

CATIA ADD-ON APPLICATIONS FOR  
SHEET METAL METHOD PLANNING AND TOOL & DIE ENGINEERING

TDE offers you the highest quality and greatest speed in concurrent engineering for your sheet metal tools and dies.

[www.tdev5.com](http://www.tdev5.com)

All of our TDE applications are customised to your requirements.

## Actas TDE applications - A Cornerstone

### Introduction

The drive for continuous improvement in productivity no longer stops with clever product design. Process planning, tool engineering and manufacturing play major roles in the strive for time reduction and optimised engineering, aiming to accelerate the overall delivery process.

Catia, a leading CAE software application, offers good features and functionality to fulfill this quest to an extent - however, in certain specific processes the Catia software does not boast the required capabilities. The industry is looking for process specific software solutions in addition to the generally available functionality on offer.

Actas has developed a range of advanced Catia modules in close cooperation with German car manufacturers and their supply industry focusing on CAPP (Computer Aided Process Planning) and CAE (Computer Aided Engineering) of tools and dies for sheet metal components. This portfolio is grouped under the name TDE.

The Actas TDE applications are a cornerstone in the fields of method planning and die engineering. Their primary use is in assisting the method planner in gathering highest quality information, which can then be used to define the best possible process sequence for manufacturing the sheet metal product.

Our applications support the tool and die engineer in creating specific geometrical information within the same CAE environment in an optimised way to help avoid manual iterative and repetitive, error prone operations.

The use of these TDE add-on functions leads to an important reduction in process planning and tool development time, accompanied by improved quality of the end results.

### Actas advanced developments for CATIA V5 include:

- Fast and easy analysing of sheet metal products against critical deep draw, cutting and punch parameters. The graphical output and the dynamic response enables the user to define the most optimised manufacturing process. The graphical assistance gives quick 'global' analysis whilst the numerical output is ideal for in-depth detail analysis.
- An easy to use function with multiple features to perform a variety of contour mappings onto different surface geometries. The user is offered diverse parameters and control features to perform a fast and accurate mapping result of complex shaped contours.

## Industries

The TDE applications are at their most beneficial when applied to the multi-step manufacturing of complex sheet metal products. Therefore, all industries, which face the challenges of defining these process sequences, can benefit from using TDE. Today TDE is integrated exclusively into Catia - this is the only prerequisite for an industry wishing to take advantage of TDE.



### ADVANTAGES OF USING TDE

#### Time savings of up to 50%

- > Shorter individual process steps
- > Shorter overall process time to delivery

#### More accurate and detailed information

- > Higher quality

#### Less need for tool prototyping and testing. Less tool error modifications

- > Up to 20% overall savings

#### Fast return on investment

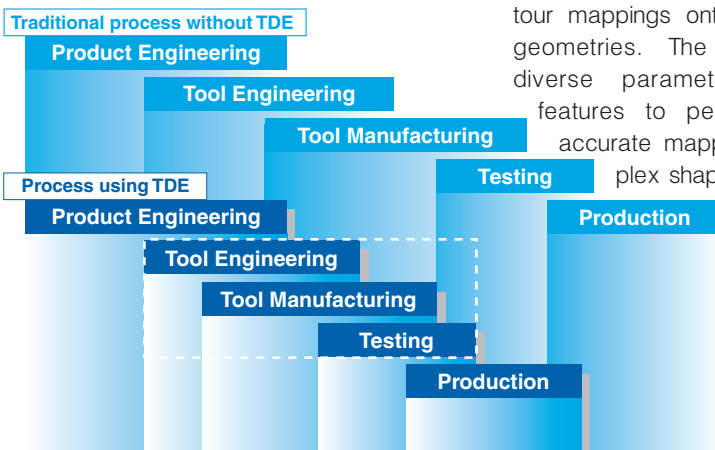
- > 3-12 months

#### Easy learning curve

- > 1-3 days

#### Suitable for use in multiple industries

### TDE advantages



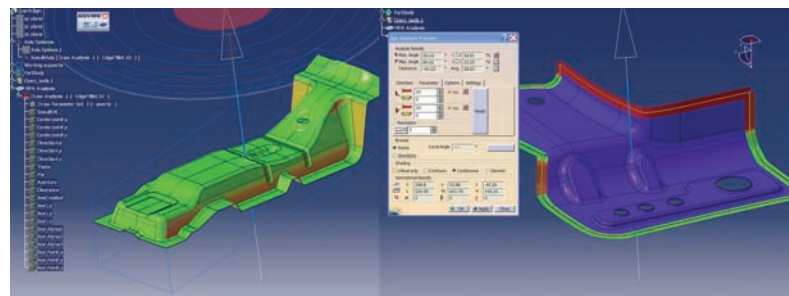
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## Why use our CAA integrated TDE applications

- > Protection of your investment during the lifecycle of CATIA V4 and V5
- > Up to date to (all) required Catia Release and Service Pack levels
- > Seamless integration of data and interfaces
- > CAA based certification
- > Significant increase in added value through integrated solutions



## FEATURES OVERVIEW



### Analysis Assistant

- Computing and analysing draw direction(s) and undercut
- Computing and analysing cutting angles
- Computing and analysing cut direction(s)
- Analyzing punch direction(s)
- Defining minimum die size and die opening dimensions
- Conversion of product axis to tool axis
- Multiple computation algorithms
- Analysis against rules
- Dynamic graphical output
- Numerical output

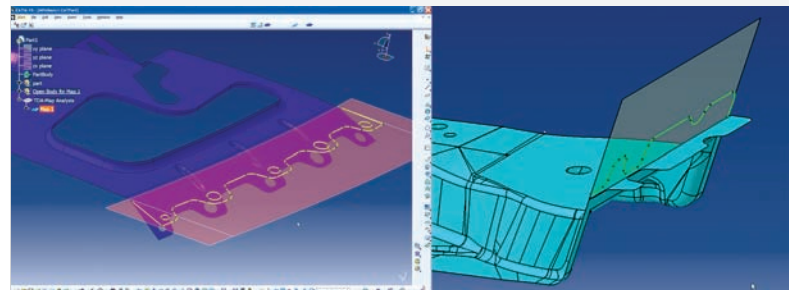
## TECHNICAL REQUIREMENTS

### TDE V4

- > Running on all Unix platforms
- > Compatible with Catia 4.2.x versions
- > Prerequisites are Catia V4 modules COM, WF3 and SUR
- > Develop3 requires the FRF module

### TDE V5

- > Running on Windows 2000 and XP platforms
- > Unix platforms information also available upon request
- > Compatible with Catia V5R12 and higher
- > Prerequisite is Catia V5 configuration HD2 or any other configuration including the module GSD (Generative Shape Design)



### Geometrical Assistant

- Mapping of complex contours
- Trim line development of complex sheet metal components
- Drawn blank size
- Product surface modification for spring back and overcrowning



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All of our applications are based upon our customer's requirements combined with Actas' knowledge and experience in advanced applications development.

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