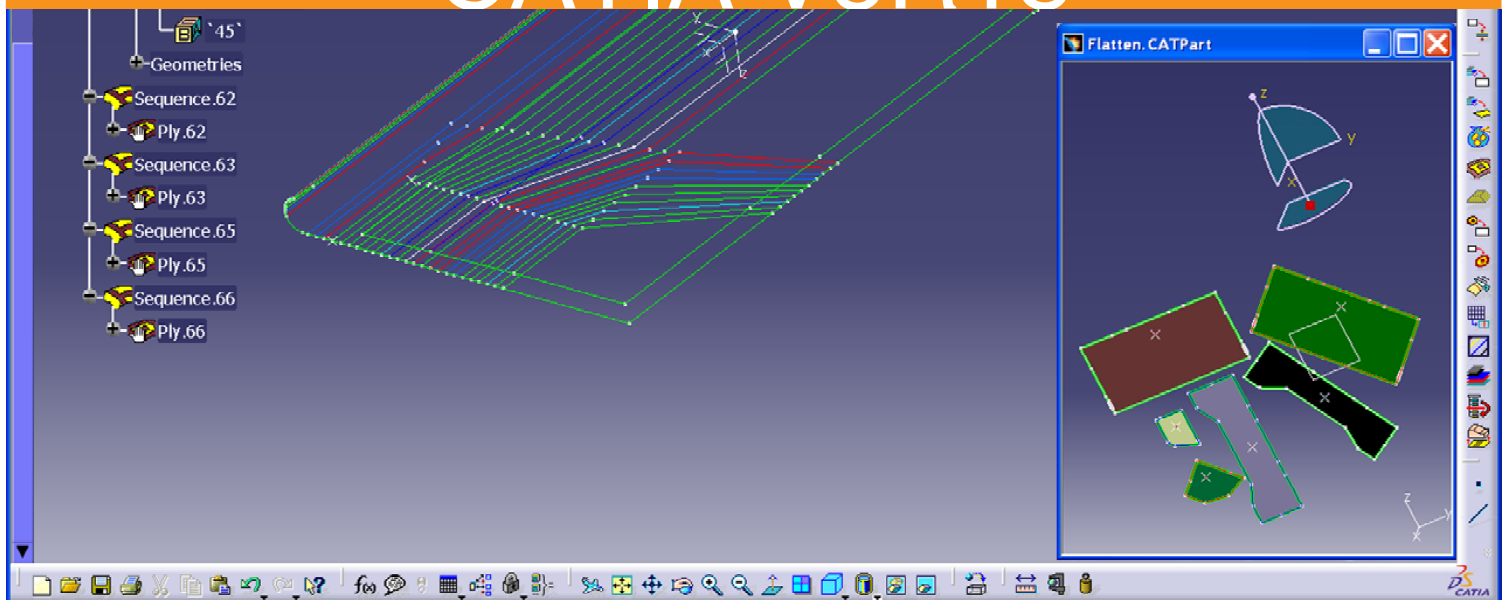
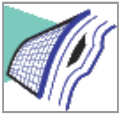


Mechanical Design

CATIA - Composites Design for Manufacturing (CPM)

CATIA V5R18





Mechanical Design

CATIA - Composites Design for Manufacturing

Provides powerful process oriented tools dedicated to manufacturing detailed design of composites parts.

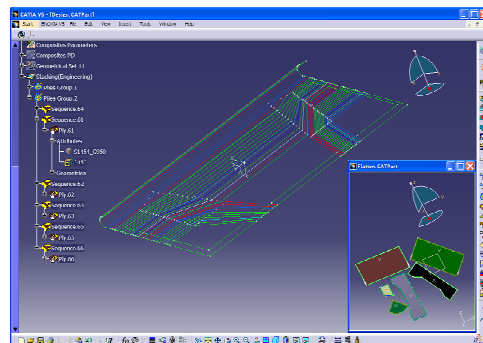
Product overview

CATIA Composites Design for Manufacturing (CPM) provides process oriented tools dedicated to manufacturing preparation of composites parts. CPM targets aerospace, automotive, consumer goods and shipbuilding industries OEMs and suppliers. With the powerful synchronization capabilities, CPM is the essential link between engineering design and physical manufacturing, allowing suppliers to closely collaborate with their OEMs in the composite design process.

With CPM, manufacturing engineers can include all manufacturing and producibility constraints in the composites design process. This product completes the composites design solution, taking advantage of CATIA V5 architecture: native integration, pervasive knowledgware capabilities, and CATIA V5's ease-of-use.

Product Highlights

- Dedicated manufacturing part modeling capabilities such as manufacturing shell swapping and material excess definition 3D multisplice
- Accurate fiber behavior simulation
- Automatic flattened geometry creation
- Effective manufacturing export capabilities and automatic shopfloor documentation
- Powerful synchronization/collaboration mechanisms with engineering detailed design



Product Key Customers Benefits

Manufacturing parameter management at the early stage of the design process...

Detailed producibility checking enables users to predict how composites materials will behave on complex surfaces. Users can visualize fiber orientations, predict manufacturing problems, such as wrinkles or bridges, and take corrective action in the initial stages of design, eliminating costly change orders and ensuring a producible part. Producibility checking is done directly from the CAD model to generate accurate flat patterns according to ply characteristics and fiber behavior.

Powerful Synchronisation/Collaboration

Mechanisms with detailed design ensuring associativity/consistency between design inputs and manufacturing outputs: Thanks to powerful synchronisation mechanisms CPM is the essential link between engineering design (with CATIA Composites Engineering CPE)

and physical manufacturing and allows suppliers to closely collaborate with OEMs to the composite design process. Using CPM, manufacturing designers can work concurrently to the design detailed design phase and automatically take into account any design modification.

Effective manufacturing export capabilities

and strong partnerships to support all composites manufacturing processes: Thanks to Dassault Systemes' partnerships, CPM offers a complete integration with major production systems: such as Laser Projection to improve reproducibility and shorten the lay-up time, Nesting and Cutting of fabrics ,Resin Transfer Molding Simulation, Tape Laying Design and Programming, and Fiber Placement Automation. This ensures that CPM can be used by any company, whatever the manufacturing process and machine providers are.

Uniquely takes advantage of the CATIA V5 infrastructure and other applications...

Composites Design 3 is a unique CATIA V5 technology-based product that takes advantage of the power of the PPR (Product Process Resource) infrastructure and the unequalled CATIA V5 offering to complete the composite design process (FEA, DMU, Machining...).. One example is the specific V5 relational design change management capabilities that use automatic updates to reduce the impact of changes to the design-to-manufacturing process. Another example is the ability to create and reuse rules instantiated in stacking sequences to take into account industrial standards and corporate know-how. Using CATIA V5's knowledgware capabilities in preliminary design permits the automatic update of a part in the engineering design phase for design change management purposes. This ability avoids the need to restart the full design phase, saving time and expense.

ABOUT CATIA V5R18

CATIA is Dassault Systemes' PLM solution for digital product definition and simulation.

plm.3ds.com/CATIA

