

GEFASOFT Vision Pro tools

Gognex VisionPro gives the opportunity to develop own tools and integrate them seamless. GEFASOFT uses this interface both for project specific tools and features to make things easier for vision engineers.

Decrease of complex workflows or scripts to just a few tools
Easier teaching and parameterizing
Integration of additional features and functions not available from Cognex

At the moment there are about 30 tools in the GEFASOFT VisionPro tool library.

Halcon Wrapper Tool

Visualize, you could have the ease of use and functionality of Cognex combined with the enormous functions of MVTec Halcon to develop image processing solutions without borders...

The GEFASOFT Halcon Wrapper Tool makes it real - very easy and efficient.

The image processing library Halcon from MVTec is a comprehensive collection of image processing algorithms that are way beyond the features Cognex provides - especially for 3D purposes. However Halcon has no GUI elements like the Cognex tool-editors or the Cognex ToolGroup-workflow-tree.

Our HalconWrapperTool combines the best of both worlds. Halcon-procedures or -applications can be executed easy and without any further programming effort within Cognex jobs.

Features:

Automated creation of terminals for all input and output parameters of the Halcon procedure

Edit Halcon procedure in tool editor

Display Halcon iconics in tool editor

Use procedure file (*.hdvp) or select a procedure from HDev program (*.hdev)

Automated configuration of data for supported filetypes:

CogImage8Grey ? HImage

CogImage16Grey ? HImage

CogImage24PlanarColor ? HImage

CogCircle ? HRegion

CogEllipse ? HRegion

CogRectangle ? HRegion

CogRectangleAffine ? HRegion

CogLineSegment ? HRegion

CogPolygon ? HRegion

Int (+Array) ? HTuple

Double (+Array) ? HTuple

String (+Array) ? HTuple

Reference Toolblock

In image processing applications there are often workflows and toolchains that are absolutely identical in numerous jobs and only differ in e.g. the search pattern of a GogPMAIilgnTool. Modifications on such a workflow, e.g. additional tools, have to be done manually in all jobs. This is very time consuming and often leads to errors.

The ToolBlcokRefernceTool gives the opportunity to use a single tool block at different locations within the same or also in different jobs.

Modifications to the master toolblock are reported automatically to all loaded ToolBlockReferenceTools. Due to using a single memory location for the master tool block, a modification also impacts all not loaded ToolBlockReferenceTools.

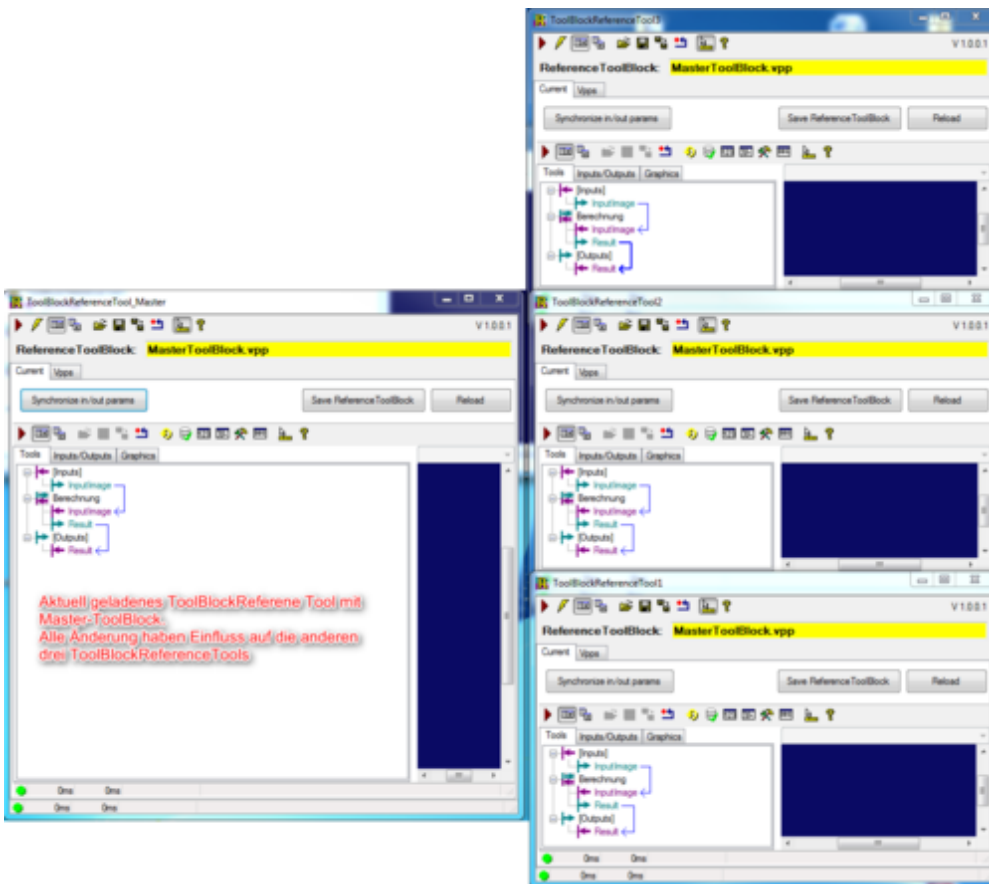
Features:

Automatic creation of input- and output terminals based on the master toolblock

Automatic update of all ToolBlockRefernceTools that use the same master toolblock

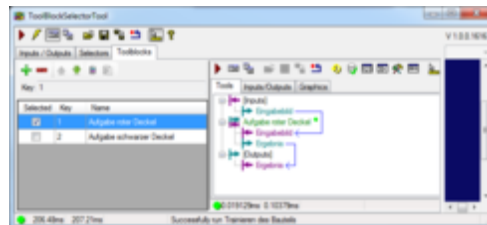
Easy selection or creation of master toolblocks

Marking of input terminals connected to other tools, whose dedicated terminal of the master tool block is missing after modification



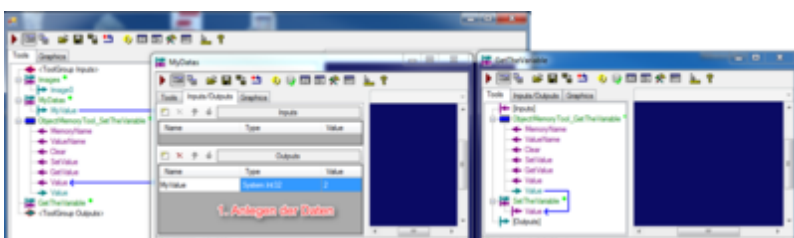
ToolBlockSelector Tool

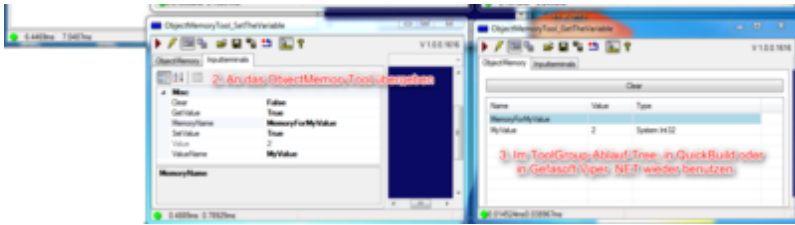
The ToolBlockSelectorTool is capable of switching dynamically between different ToolBlocks or workflows. A so called "Selector" is defined as an input terminal, whose data is used to load a specific ToolBlock. The Selector can be set e.g. by a PLC.



Object Memory Tool

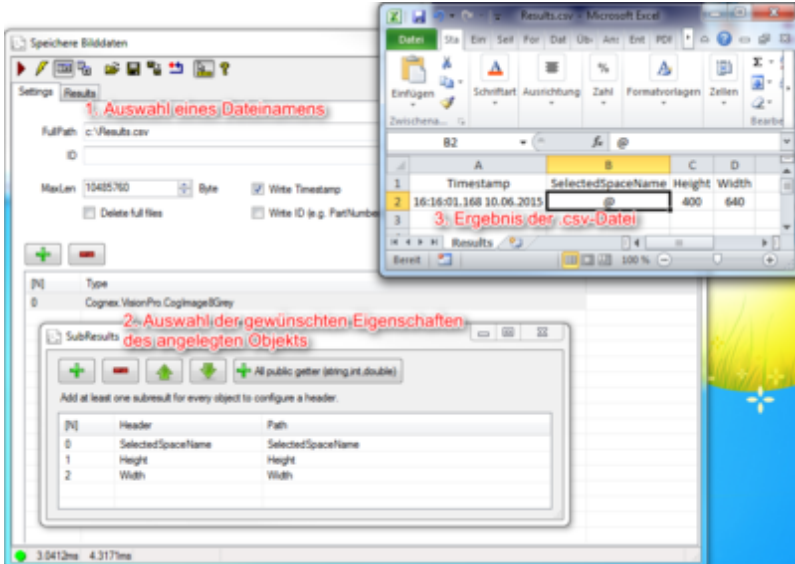
The Object Memory Tool sets up a global object memory. Any object can be written there using a designated key and read / used elsewhere.





ResultCsv Tool

The ResultCsvTool is made for saving any data to CSV files. The files can be processed using e.g. Microsoft Excel.



Calculator Tool

Calculator Tool

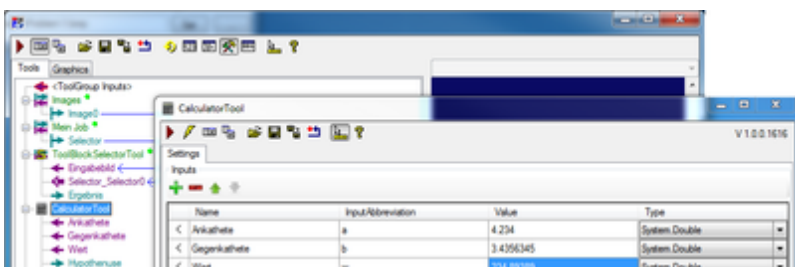
With the Calculator Tool calculations and queries can be realized and used as terminals in further tools.

Features:

Available constants / operators / functions
 Euler's number e
 Pi

Operators
 Add and Subtract
 Multiply and divide
 Positive or negative algebraic sign
 Opened or closed Brackets
 XOR-Operator
 Comparison operators (!=, <, <=, ==, >, >=)
 If-Then operators

Functions
 Angle conversion (Angular degree <--> radian measure)
 Absolut-Betrag
 Rounding up and down
 Cosinus, Cosinus-Hyperbolicus, Sinus, Sinus-Hyperbolicus, Tangent, Tangent-Hyperbolicus, Cotangent
 Exponential-function, Logarithm, Potency
 Minimum and maximum determination
 Radical calculation



Name	Formula	Type	Value	Is Terminal
> Hypothenuse	$\sqrt{a^2 + b^2}$	System.Double	5.45255356852092	<input type="checkbox"/>
> Aussage	$\sin(u) * \text{pow}(a,2) > 2$	System.Boolean	1	<input type="checkbox"/>

System requirements

Cognex VisionPro 7.2 or 8.2 SR1

Optional: MVTec Halcon V11 or better