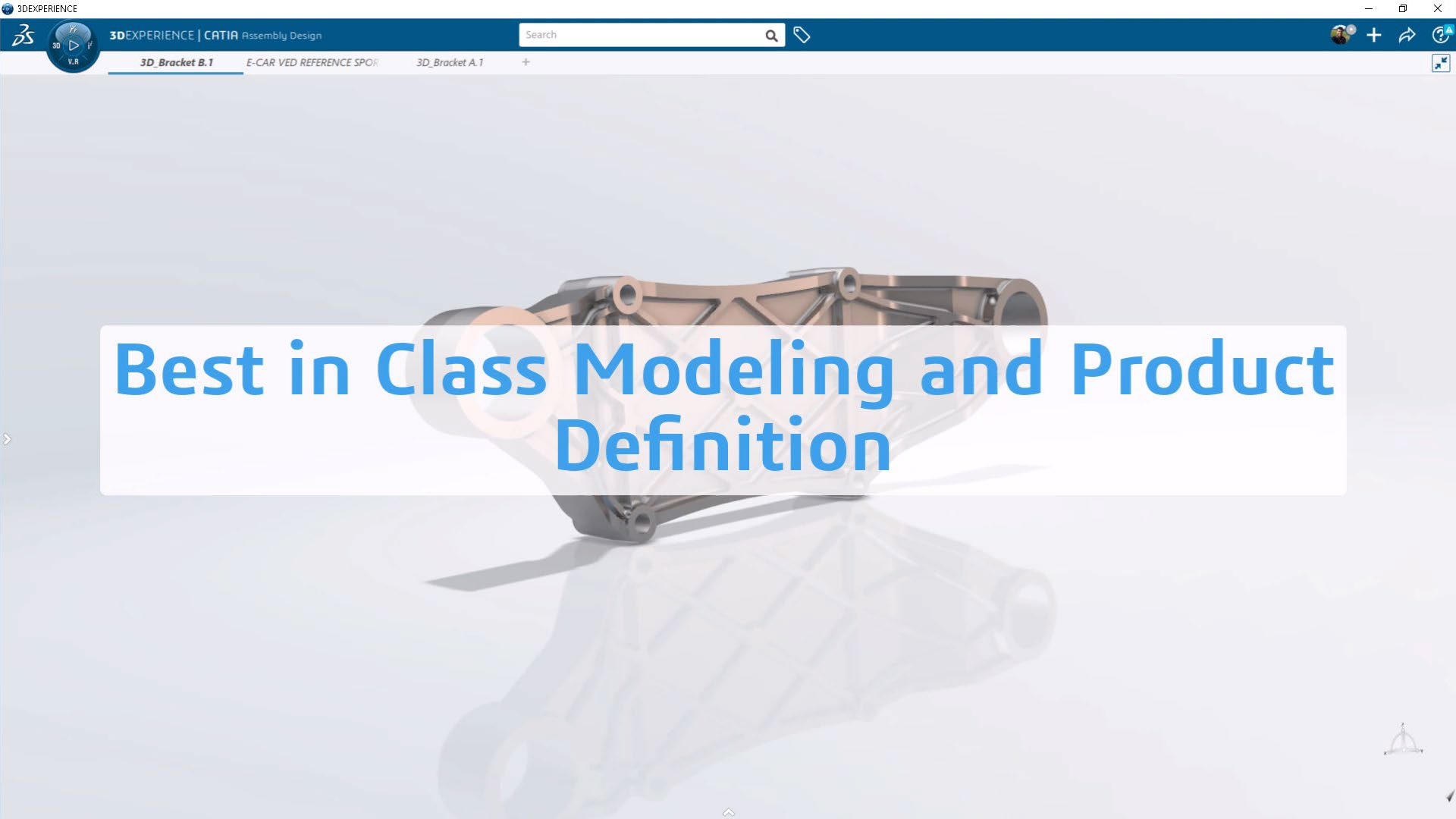
- Even on heavy models with high number of features

❖ Robust & stable iterative design modifications

- Explore new solutions and many design iterations

* In advanced roles only





Best in Class Modeling and Product Definition

2 MANUFACTURING READY DESIGN | STREAMLINED PRODUCTION

❖ Streamline manufacturing with dedicated design solutions

- Precise design and seamless manufacturing of complex sheet metal components
- Ensure flawless 3D prints with integrated printability checking and repair tools
- Generative Shape Design is industry standard for designing Body In White parts
- Design accurate Part & Shape to be directly machined with precision
- Optimize plastic molding parts design with functional part design

❖ Validate Manufacturability of your design

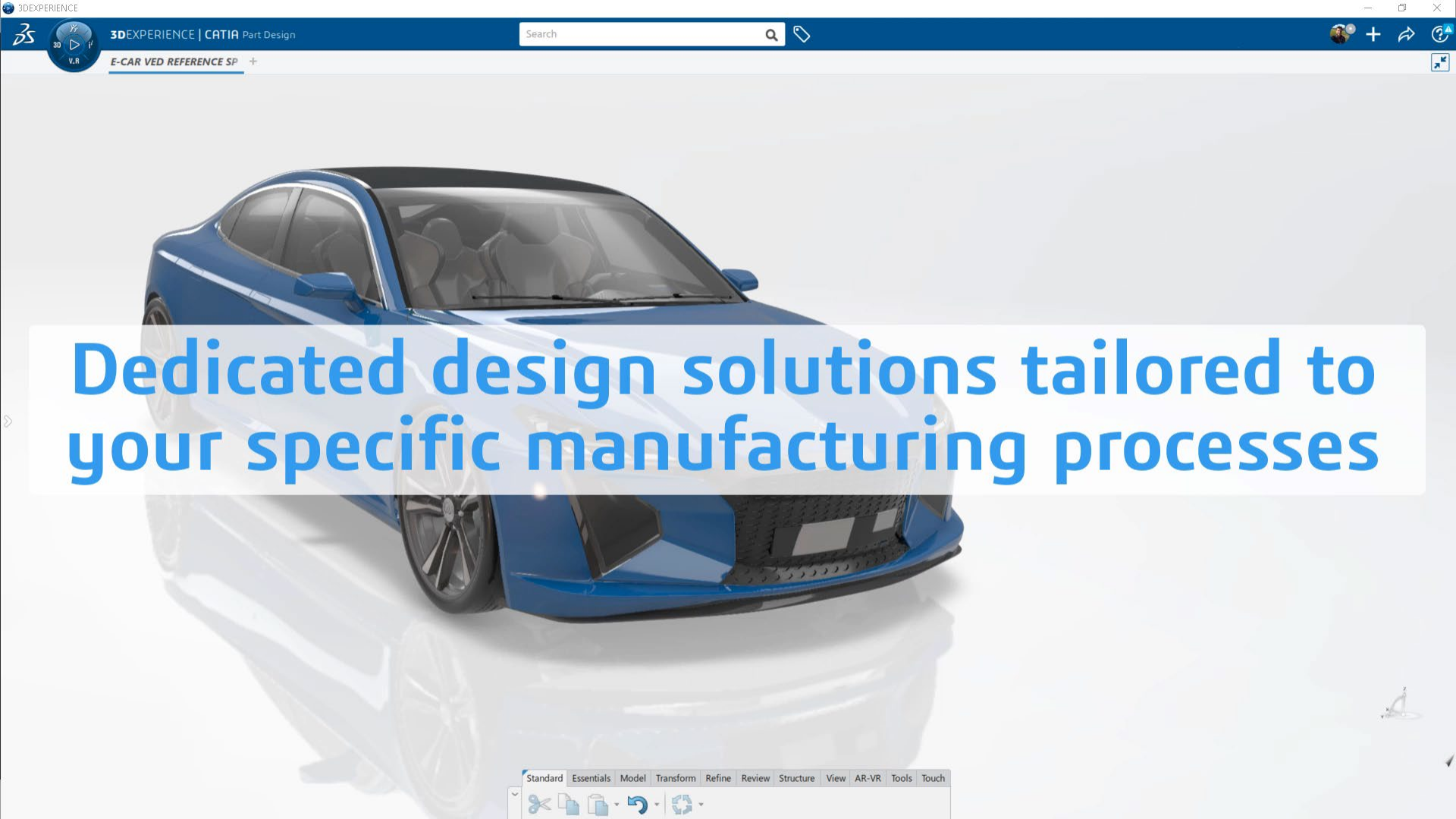
- Analyze design wall thickness, draft angles, curvature to respect manufacturing rules

❖ Optimize shapes and corresponding tools

- Compare & correct load-induced deviations with virtual to real shape morphing*



* In advanced roles only



**Dedicated design solutions tailored to
your specific manufacturing processes**

3

CAPITALIZE YOUR EXPERTISE | AUTOMATE

❖ Unleash infinite possibilities with parametric flexible 3D models

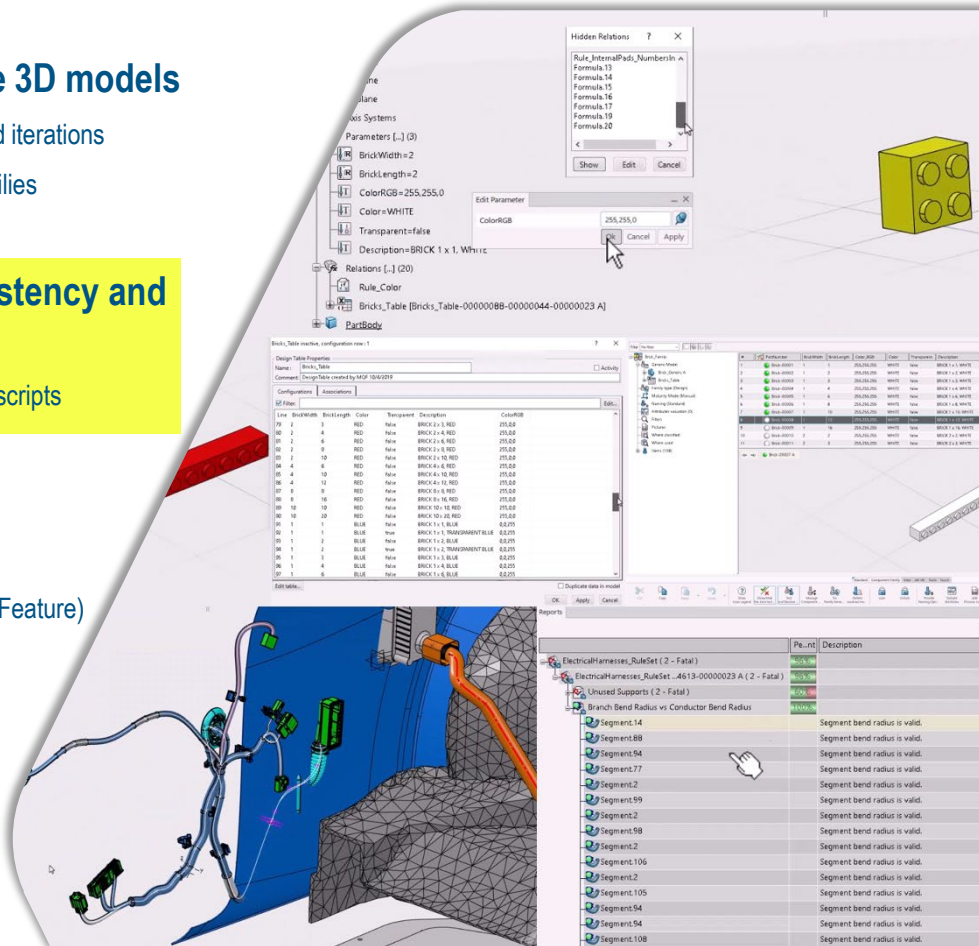
- Create parameters & formulas to allow seamless modifications and rapid iterations
- Use design table to enable quick design exploration and create part families

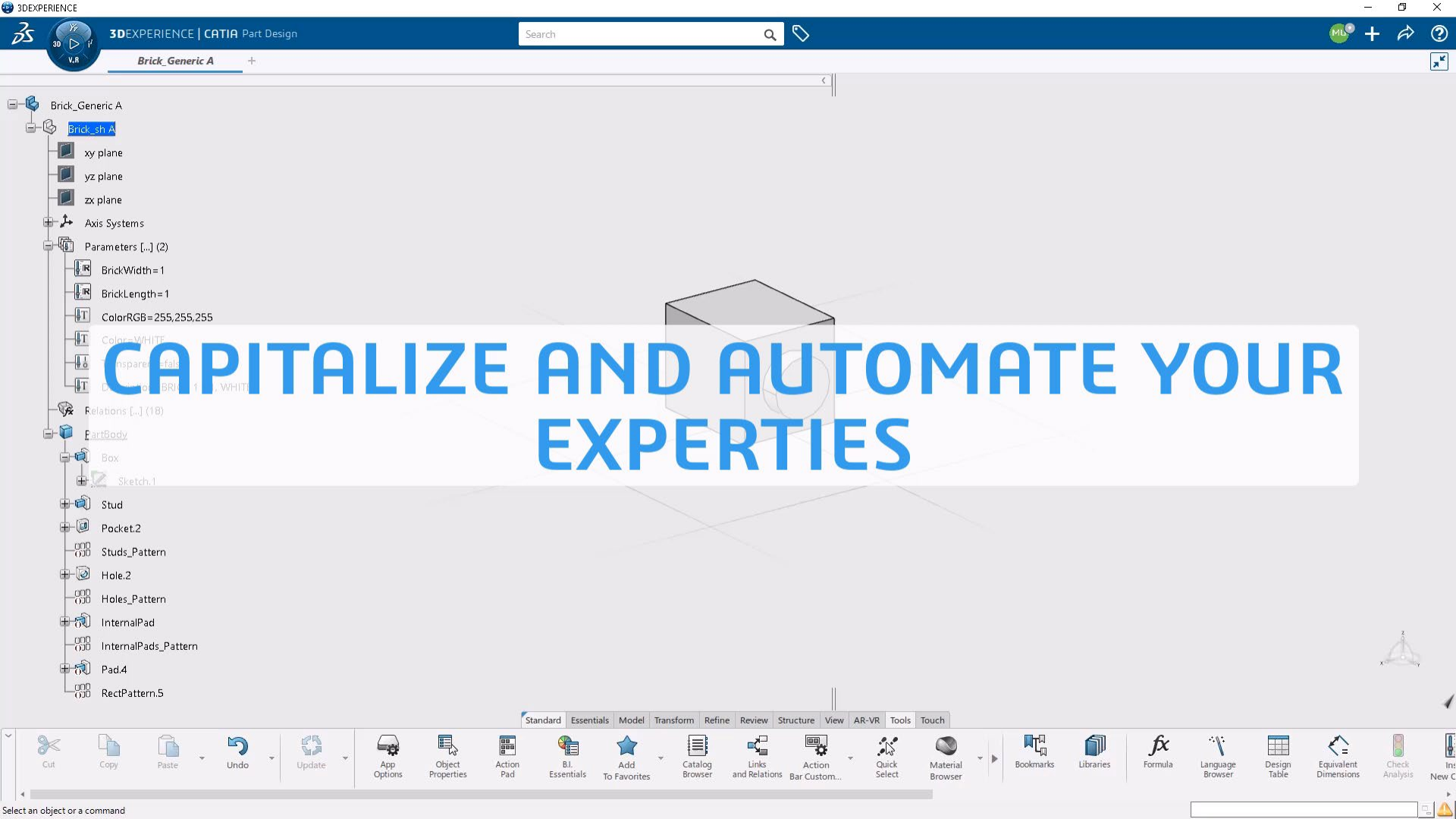
❖ Streamline design process, ensure efficiency, consistency and adaptability

- Manage component families efficiently with automated Knowledgeware scripts

❖ Achieve product engineering right the first time

- Re-use rules and checks created by experts
- Create and re-use adaptive smart templates (Powercopy, User Defined Feature)





4 MANAGE LARGE ASSEMBLIES | DESIGN IN FULL PRODUCT CONTEXT

❖ Navigate & understand easily any large assembly

- Quickly explore assemblies & sub assemblies up to last component on turn table

❖ Define and retrieve easily design context

- Filter assembly structure to set relevant design context with configuration filter, attribute filter, selection filter and volume filters etc.

❖ Design in context of large assemblies

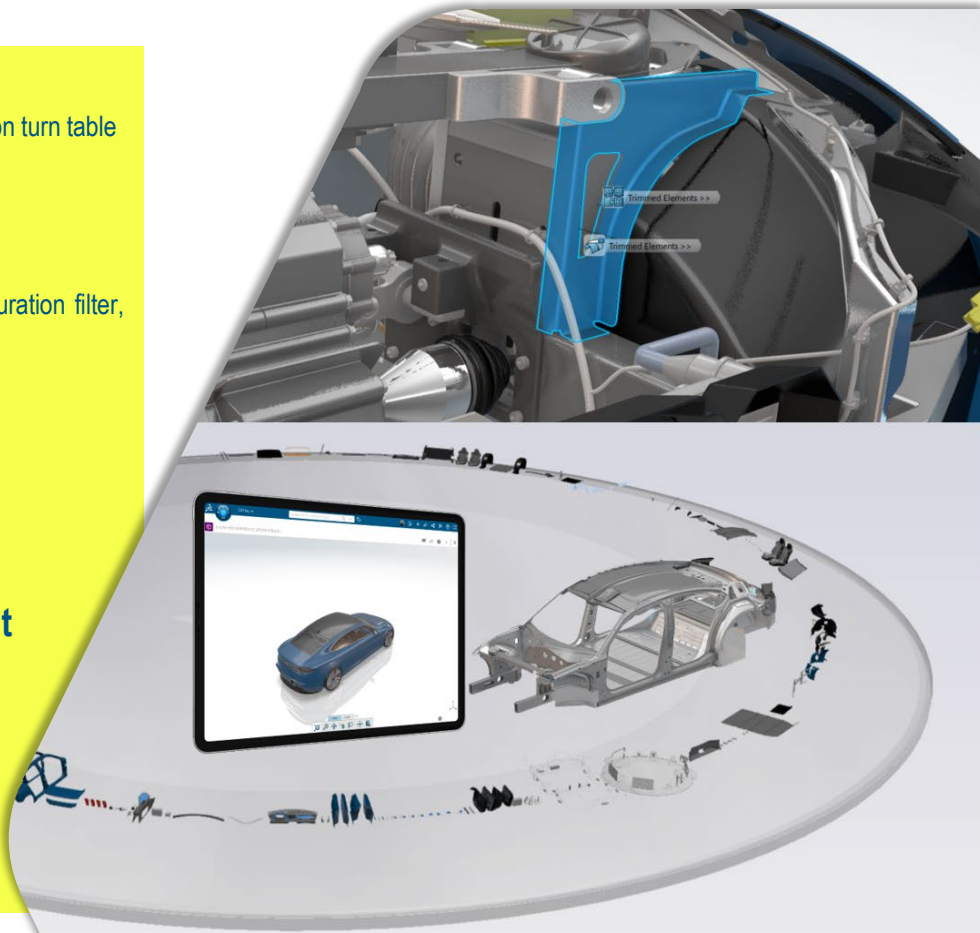
- Exceptional performance with smart memory management

❖ Visualize large assemblies in realistic environment

- With high-performance rendering engine

❖ Explore large assemblies even on mobile devices

- Explore, analyze & annotate large assemblies from anywhere, on any devices: tablets, mobile phones, iPads, laptop, ...





3DPlay

Search UX R1132100013579



3DPlay

Experience any content, on any device

EXPLORE LARGE ASSEMBLIES ANYWHERE, ANYTIME

Open Content

Most Recent Content

Or Drag and Drop your content anywhere

Content & Knowledge

User Assistance

What's New

Social Networks

Community

5

MODEL BASED DEFINITION | INCREASE ACCURACY

❖ Single source of truth between the 3D digital mockup definition and the 2D drawings

- Define and present all product definition in 3D
- Generate drawings where 3D remains MASTER
- Generate manufacturing requirements to be consumed with DELMIA application

❖ Guaranteed standards compliance

- Semantic Tolerance Advisor ensures compliance with standards (ISO, ANSI/ASME and JIS), respecting 3D design definition

❖ Preserve design intent to production

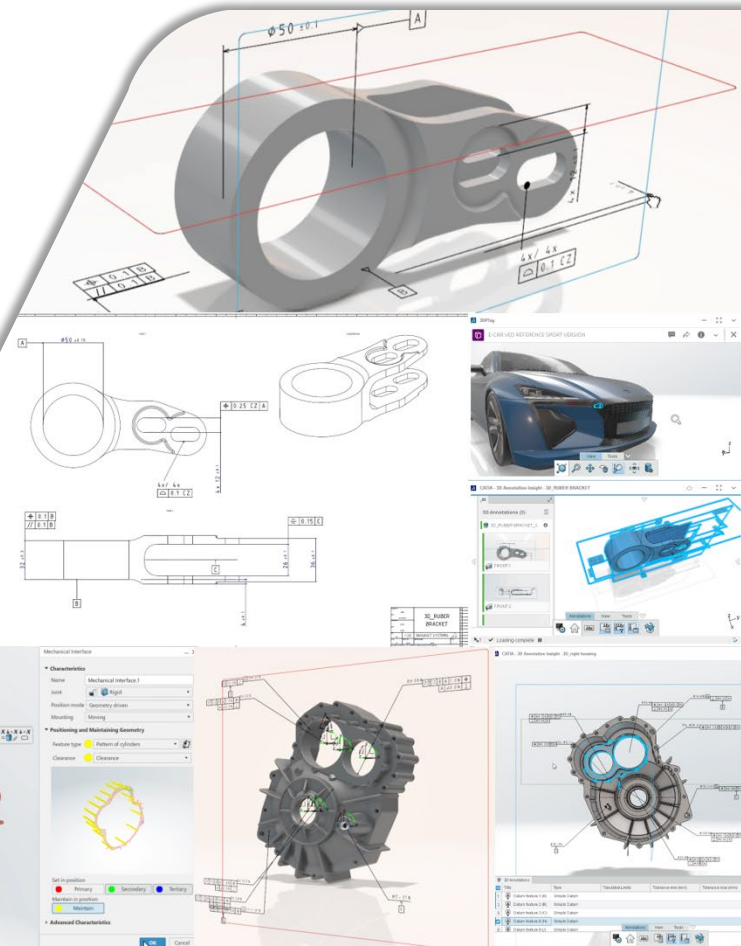
- Ensure the quality of product manufacturing information used in downstream apps

❖ Access 3D definition anywhere, anytime, on any device

- Through web applications: 3D Play ...

❖ Boost efficiency and productivity with automatic tolerances generation

- Generate Functional Tolerancing based on mechanical interfaces





Increase accuracy with Model Based
product definition



6

LEVERAGE EXISTING ASSETS | COMPETITIVE EDGE

❖ Seamless transition from CATIA V5 to 3DEXPERIENCE CATIA

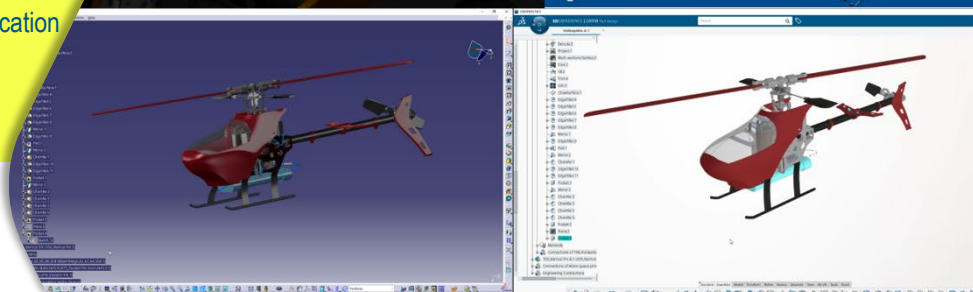
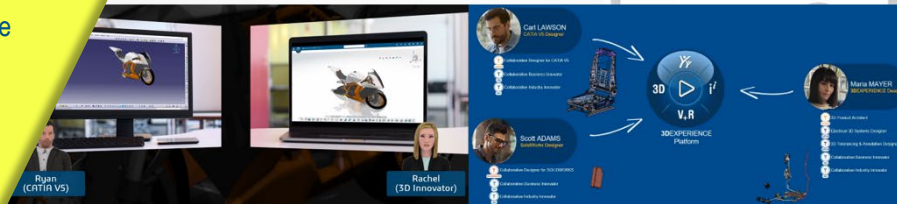
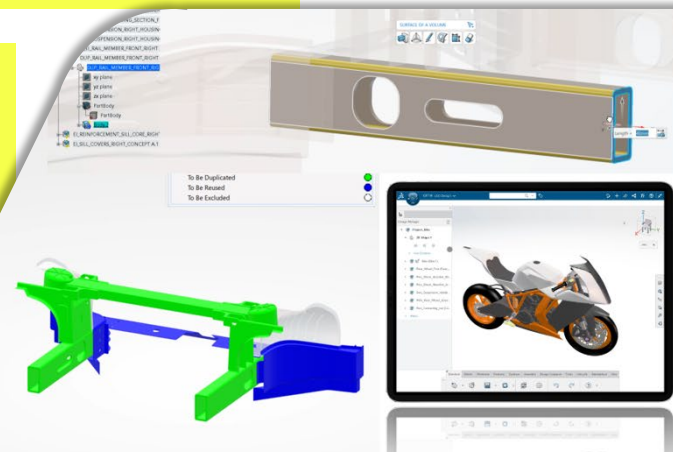
- Import & migrate CATIA V5 data in 3DEXPERIENCE CATIA with all specifications (same geometrical modeler)
- Efficient collaboration between 3DEXPERIENCE OEM and CATIA V5 Suppliers.

❖ Seamless collaboration between CATIA V5 & 3DEXPERIENCE users

- Save and manage native CATIA V5 & SolidWorks data on 3DEXPERIENCE platform with PowerBy technology
- Increase innovation of your 3DEXPERIENCE product design in context of existing assets
- Benefit of any 3DEXPERIENCE CATIA roles as supplemental process coverage

❖ Efficiently Re-use legacy data from other CAD systems

- Import step and other formats
- Recognize, re-use, edit legacy data in your designs with advanced duplication and direct modeling capabilities
- Design in context of native multi-CAD



❖ Accelerate kinematics scenario definition

- Intuitive engineering connection creation (constraints and joints unified definition)
- Auto-recognition of previously defined assembly constraints, weight, COG, materials ...

❖ Optimize design with accurate analysis functionalities

- Impact analysis of spring, friction, motor torque, and more*
- Clash detection & human interactions study*

❖ Analyze large and complex mechanisms easily

- Study sub-mechanisms individually or in combination
- Validate assemblies with kinematics simulation capabilities*

❖ Empower designers with early structural simulation capabilities

- Design and simulate efficiently with same data model
- Validate your design concept at an early stage
- Efficient design iterations by modifying simulation data & re-simulating it

* In advanced roles only



Kinematic Assembly Validation



❖ Seamless process transitions with no more file check-ins & outs

- Maximize efficiency with CATIA and
- Real-time model visibility as single source of truth to always work on latest versions
- Review and validate product 3D mock-ups on any device to eliminate issues earlier in product development cycles

❖ Achieve exceptional productivity

- End-to-end digital continuity from requirement to production

❖ Informed decision-making to reduce costly errors

- Design and review your product in configured context

❖ Streamlined product development with 3DEXPERIENCE services

- Engineering governance with part usage tracking, issue management, change management, revision and maturity management, project management, task management ...





❖ Elevate your business with 3DEXPERIENCE CLOUD

- Faster deployments, Cost effective, Flexible usage, Scalable & Secure
- 24x7 support on CLOUD

❖ Enable innovation through seamless collaboration

- Always up to date software and one single environment level for all stakeholders (OEM, Suppliers, ...)
- Efficient idea sharing and convergence with Swym communities and conversations
- Effective design Co-Review between designers.
- Concurrent engineering – designers working simultaneously on different part of same assembly
- OEM & Supplier Collaboration – Controlled sharing of context data with supplier



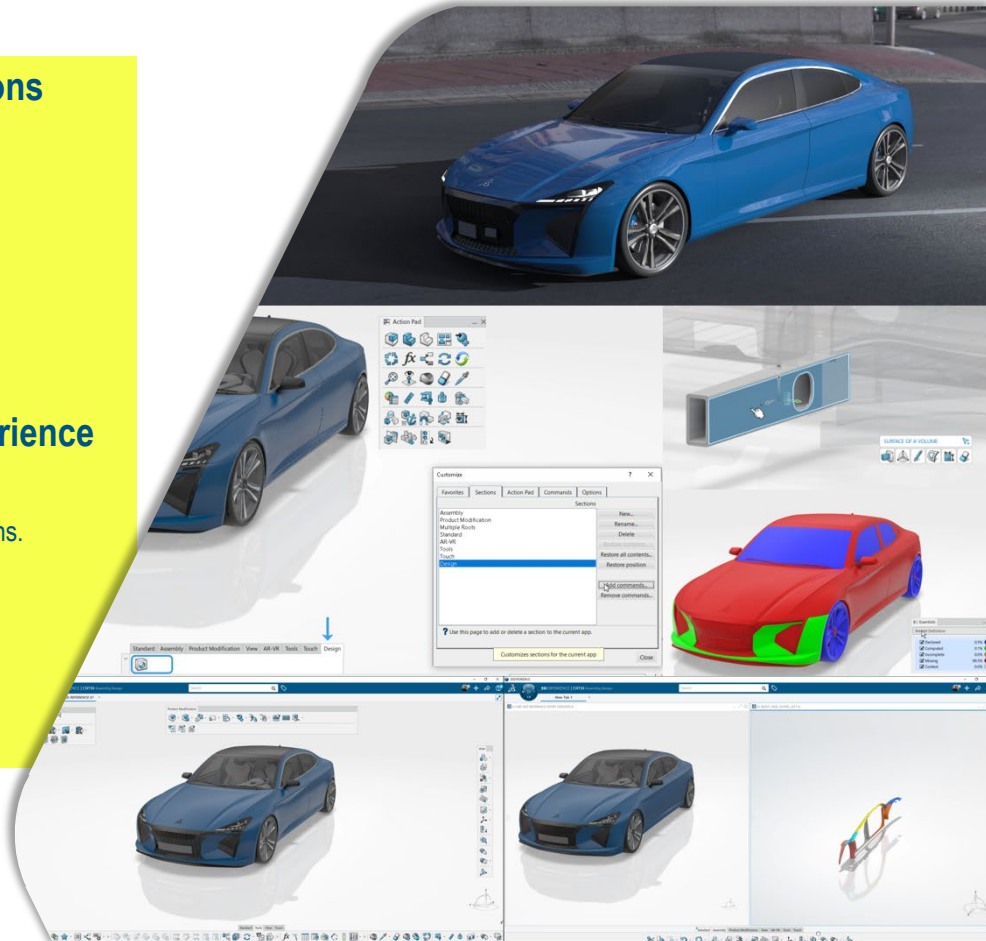


❖ Easy learning curve while working across applications

- Uniform user experience across 3DEXPERIENCE platform
- User-friendly, complete & productive feature panels
- High quality visualization in context of engineering design
- Auto adaptive precision for optimized visualization and performance
- Seamless transition for experienced CATIA V5 users

❖ Enhanced productivity through seamless user experience

- Dashboards for efficient management of tasks
- Logical option suggestions by contextual menus based on user selections.
- Action Pad with frequently used command at your fingertips
- Direct geometry manipulation for quick design exploration
- Customizable toolbars for different user preferences
- Business intelligence for quick data insights



Uniform User Experience across all Applications



Danke für Ihre Aufmerksamkeit

Bei Fragen bin ich gerne persönlich
für Sie da!



Roland Gaßner

PLM Consultant

+49 172 8323367

roland.gassner@systemworkx.de