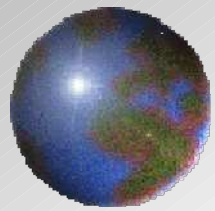

Dynavista

CAA V5 based

V10.2 / V11.2

Overview

January, 2012

UNIADEX, Ltd.

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Concept of DynaVista (1)

Innovation of mold/die development!!

Realization of extreme optimization, automation

and synchronization

of mold/die development processes

by incorporating LEADING EDGE Japanese technology

on top of world de facto CAD platform.

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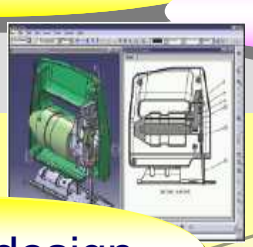
Concept of Dynavista (2)

Conventional product development

Product design

Mold/Die design

Mold/Die manufacturing



Dynavista development

Product design

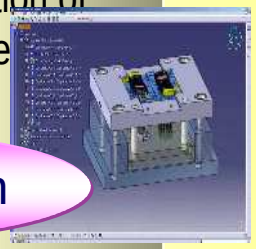
Extreme simultaneous engineering enables drastic reduction of development time

Dynavista

Reuse of digital design know how

Evaluation of machinability and formability at design phase

Mold/Die design



Front loading of processes and quality

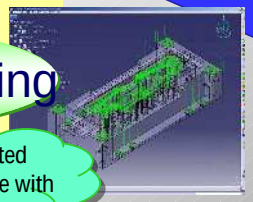
Reduction of development time by automation and optimization

Automated modeling by the use of templates and standard parts

Machining feature based automation of machining

Automatic parametric reconstruction to cope with design changes

Mold/Die manufacturing



Formability consideration
Automatic addition of machining attributes
Best suited CAM shape creation

Automatic, best suited path calculation to cope with design changes

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Dynavista Road map

May, 2010

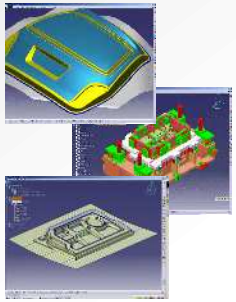
September, 2010

May, 2011

V1.0 V2.0 V3.0 V4.0 .. V9.6 .. V10.2 V11.2

V5R11

Dieface Design
DieStructure Design
DIE CAM 3D

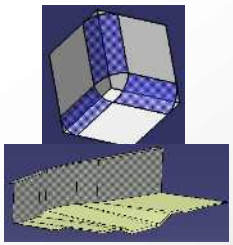


V5R12

Mold Design
Dieface Design
DieStructure Design
DIE CAM 3D

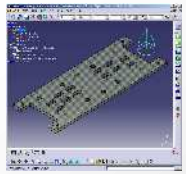
V5R13

(Formability Shaper)
(Formability Fillet)
Dieface Design
DieStructure Design
Mold Design
DIE CAM 3D



V5R13SP2

DIE CAM 2.5D
Formability Shaper
Formability Fillet
DieStructure Design
Mold Design



V5R18SP3

Enhancement of each module
Formability Shaper
Dieface Design
Die Structure Design
Mold Design

V5R19SP3

Enhancement of each module
Formability Shaper
Formability Fillet
Dieface Design

V5R20SP4

Enhancement of each module
Formability Shaper
Dieface Design
Die Structure Design

Dynavista

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Worldwide support

- Europe … CENIT
- Czech … Dytron
- Turkey … Grup, CADEM
- South Africa … CDC
- North America … GVT, FTI
- Brazil … TECMES
- Korea … RICH IT
- China … FS Jiangda
- Taiwan … Arfartech
- Thailand … NSS
- Indonesia … NSI

"Mold & Die Design & Manufacturing Worldwide Availability"

Dynavista

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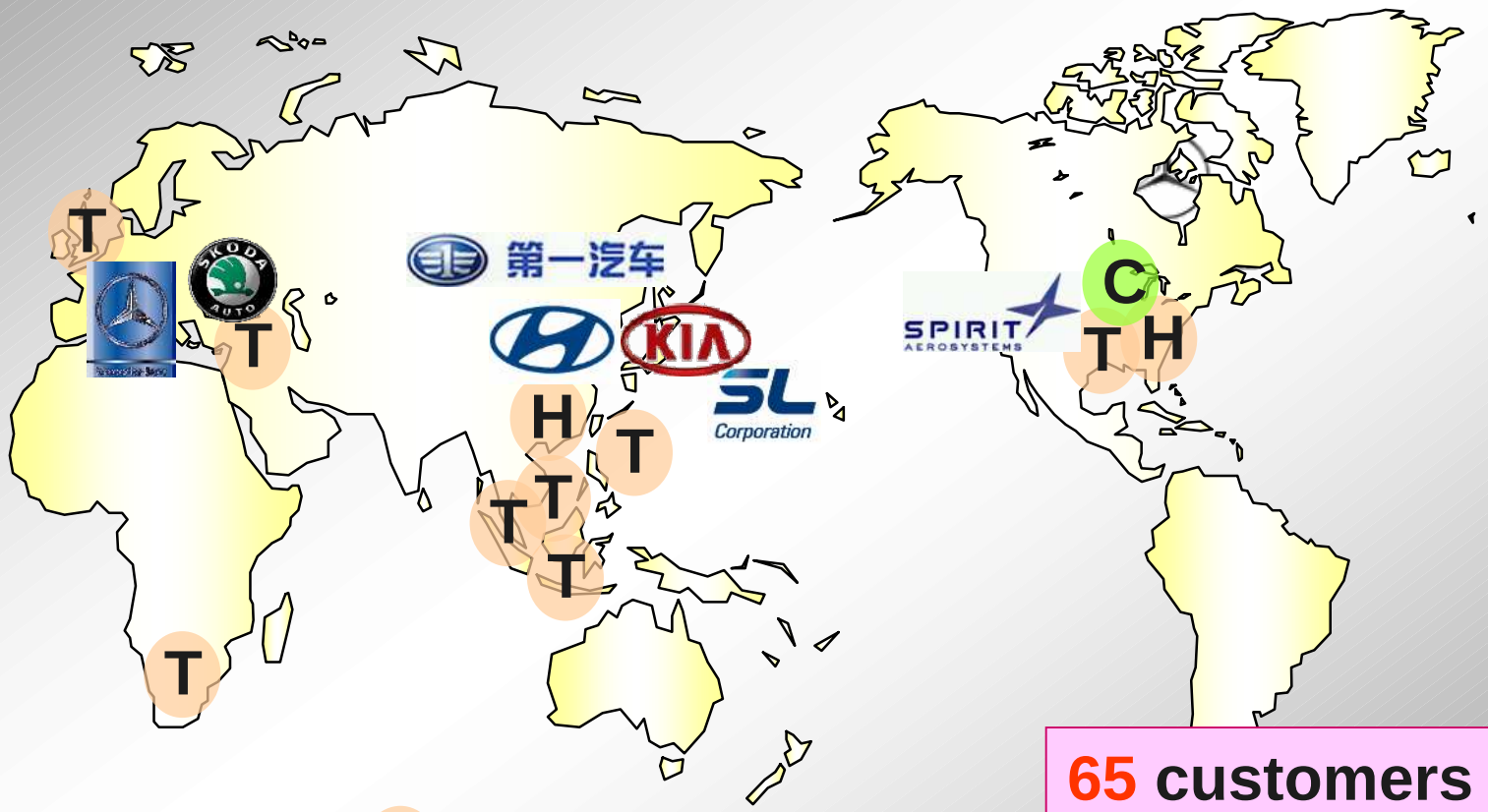
Major customers



65 customers
350 licenses
Outside Japan

Dynavista

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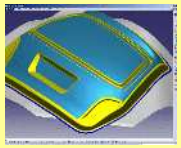
Dynavista Modules

Die Layout Design Package

Dieface Design

High performance die face shape creation and evaluation

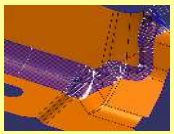


- Easy trial&error
- Flange expansion,etc.

Dieface Design

Formability Fillet

Creation, embedding and edition of fillets



- Significant extensions to V5 functions in functionality and robustness

Formability Fillet

Formability Shaper

Advanced die modeling (Formability, productivity)

Formability Shaper

DieStructure Design

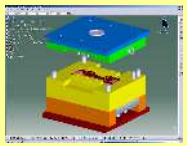
Whole process support in die design

- Die specific shape (back face, sectional die)
- Collective parts placement (BOM creation)
- Machining attribute(integrate CAD/CAM)

DieStructure Design

Mold Design

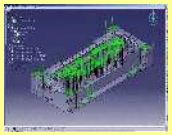
Whole process support in mold design



Mold Design

Die CAM 2.5D

Optimum machining for a die structure

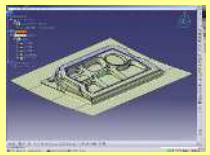


- Optimum tool path for each machining area with interference check

CAM 2.5D

Die CAM 3D

Sculptured surface machining CAM



Die CAM 3D

Dynavista

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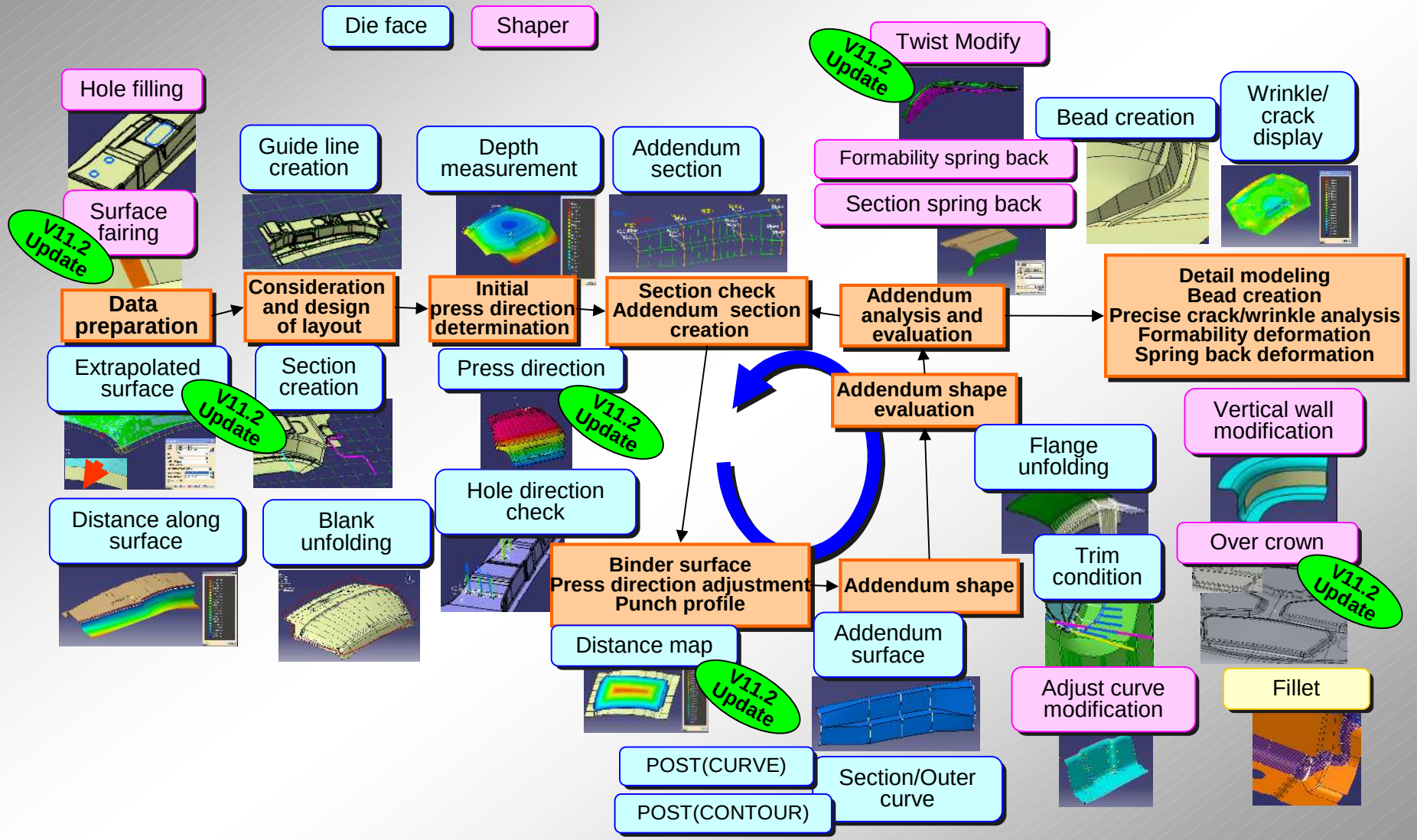
Dynavista functions for die layout design



Dynavista

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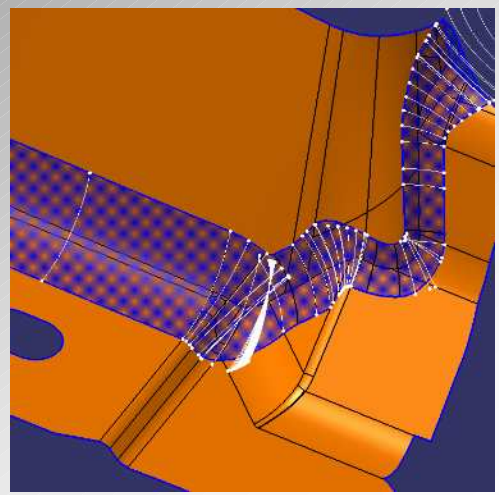
Formability Fillet

High performance and robust fillet creation for complex support shape environment.



- **High robustness**
  It uses specifically developed own geometric engine for supporting fillet functions.
- **Variety of functions**
  1. Fillet options such as variable radius, chord length specification, curve passing fillet, three tangent fillet and Gradation, etc. are provided.
  2. Variable radius/ independent end conditions/ arbitrary stop position, etc. are commonly provided to all the functions.
- **High flexibility**
  Separate or combined running of fillet creation/edit of existing fillet/ merger of fillets to base shape are provided, which supports high quality and efficient fillet creation work.

V5R18
V5R19
V5R20

CAA V5 BASED

V5 prerequisite: GSD

Production level evaluation by some Japanese automotive OEM(N) shows 1/3 of panel modeling man hours is spent for fillet modeling and 3-5 times reduction is obtained by Dynavista against CATIA V5 fillet.

Dynavista

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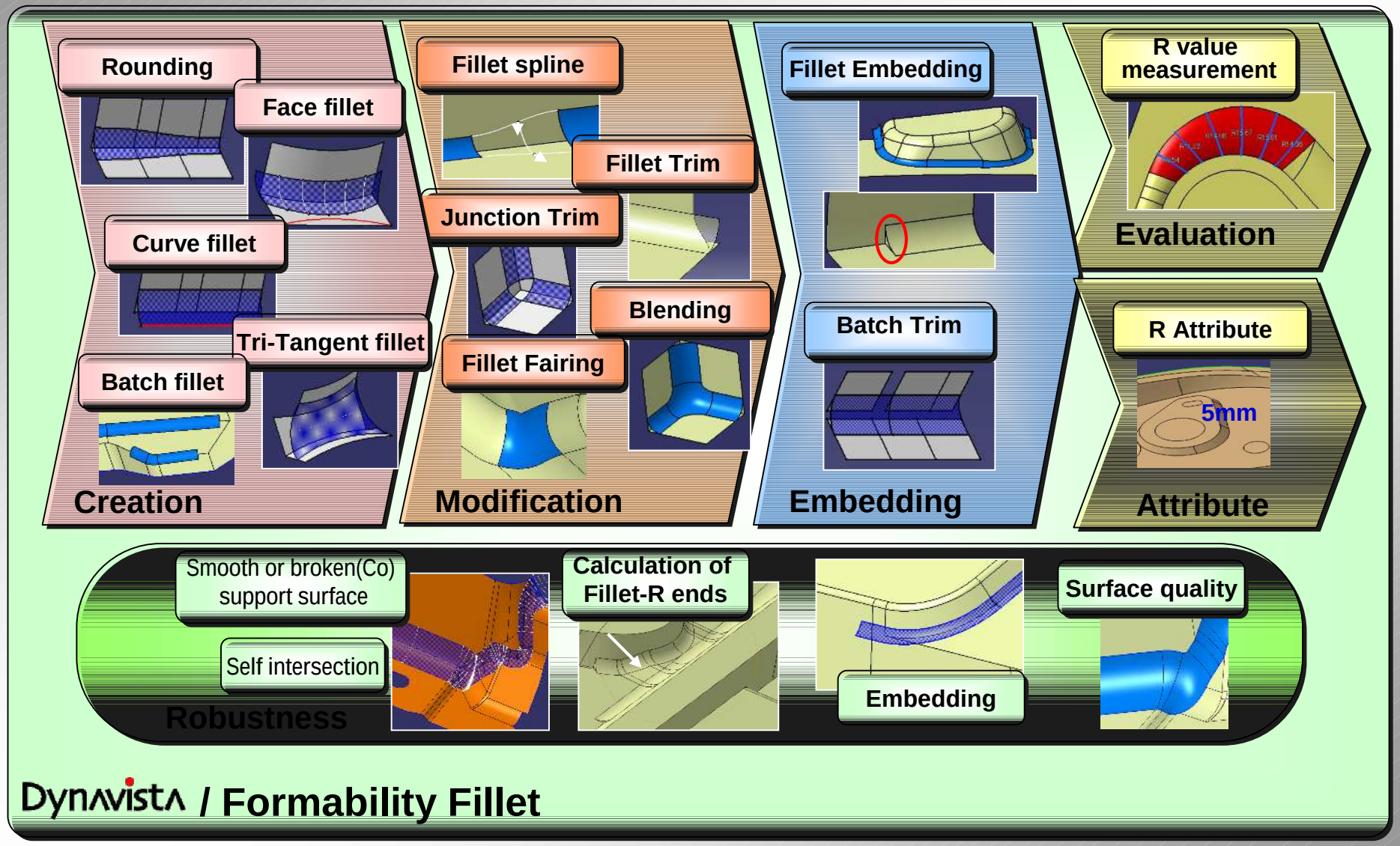
Formability Fillet command



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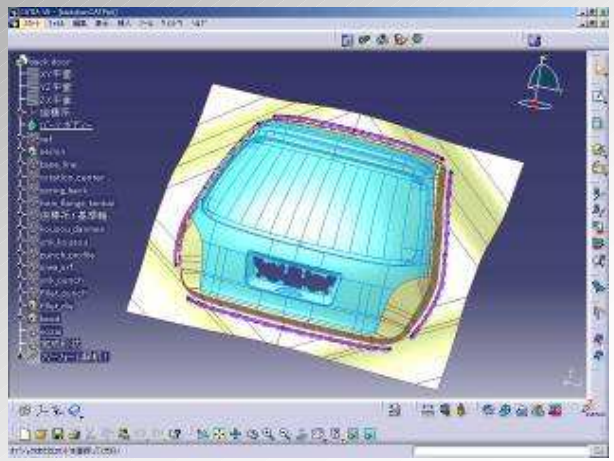
Dieface Design

Improvement of efficiency and quality in die face design.



- Drastic reduction of design man-hour by specific functions for die face shape - such as shape creation, edition and evaluation.
- Design quality can be automatically build-in by evaluation before production with the effective use of design know-how.

V5R18
V5R19
V5R20

CAA V5 BASED

V5 prerequisites: HD2

Dynavista

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Dieface Design command

Formability evaluation
- Die Axis System
- Hole press angle check
- Depth Measurement
- Trim condition

Layout support
- 3D guide line creation
- 2D guide line creation
- 3D section creation
- Auxiliary guide line creation
- 2D section creation

Die face specific shape creation
- Bead
- R attribute
- Flange expansion (curve/surface)
- Extrapolated surface
- Correct flange expansion
- Addendum shape

Complementary functions
- Surface normal offset
- Distance along support
- Offset along surface
- Variable translation
- Dynavista Law
- Automatic selection of concave edges

CAE Association
- POST (CURVE)
- POST (CONTOUR)
- Objective
- Section/Outer curve

Analysis
- Thickness
- Distance map
- Area projection
- Distance along surface

Dynavista / Dieface Design

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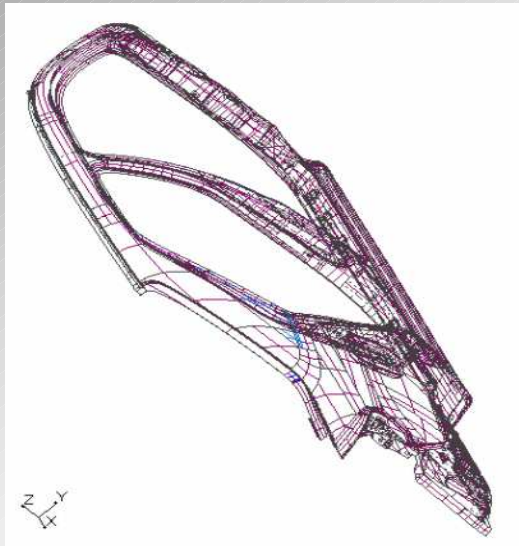
Formability Shaper

Estimation of large deformation of panel after forming - Formability Shaper.



- Sophisticated die shape deformation functions which drastically decrease die design time.

- Simple input for gaining deformed shape.

- Strong surface deformation functions which preserve characteristics of original surfaces.

V5R18

V5R19

V5R20

CAA V5 BASED

V5 prerequisite: GSD (or HD2)

Dynavista

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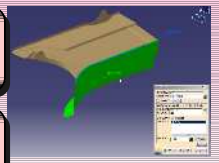
Formability Shaper command

Formability spring back



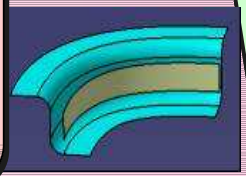
Section spring back

Vertical wall deformation

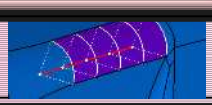
Surface normal offset

Specified direction

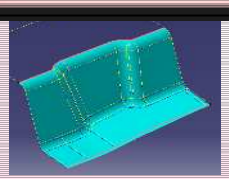
Along surface



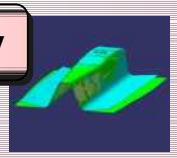
Rotation base curve creation



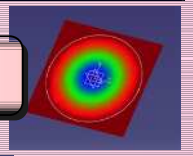
Adjust Curve Modification



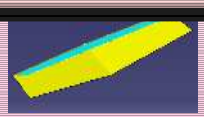
Twist Modify



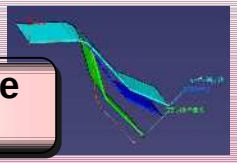
Over crown



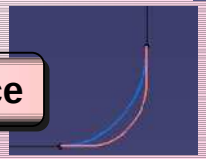
Section base curve creation



Section Curve Modify

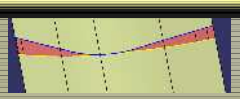


R Reduced Surface



Deformation

Gap filling



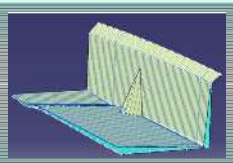
Hole filling

Notch filling

Surface fairing

Complementary

Angle evaluation



Evaluation of deformation amount

Dynavista / Formability Shaper

Dynavista

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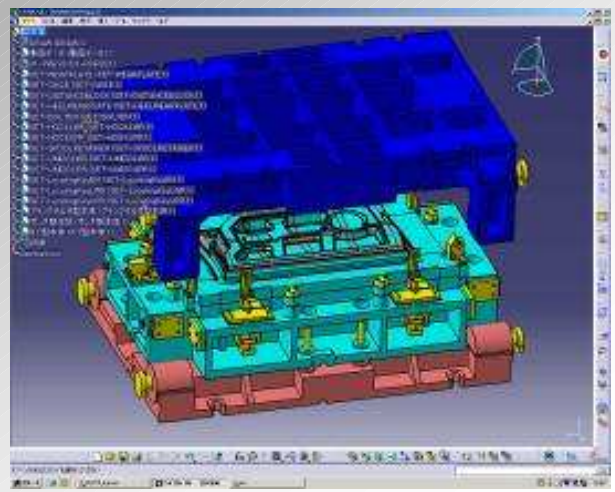
Die Structure Design

Die Structure Design automates stamping die structure design.



- Complex shapes are automatically created such as sectional die and back face, etc.
- Automatic creation of parts list enables association with BOM.
- CAM automation achieved by attribute association with 2.5D/3D CAM.

V5R18
V5R19
V5R20

CAA V5 BASED

V5 prerequisites: MD2

Dynavista

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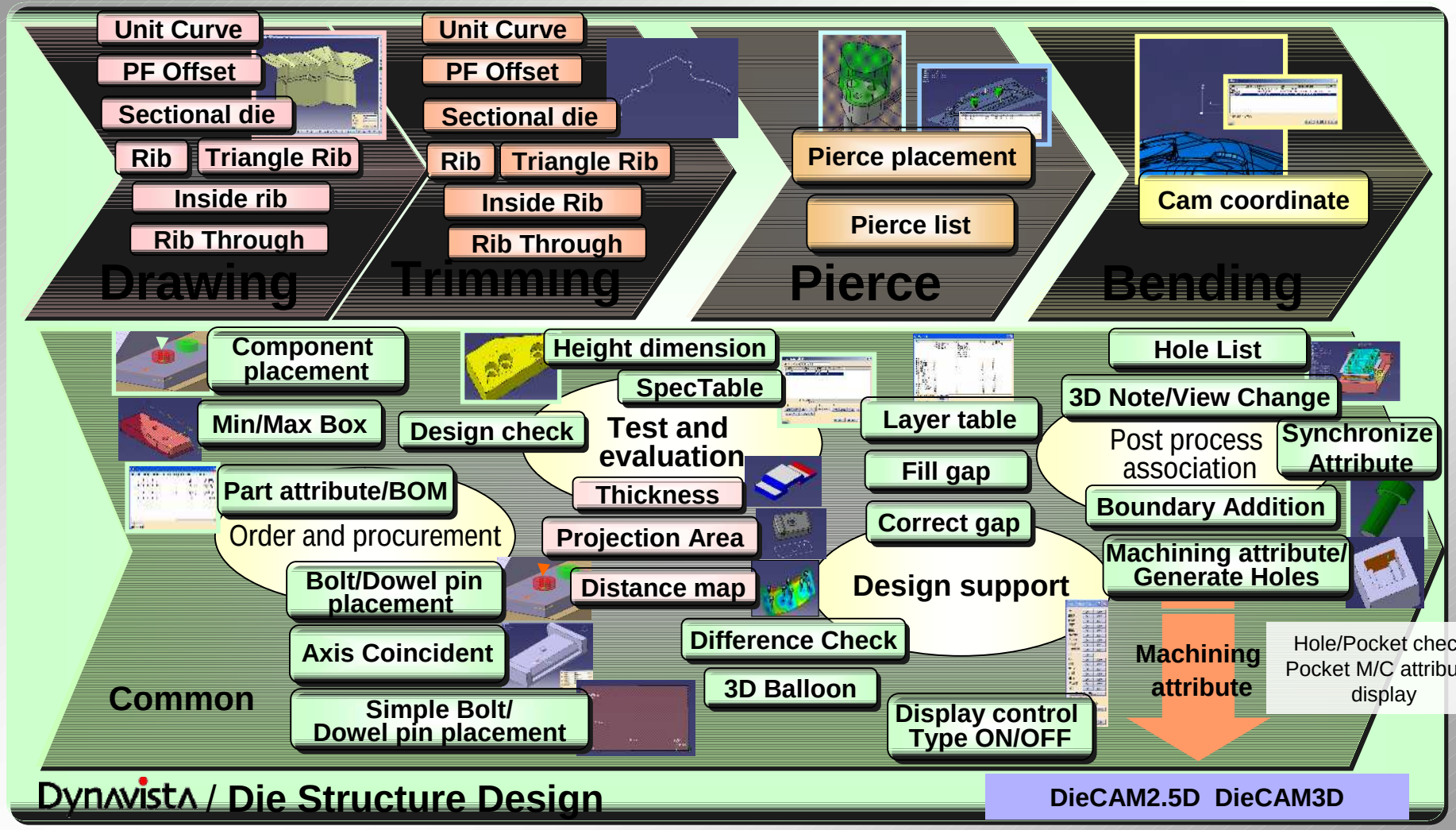
Die Structure Design command



Dynavista

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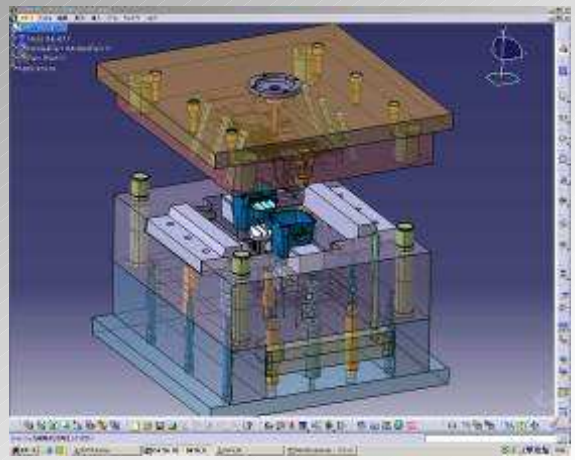
Mold Design

MoldDesign automates mold die design.



- Functionality covering both from small to large mold parts.
- Hybrid design of 2D and 3D design method.
- Various standard parts featuring information useful for manufacturing and procurement.
- Automatic creation of parts list enables association with BOM.
- CAM automation achieved by attribute association with 2.5D/3D CAM.

V5R18
V5R19
V5R20

CAA V5 BASED

V5 prerequisites: MD2 (or HD2)

Dynavista

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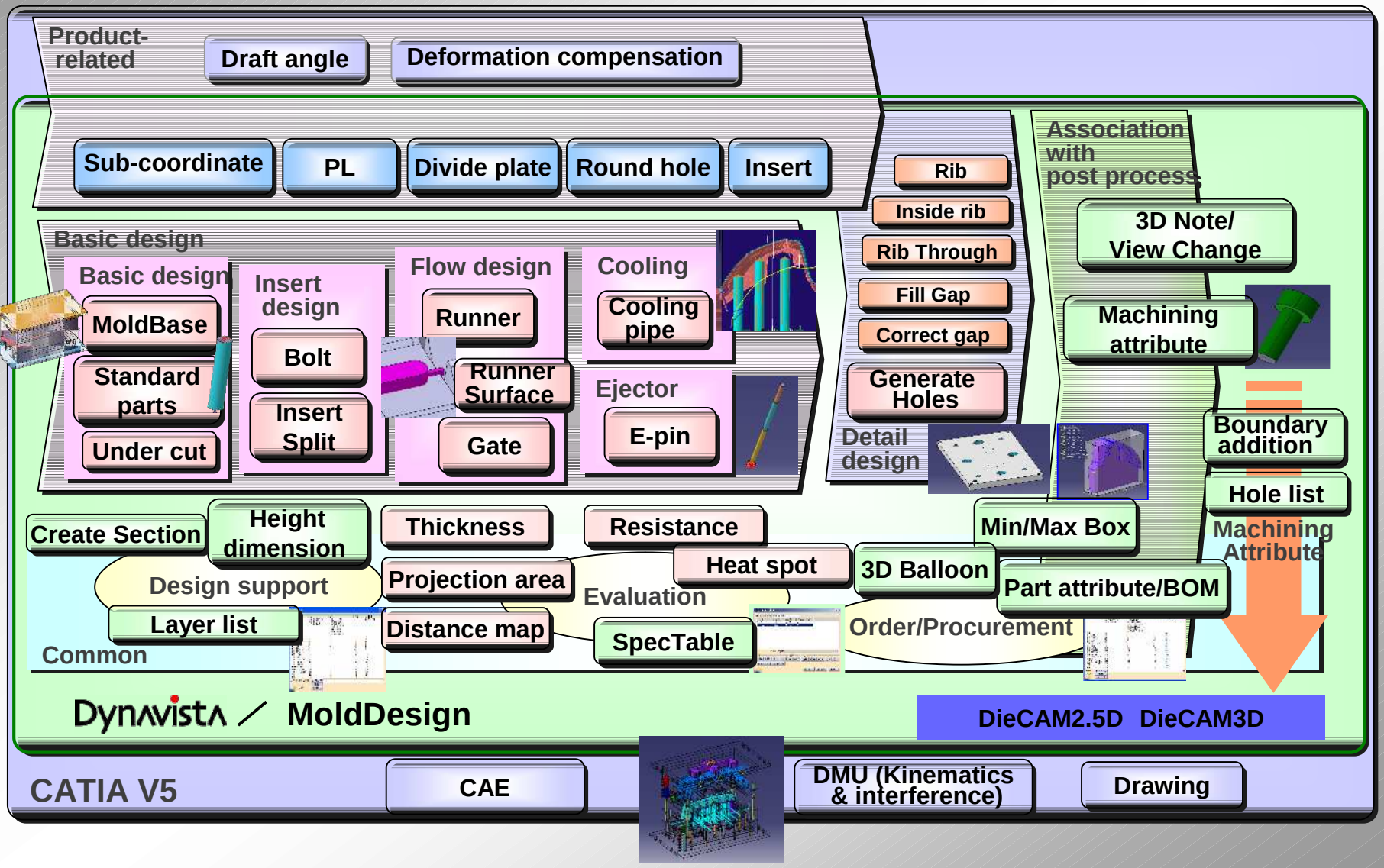
Mold Design command



Dynavista

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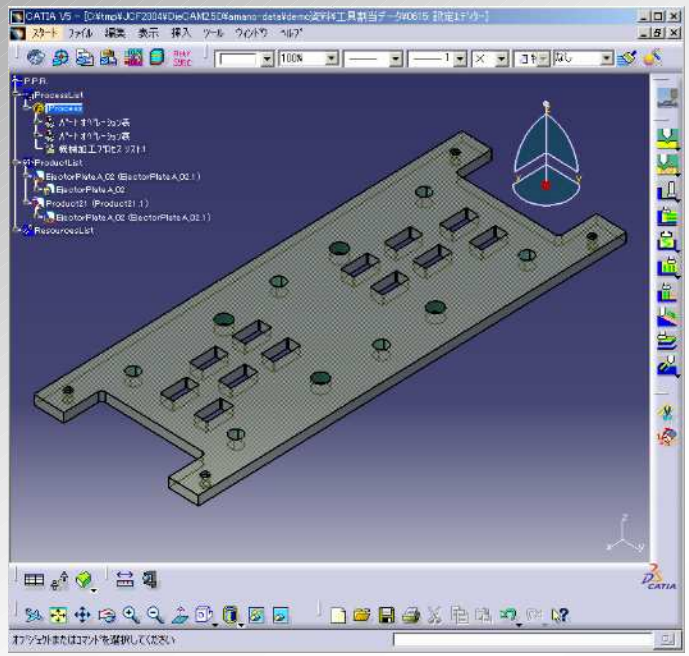
Die CAM 2.5D

Die CAM 2.5D/CAM 2.5D automates and optimizes machining for die structures.



- Interference-free tool paths are calculated by taking tool changes and attachment changes into accout.

- Various machining operations especially for die structure machining.

- Automatic recognition of machining area and automatic selection of machining process and tool by the attribute association with DieStructure Design or MoldDesign.

- Machining sequence optimization taking efficiency and quality into account.

CAA V5 BASED

V5 prerequisites: MD2

V5R18
V5R19
V5R20

Dynavista

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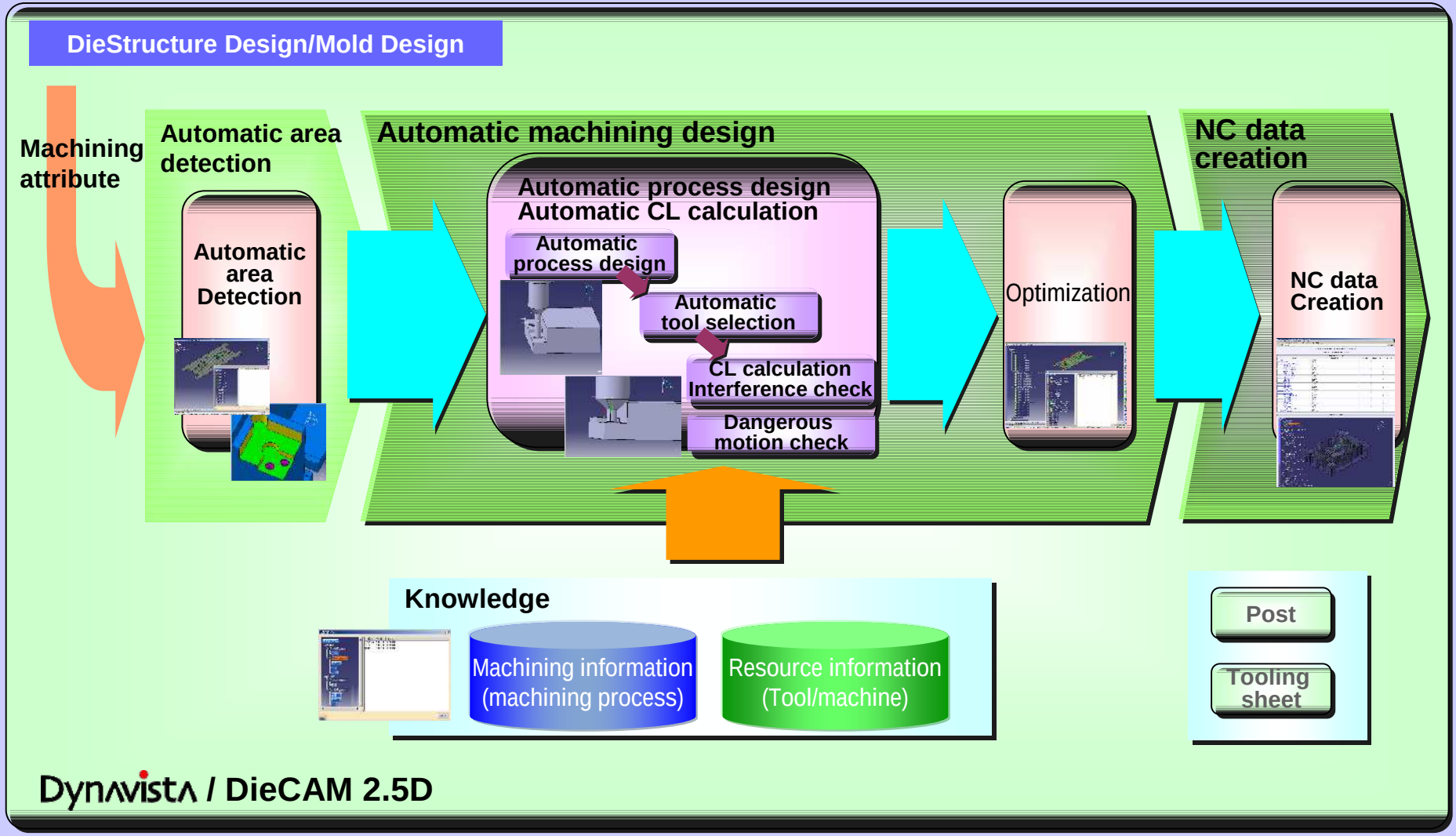
Die CAM 2.5D command



Dynavista

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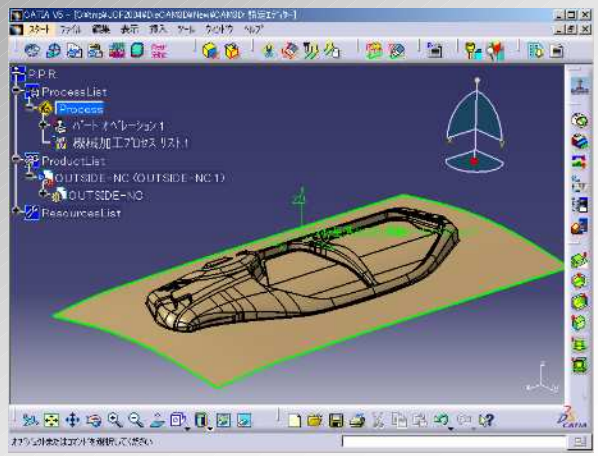
Die CAM 3D

Die CAM 3D/CAM 3D automates and optimizes machining for die product shape.



-Various machining operation with users machining know-how.

- Interference-free tool paths are calculated by taking tool changes and attachment changes into account.

- Efficient NC data optimizing machining sequence and air cut.

- Many support functions to improve work efficiency.

CAA V5 BASED

V5 prerequisites: MD2

V5R18

V5R19

V5R20

Dynavista

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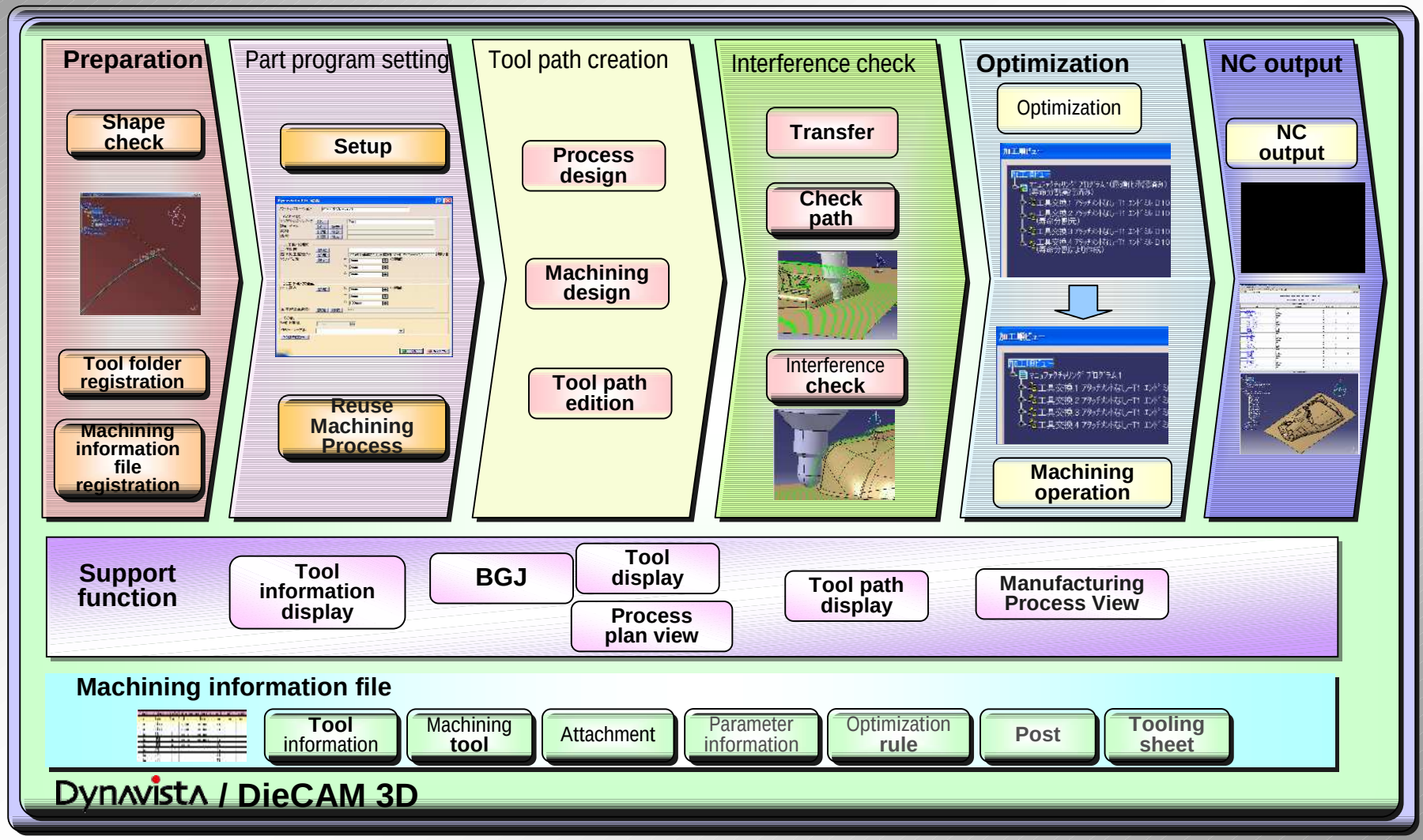
Die CAM 3D command



Dynavista

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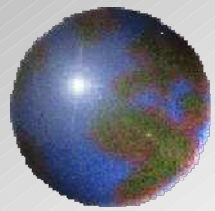

Dynavista

CAA V5 based

http://www.unisys.co.jp/e/dynavista/

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