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# CATIA for Mold & Die



### About Dassault Systèmes

As a world leader in 3D and Product Lifecycle Management (PLM) solutions, Dassault Systèmes brings value to more than 100,000 customers in 80 countries. A pioneer in the 3D software market since 1981, Dassault Systèmes develops and markets PLM application software and services that support industrial processes and provide a 3D vision of the entire lifecycle of products from conception to maintenance. The Dassault Systèmes portfolio consists of CATIA for designing the virtual product - SolidWorks for 3D mechanical design - DELMIA for virtual production - SIMULIA for virtual testing - ENOVIA for global collaborative lifecycle management, and 3DVIA for online 3D lifelike experiences. Dassault Systèmes is listed on the Nasdaq (DASTY) and Euronext Paris (#13065, DSY.PA) stock exchanges. For more information, visit <http://www.3ds.com>

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# The Challenges

Now more than ever, enterprises must innovate to survive in a challenging global market. Most recently, tool-makers have faced major challenges with the emergence of new players and low cost labor in the emerging economies. Above all, the pressures to improve product quality, reduce time and lower costs are still very critical.

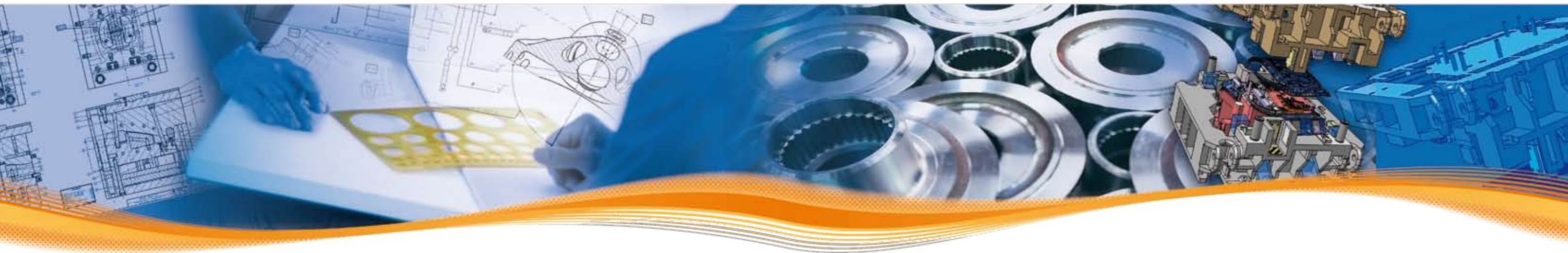
## How can tooling manufacturers succeed in this uncertain future and become even more profitable?

In order to work faster and deliver the highest quality, mold & die companies need to continue to invest in R&D to maximize automation and focus on added-value tasks. They must capture, manage and leverage their intellectual assets to differentiate themselves. To improve competitiveness and business performance, innovation must occur across all areas of product, process and organization.

# How to be more competitive?

Boosting efficiency and saving time with CATIA for Mold & Die robust and innovative approach

CATIA for Mold & Die ensures standardization by capturing, sharing, and re-using company rules, know-how, and expertise. Companies can answer bids more quickly and accurately by linking design and manufacturing systems to get information faster. Standardization embeds engineering design rules in design definition and provides pre-defined standards and customized components which save time and reduce costs.



Current industry focus	Focus in next decade
Technology	Innovation
Pro Development Strategy	Managing R&D for Business Gain
Product Development Strategy	Collaboration

*Changing Focus in Product Development - Source: CIMdata, May 2008.*

## Changing Focus in Product Development:

Over the next decade, companies can expect a major change of focus in product development. The implementation of Product Lifecycle Management (PLM) strategies and solutions is instrumental in helping companies address the changes in their industry. PLM supports successful business transformation by taking advantage of collaboration to promote innovation and competitiveness

CATIA for Mold & Die provides easy-to-use PLM solutions specifically designed for tool makers of all sizes to address each and every one of their requirements.

TECHNO-TOOL

“

With constantly increasing competition from countries with low cost labour, it is important for us to maintain our leading position on the market by using the best tools and machines available, and to automate our processes from design and tool construction to tool manufacturing”

Hans Lauridsen,  
CEO

## CATIA for Mold & Die is a proven solution that:

### Facilitates standardization by:

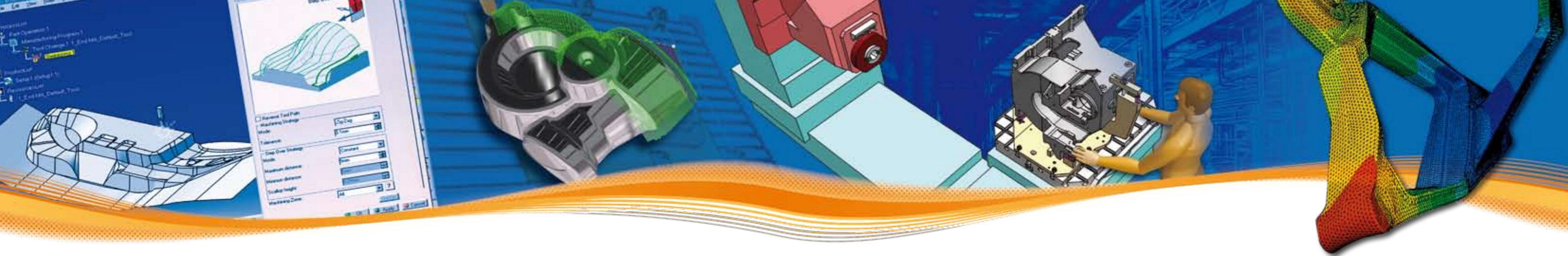
- capturing and embedding Engineering design rules in the design definition there by enhancing the sharing and reuse of knowledge
- promoting standardization of pre-defined standards and customized components

### Improves product quality by:

- facilitating automatic design checks driven by knowledge encapsulation
- using the same 3D model throughout the complete development process from component design to tool & die design, manufacturing simulation and NC toolpath generation

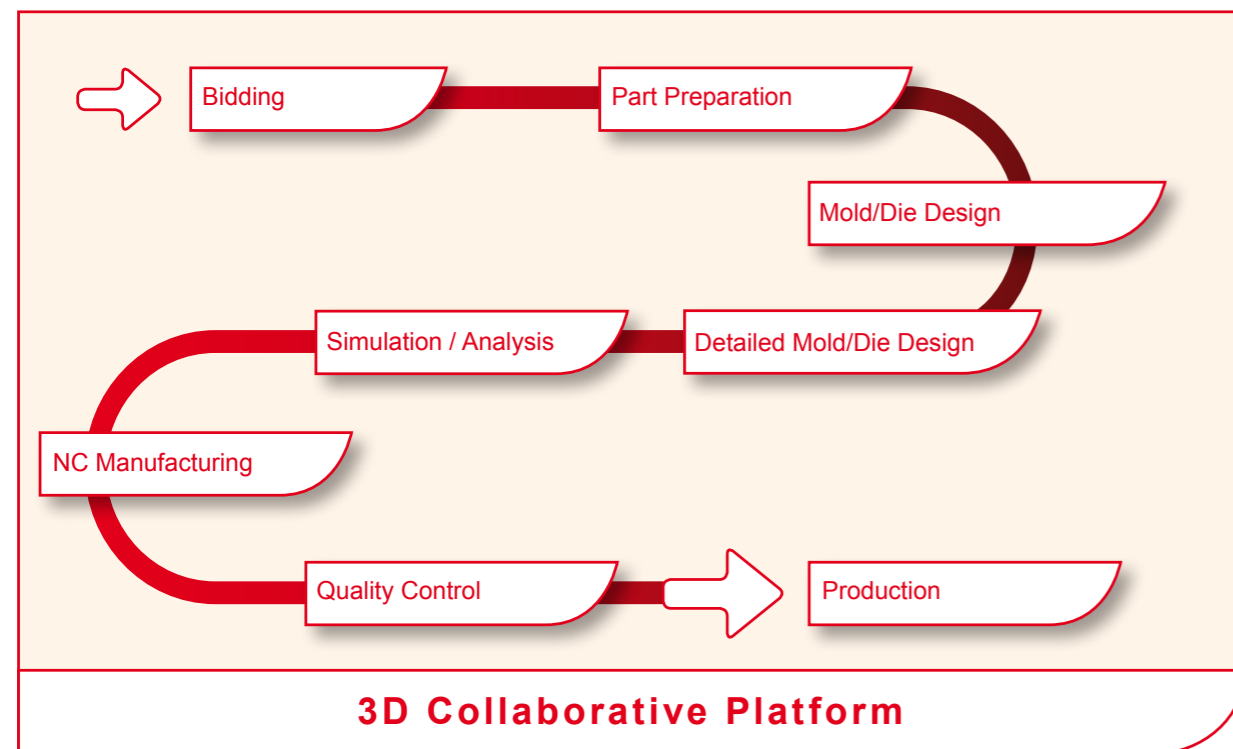
### Decreases costs by:

- reducing purchasing, manufacturing, storage and maintenance costs thanks to the standardization of information and processes
- shortening response time for request for quote by reusing valuable experience from previous projects
- dramatically reducing design labor thanks to regular and automatic updates of associated tool designs



## Mold & Die Macro Processes

Main Stages of Mold and Die processes.



### Main tooling disciplines addressed:

- Die Casting
- Plastic Molding
- Stamping Die
- Forging Die
- Progressive Die
- Jigs and Fixtures

**TECCON FORM**

*“With CATIA we are able to create injection molds easier thanks to the virtual design environment, thereby improving our customers overall satisfaction with the end result.”*

Michael Nederby,  
Project Engineer

## Mold & Die Solution

Robust and scalable, CATIA for Mold & Die addresses all the disciplines in the tooling industry. Based on a generative approach that leverages knowledge and multi-discipline collaboration, CATIA for Mold & Die provides all the capabilities required by mold and die makers to optimize their complete process from design to engineering and manufacturing.

- Bidding: Improved response thanks to capitalization of previous project knowledge and re-use in new projects
- Part Preparation: Faster surface extraction and reparation to define the mold
- Mold/Die Design: Automatic generation based on libraries, standard and user-defined templates
- Detailed Mold/Die Design: specialized process capabilities for cooling circuits and injection system instances
- Simulation / Analysis: Advanced molding, CAE, cooling and flow analysis

### Knowledge:

Dassault Systèmes is “the PLM leader” for engineering-based behaviors capture and morphing templates definition. Standardizing engineering information is crucial in the tooling industry to reduce design, manufacturing, storing and maintenance costs. It improves operational flexibility and simplifies change management. In addition, standardization frees valuable resources to improve enterprise-wide operations and quality, implement better product development practices, and introduce new innovations.

### Collaboration:

3D as the collaborative platform is the product information backbone for a company and its extended enterprise. CATIA for Mold & Die addresses the needs of all tooling and mold and die makers that want to optimize their industrial processes - from design and engineering to simulation and manufacturing – by enabling multi-discipline data management and collaboration.

**DIE CAD GROUP**

*“With the increase in accuracy and quality of our designs, we have greatly decreased the time spend to identify undetected design errors. We estimate the reductions in check time, coupled with other savings, have reduced design cycles by 50-70 percent.”*

Morgen Nors,  
CEO

# Technical Highlights

## NC Manufacturing

The complete process from NC programming to machining simulation is optimized to significantly reduce overall manufacturing process time. Interaction between the Design and the NC Programming departments is also key to manufacture the right part on time. This speeds the propagation of design changes and promotes design standardization in order to reduce repetitive programming tasks.

## Strip Layout

The Strip Layout definition for Progressive Die Development is a solution that reduces design cycle and iterations thanks to a full associativity. The Strip Layout Definition allows a Step by step design of the SheetMetal Layout through pre-defined process and specific trade-oriented functions. The productivity of the designer is drastically increased thanks to the easy and efficient way to define cutting punches operations.

# In a Nutshell

## A dedicated Solution:

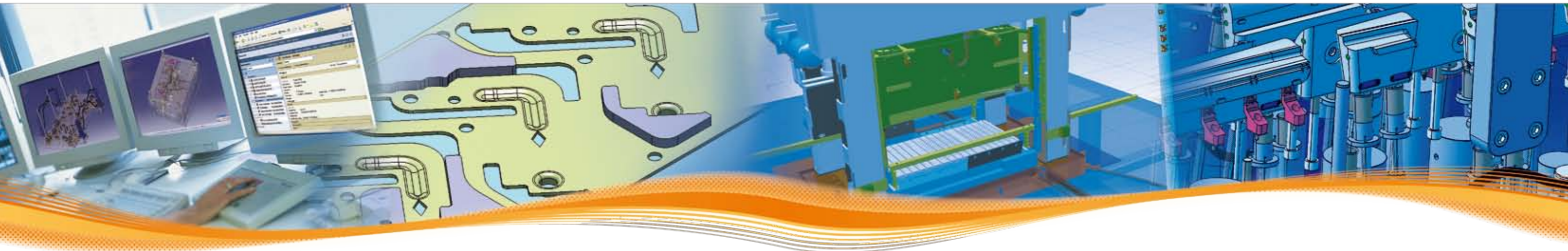
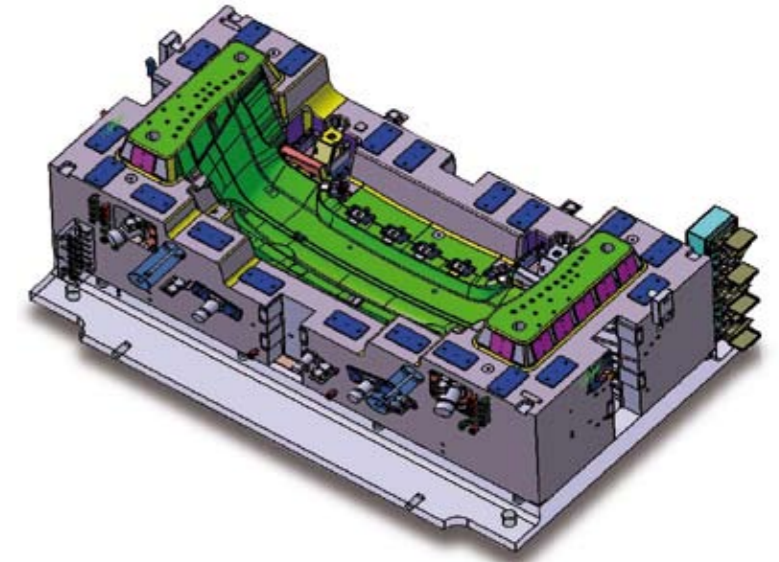
- Family of high-value applications
- Easy to use and to deploy

## Integrated and flexible:

- Capture and reuse expertise from past Projects
- Customizable and knowledge-ready

## Enabling to work together faster:

- Full 3D reference throughout the whole process
- Automate repetitive tasks
- Facilitate concurrent engineering



## Die Sinking Electrode

This module is dedicated to support the entire process and automation of the design, documentation and NC manufacturing of electrodes to be used in EDM sinking processes. This specialized application is clear and simple to use with dedicated parameters and functions to control 3D contour creation and, furthermore, enables efficient change management.

## Reverse Engineering

Enabling efficient loopbacks from the physical to virtual worlds, Reverse Engineering allows designers to reconstruct 3D geometry from heavy clouds of points with the appropriate level of detail and quality. Reverse Engineering always controls the accuracy of the models by determining the actual differences between the manufactured prototypes and virtual specifications, thus reducing the time before tool try-out.

The CATIA for Mold & Die solution includes technologies, methodologies, and best practices that help companies improve their ability to focus on product and process innovations to compete more effectively in the global marketplace. With the CATIA for Mold & Die solution, Dassault Systèmes gives you a unique opportunity to boost your efficiency and save time to satisfy more demanding customers with this robust and innovative approach.

IDÉ-PRO

*“With CATIA PLM Express we know exactly the amount of time we need to solve a problem and we have confidence that we will be able to supply our customers with the highest quality prototypes.”*

Morten Nors  
CEO

LÄPPLE AG

*“By reducing or eliminating the need for hardcopy drawings on the shop floor, we minimize common misunderstandings between manufacturing and engineering teams. The designer, the planner, the NC programmer and the toolmaker all have the same view of the tool and can agree on details with each other easily”*

Jürgen Faller,  
Head of CAD/CAM Production