

Your Partner for PLM and DMS

Intelligent Systems for Engineering Processes



## Proactive Reuse in the Engineering Process

„The most things we learn, we learn from our customers.“

Charles Lazarus (\*1923),  
American Entrepreneur,  
Founder of Toys"R"Us



# Your Partner for PLM and DMS

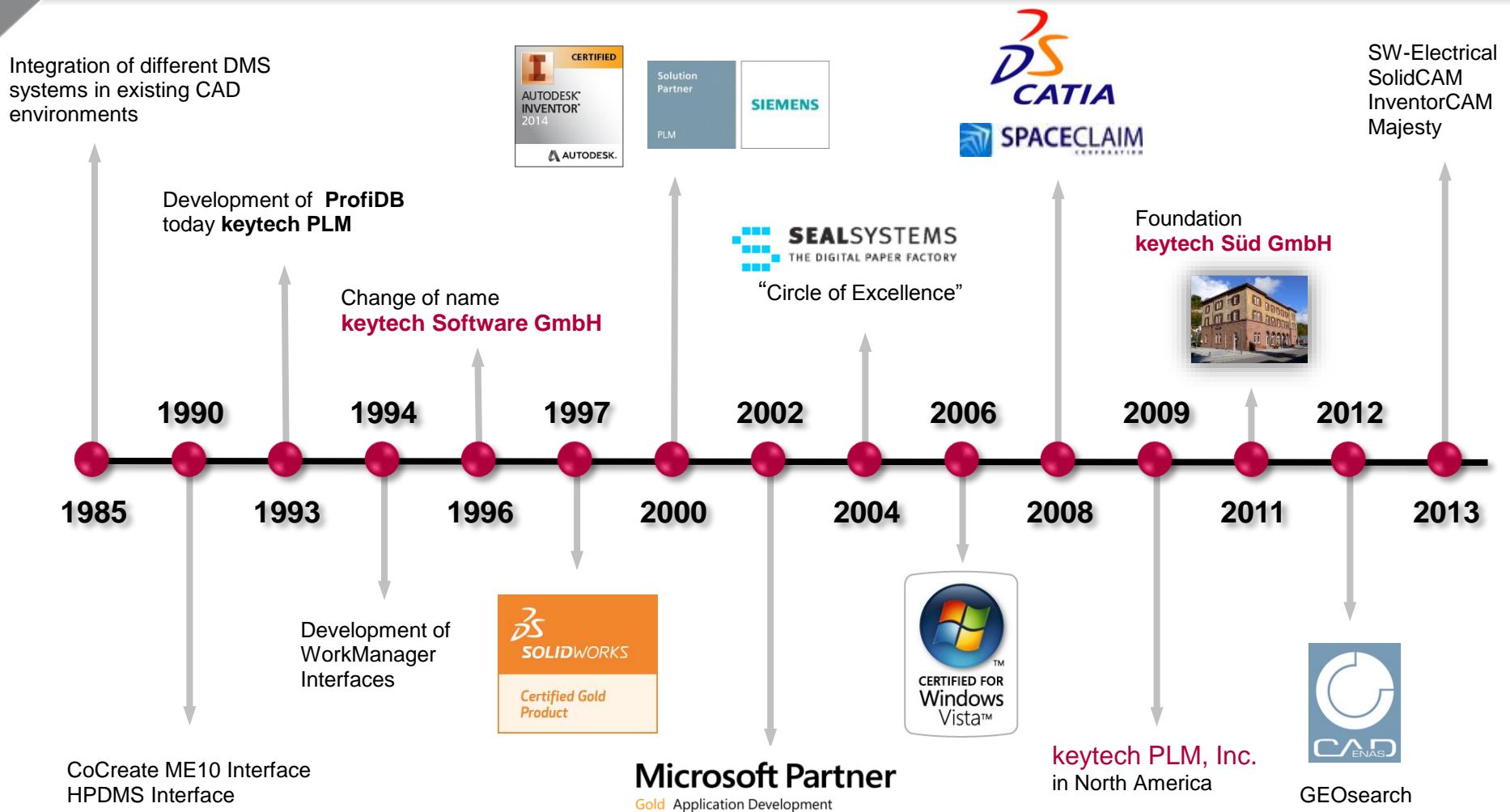
## Metrics

- Founding Year: 1993
- Employees: 65
- Locations: 3 x Deutschland, 1 x USA
- Sales: 6 Mio.
- Customers: 740



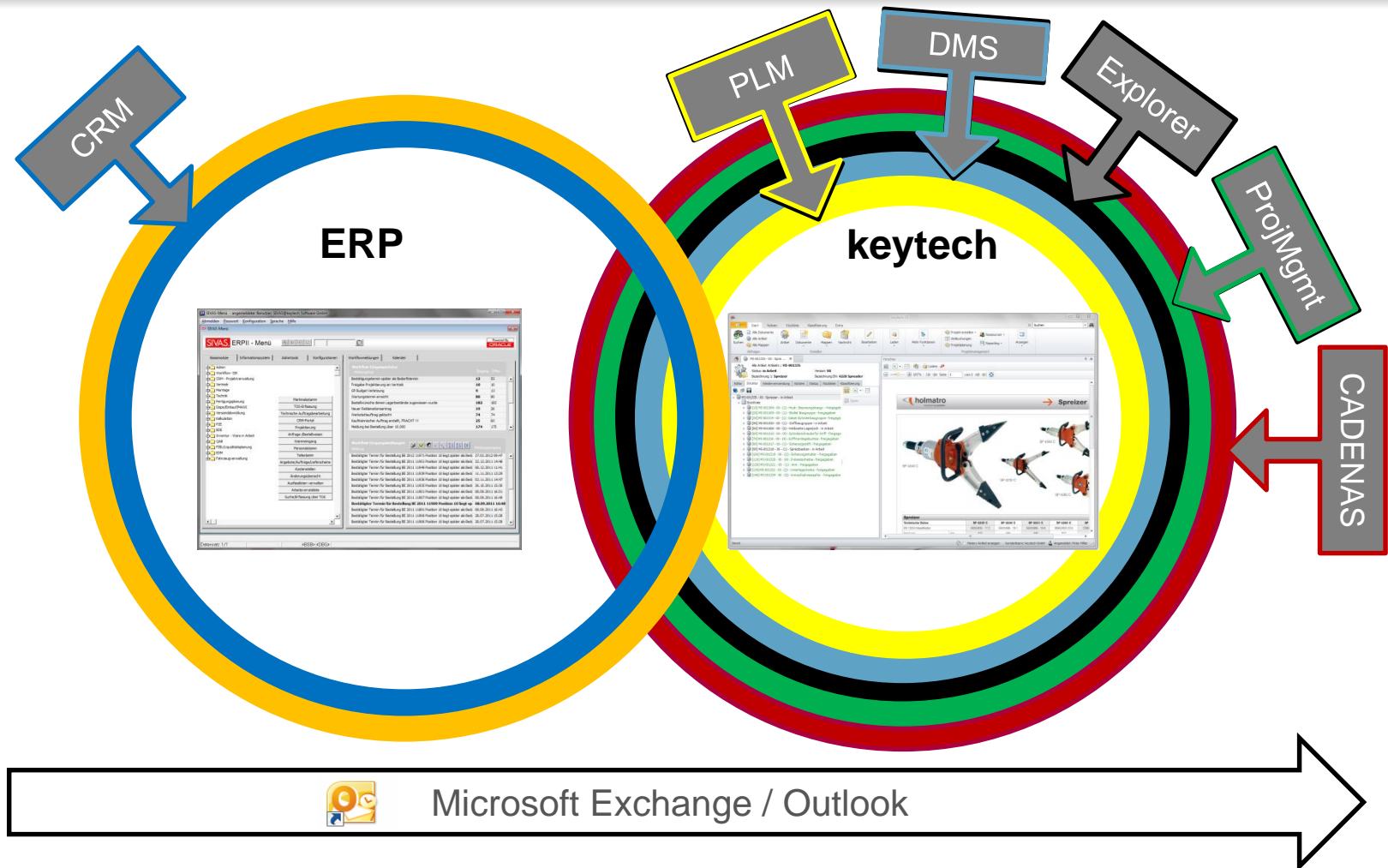
# Your Partner for PLM and DMS

## keytech Timeline



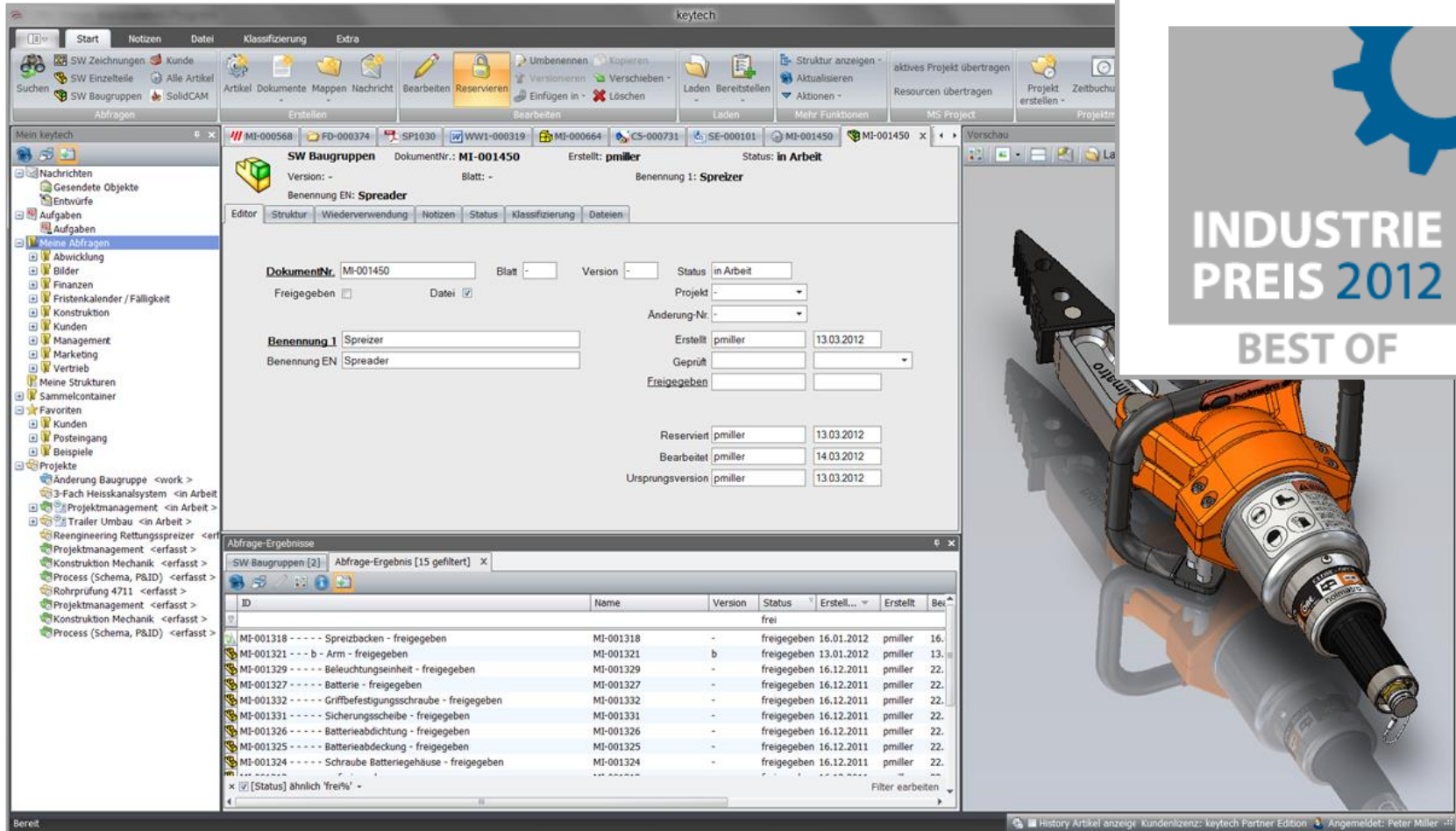
# Your Partner for PLM and DMS

## PLM/DMS as a Company-Wide Information Platform



# Your Partner for PLM and DMS

## PLM / DMS Client



The screenshot displays the keytech PLM/DMS Client interface. The top menu bar includes 'Start', 'Notizen', 'Datei', 'Klassifizierung', and 'Extra'. The main workspace shows a project overview for 'MI-001450' (Status: in Arbeit) with a 'Benennung 1: Spreizer' and 'Benennung EN: Spreader'. Below this, a table lists sub-components with their IDs, names, versions, and statuses.

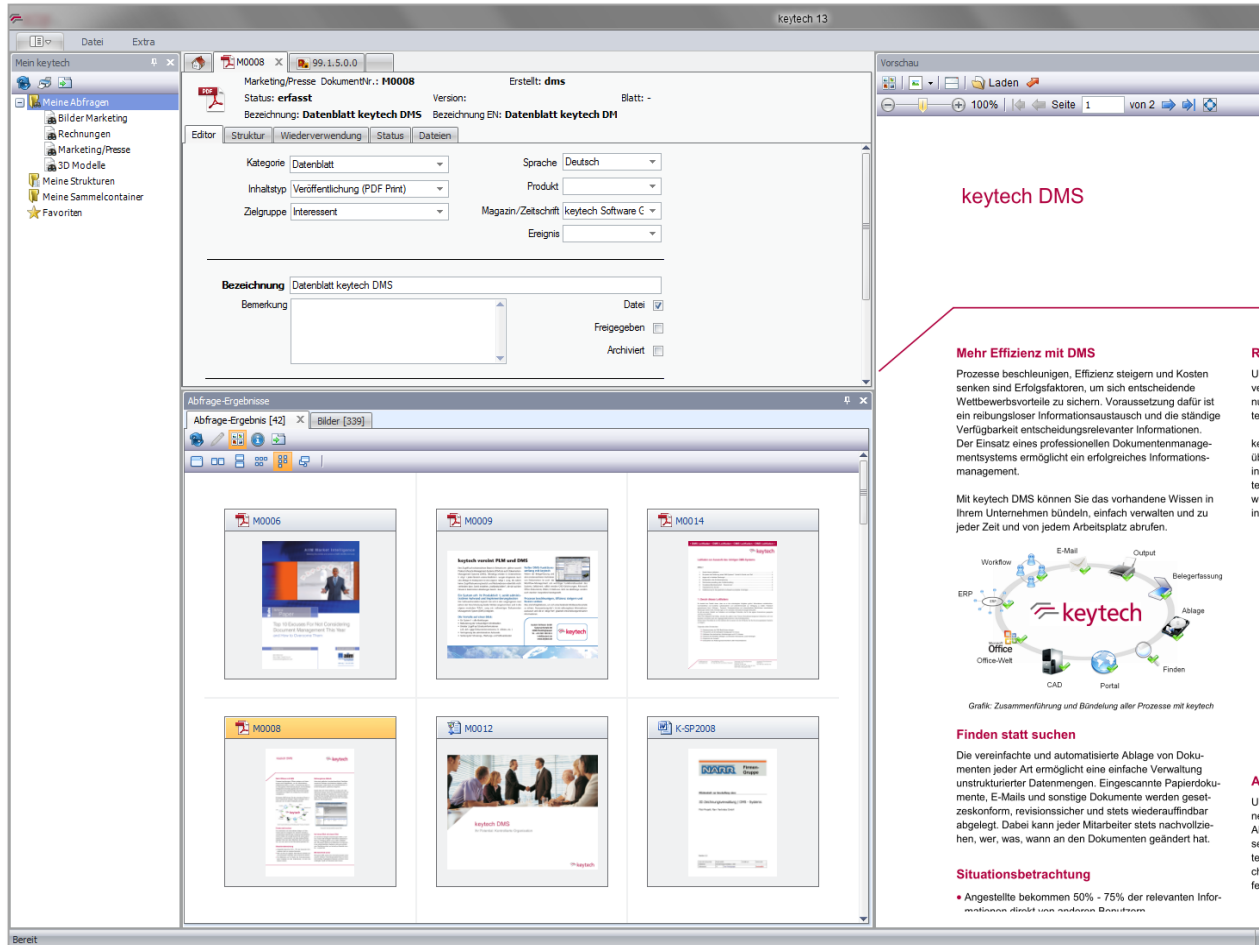
ID	Name	Version	Status	Erstell...	Erstellt	Bei...	
MI-001318	----- Spreizbacken - freigegeben	MI-001318	-	freigegeben	16.01.2012	pmiller	16.
MI-001321	----- b - Arm - freigegeben	MI-001321	b	freigegeben	13.01.2012	pmiller	13.
MI-001329	----- Beleuchtungseinheit - freigegeben	MI-001329	-	freigegeben	16.12.2011	pmiller	22.
MI-001327	----- Batterie - freigegeben	MI-001327	-	freigegeben	16.12.2011	pmiller	22.
MI-001332	----- Griffbefestigungsschraube - freigegeben	MI-001332	-	freigegeben	16.12.2011	pmiller	22.
MI-001331	----- Sicherungsscheibe - freigegeben	MI-001331	-	freigegeben	16.12.2011	pmiller	22.
MI-001326	----- Batterieabdichtung - freigegeben	MI-001326	-	freigegeben	16.12.2011	pmiller	22.
MI-001325	----- Batterieabdeckung - freigegeben	MI-001325	-	freigegeben	16.12.2011	pmiller	22.
MI-001324	----- Schraube Batteriegehäuse - freigegeben	MI-001324	-	freigegeben	16.12.2011	pmiller	22.

On the right side, there is a graphic with a blue gear icon and the text 'INDUSTRIE PREIS 2012 BEST OF'.



# Your Partner for PLM and DMS

## PLM / DMS Client



### keytech DMS

#### Mehr Effizienz mit DMS

Prozesse beschleunigen, Effizienz steigern und Kosten senken sind Erfolgsfaktoren, um sich entscheidende Wettbewerbsvorteile zu sichern. Voraussetzung dafür ist ein reibungsloser Informationsaustausch und die ständige Verfügbarkeit entscheidungsrelevanter Informationen. Der Einsatz eines professionellen Dokumentenmanagementsystems ermöglicht ein erfolgreiches Informationsmanagement.

Mit keytech DMS können Sie das vorhandene Wissen in Ihrem Unternehmen bündeln, einfach verwalten und zu jeder Zeit und von jedem Arbeitsplatz abrufen.



Grafik: Zusammenführung und Bündelung aller Prozesse mit keytech

#### Finden statt suchen

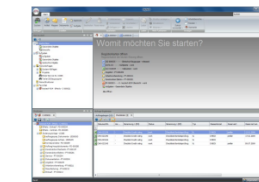
Die vereinfachte und automatisierte Ablage von Dokumenten jeder Art ermöglicht eine einfache Verwaltung unstrukturierter Datenmengen. Eingescannte Papierdokumente, E-Mails und sonstige Dokumente werden gesetzeskonform, revisionssicher und stets wiederauffindbar abgelegt. Dabei kann jeder Mitarbeiter stets nachvollziehen, wer, was, wann an den Dokumenten geändert hat.

#### Situationsbetrachtung

- Angestellte bekommen 50% - 75% der relevanten Informationen direkt von mehreren Mitarbeitern

Reil  
Unte  
verm  
nutz  
terne

keytech lässt sich intuitiv bedienen, so dass auch ungeübte Nutzer bequem durch ihre Arbeitsabläufe finden. Der individuell anpassbare Arbeitsbereich, sowie das bekannte Drag & Drop Verhalten optimiert die jeweilige Arbeitsweise. Damit vermeiden Sie auch einen zeit- und kostenintensiven Schulungsaufwand.



Screenshot: Benutzeroberfläche keytech DMS

#### Auf einen Blick mit einem Klick

Um schnell die richtigen Entscheidungen treffen zu können, müssen alle benötigten Informationen jederzeit auf Abruf zur Verfügung stehen und vor allem verlässlich sein. Mit keytech DMS können Mitarbeiter ihre Dokumente aus unterschiedlichen Systemen unter einer einheitlichen Oberfläche einfach und schnell per Mausclick abrufen – zu jeder Zeit.

### INNOVATIONSPREIS-IT

BEST OF 2012

*initiative*  
**mittelstand**

DMS

# Your Partner for PLM and DMS

Knowledge through Integration

## CAD, E-CAD, CAM

- AutoCAD
- CATIA
- EPLAN
- Inventor
- InventorCAM
- ME10
- SolidCAM
- Solid Edge
- SolidWorks
- SolidWorks Electrical
- SpaceClaim

## E-Mail

- Exchange
- Office
- Lotus Notes
- Tobit

## ERP

- ABAS
- ams.erp
- Infor
- Majesty
- MS Dynamics AX/NAV
- P2plus
- Sage Bäurer
- SAP
- SIVAS DMS-Integration

CADENAS

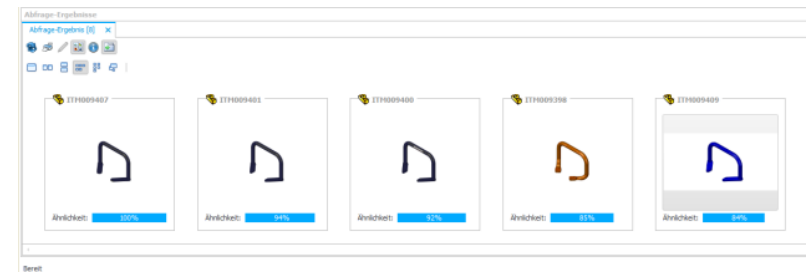
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## Proactive Reuse in the Engineering Process

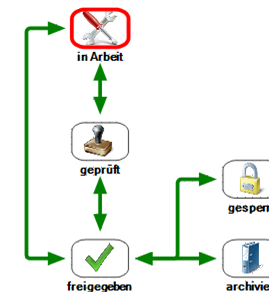
- Active cost savings through reduction of duplicates



- PLM supported suggestive search system for similar parts



- Clear view of identical parts in released part of workflow





# Your Partner for PLM and DMS

## Active Cost Savings through Reduction of Duplicates

- Automatic capture of Inventory Data
  - Via existing inventory data
  - Permanently by storing the models

CAD Workstation    Image Server



- Creates Fingerprint
- Starts similarity search CADENAS
- Captures result in keytech

part1	part2	percentage
ITM004227	ITM009407	100
ITM004227	ITM009409	84
ITM004227	ITM009401	94
ITM004227	ITM009400	92
ITM004227	ITM009398	85
ITM004227	ITM009399	83
ITM004227	MI001323	83
ITM004227	ITM009402	76

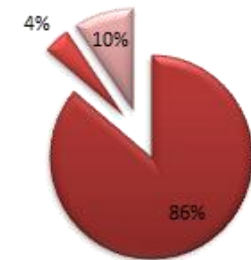
SQL Server or Oracle database &  
Access-only file archive (Vault)

### ■ Analysis / Presentation using Charts

- Reuse of reference parts
- Life Cycle
- Price
- Version/Revision
- Purchased parts already used
- Expanded analysis using catalog of purchased parts

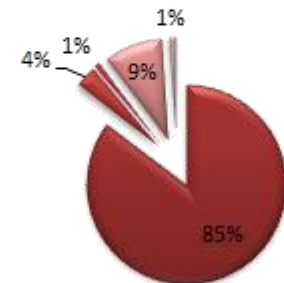
**Similar parts**

■ Parts ■ >90% ■ 70% - 90%



**Similar parts**

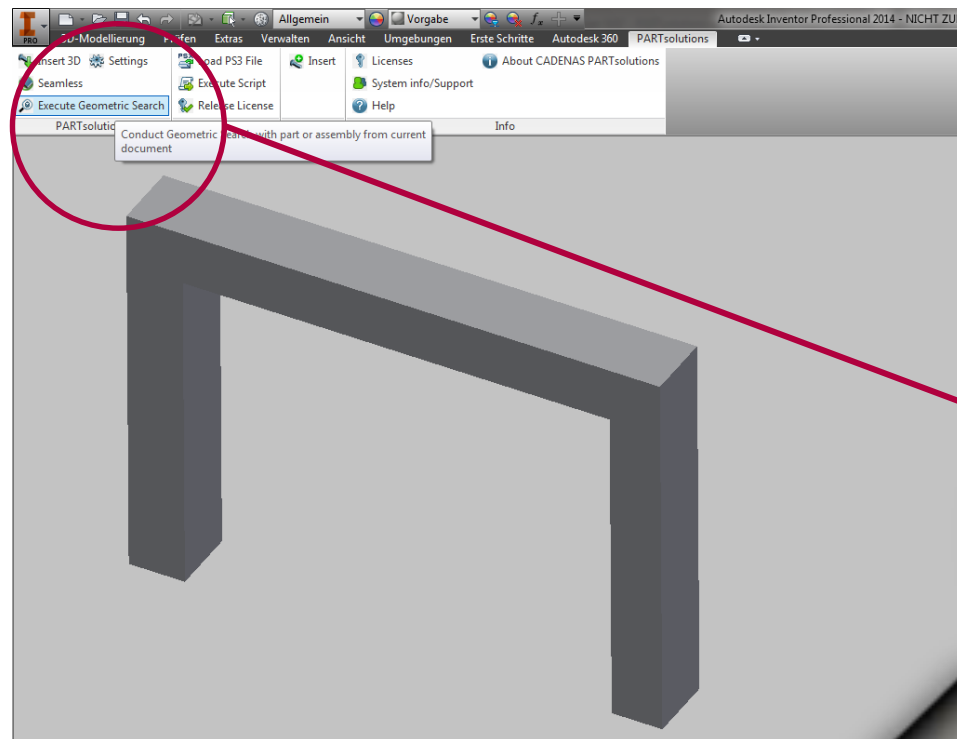
■ Parts ■ >90% released ■ >90% work  
■ 70% - 90% released ■ 70% - 90% work



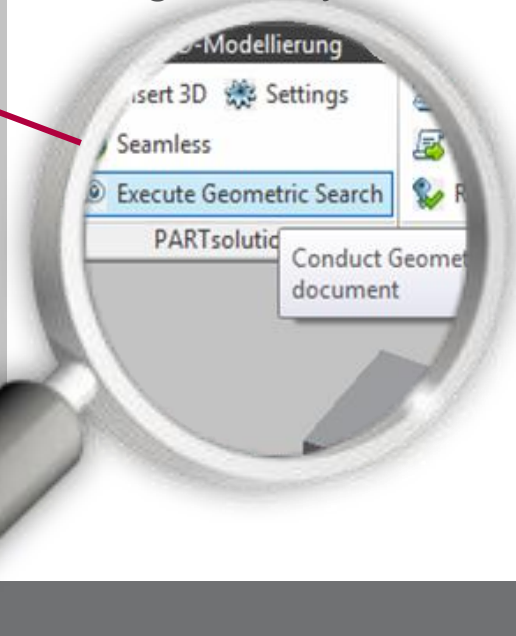
# Your Partner for PLM and DMS

## PLM Supported Suggestion System for Similar Parts

### Directly from the CAD Application



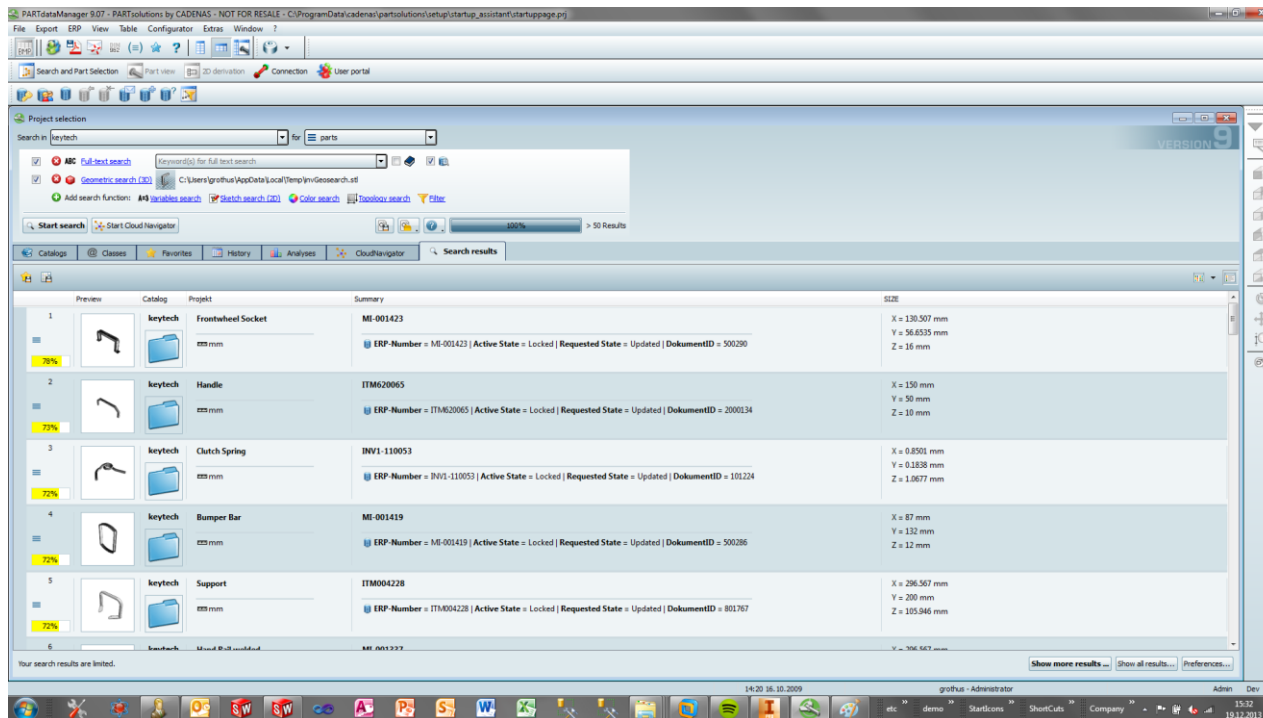
- Sketching a component in Inventor/SolidWorks
- Calling the CADENAS geometry search



# Your Partner for PLM and DMS

## PLM Supported Suggestion System for Similar Parts

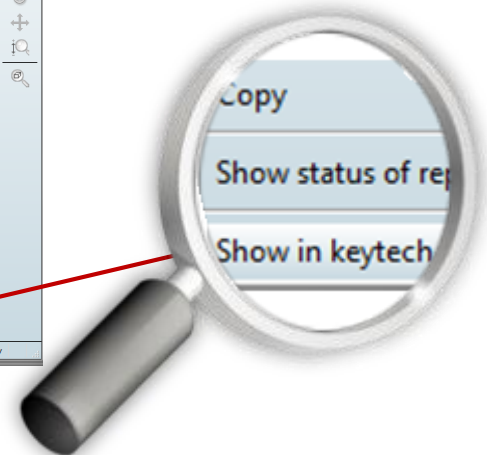
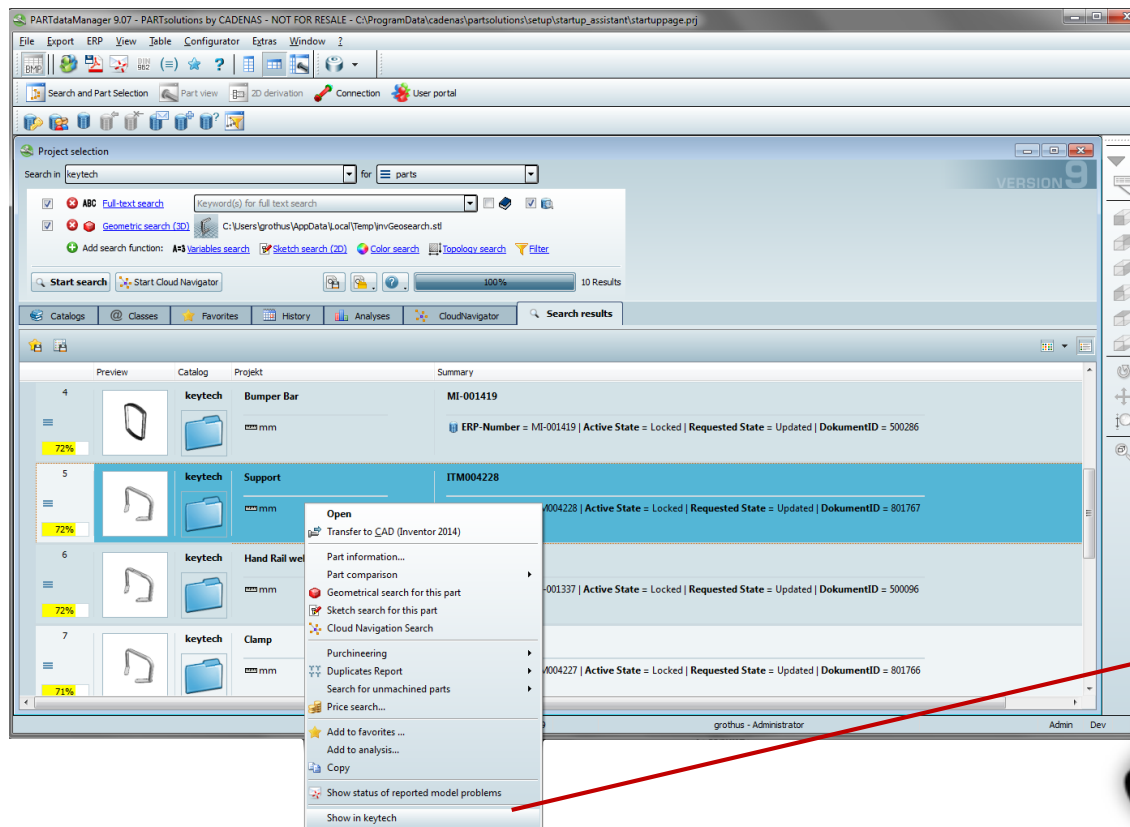
### Display of CADENAS results list from CAD



# Your Partner for PLM and DMS

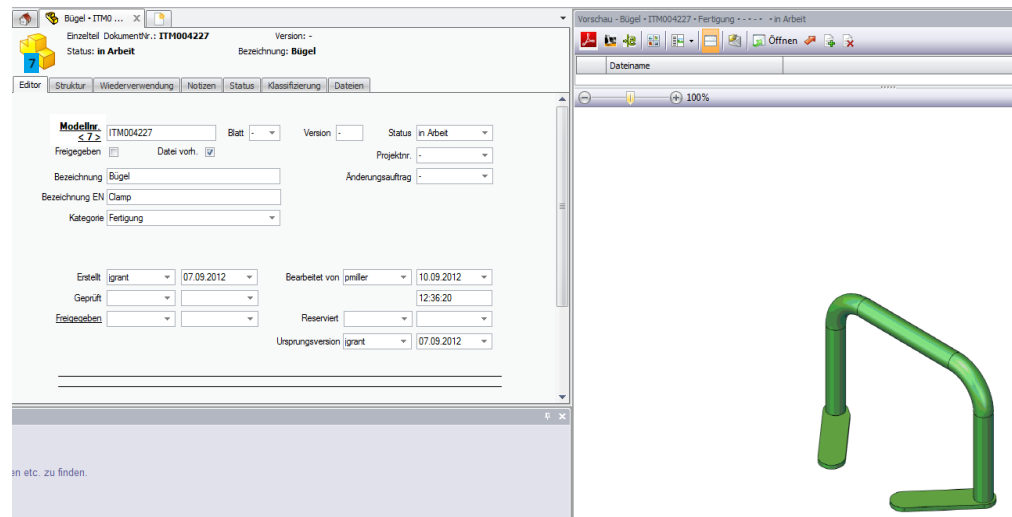
## PLM Supported Suggestion System for Similar Parts

### PLM Query for Similar Parts



### PLM Display of Similar Parts

- Selection of a component from CADENAS





### PLM Display of Similar Parts

- Reference to similar parts with a preset degree of overlap

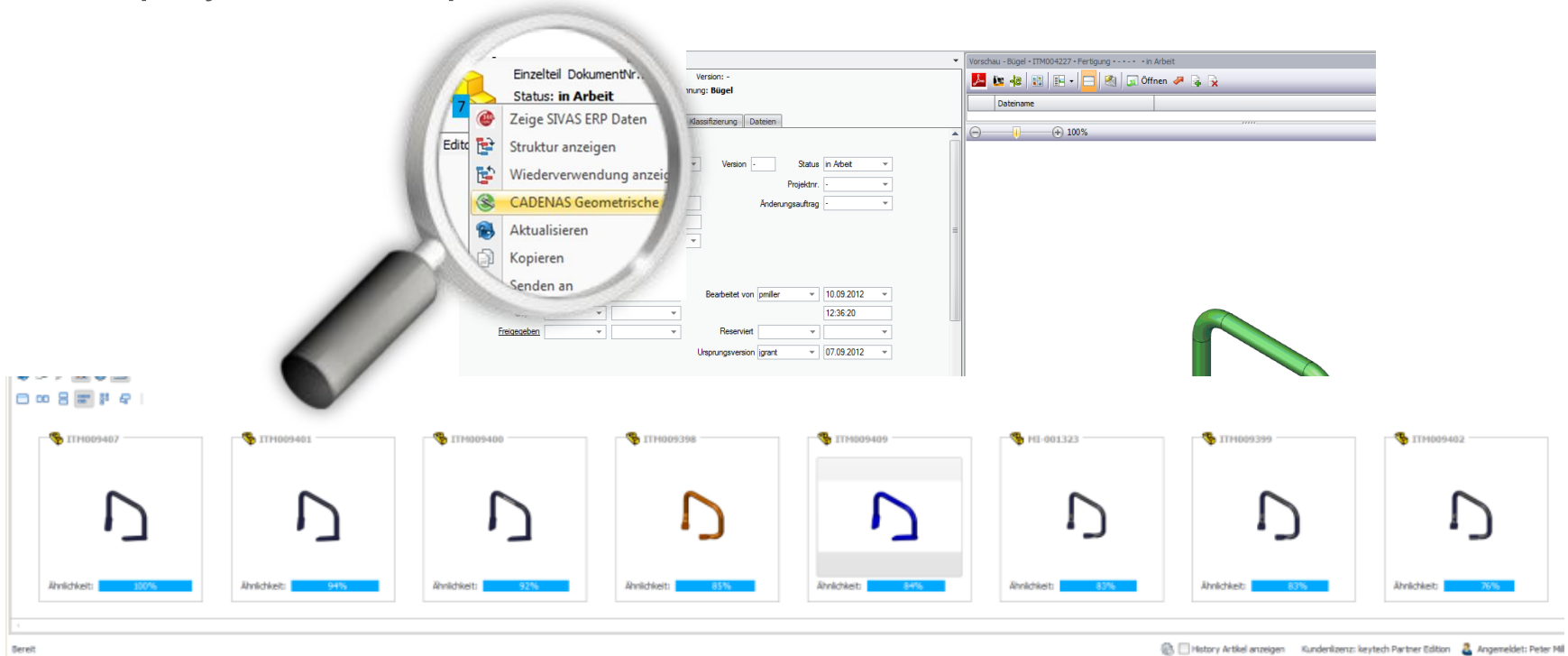


# Your Partner for PLM and DMS

## PLM Supported Suggestion System for Similar Parts

PLM-run query within the inventory data

- Display of similar parts



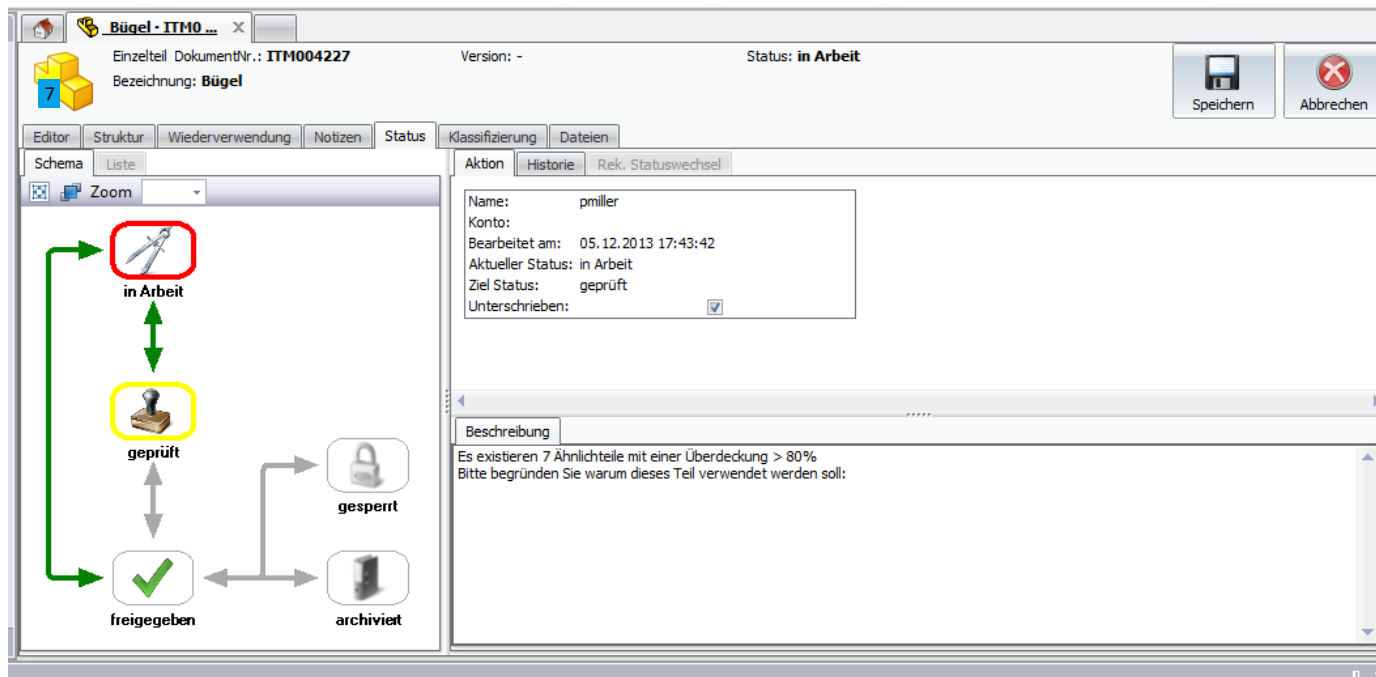
The screenshot displays the PLM system interface. A magnifying glass highlights the 'CADENAS Geometrische' option in the search results. Below, a list of similar parts is displayed with their respective similarity percentages.

Part ID	Similarity (%)
ITH009407	100%
ITH009401	94%
ITH009400	92%
ITH009398	85%
ITH009409	84%
HI-001323	83%
ITH009399	83%
ITH009402	70%

### Advantages

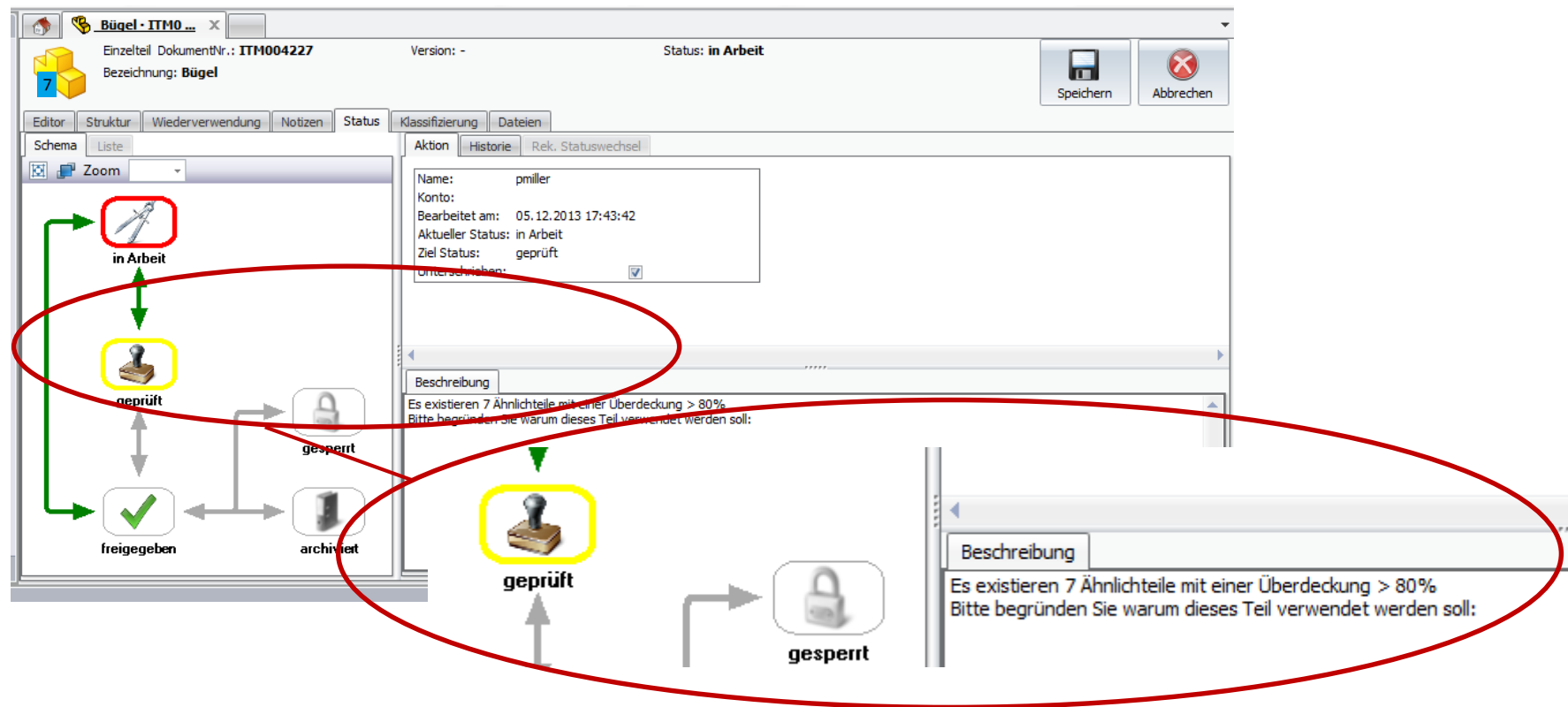
- Direct, ongoing reference to the number of similar parts
    - With adjustable threshold (degree of overlap)
    - With adjustable filter on the status of the reference model to be shown (released, approved, in work...)
    - With any iteration
  - Direct Display of similar parts
    - Display of similar parts across all CAD systems
    - Reference part is loaded directly into the relevant CAD system
    - PLM supported “Replace” function in the CAD system
- ➡ With continual reference to similar parts during the design process, keytech leads the engineer to inventory components, minimizing the creation of new parts.

### Support/Control of the approval process



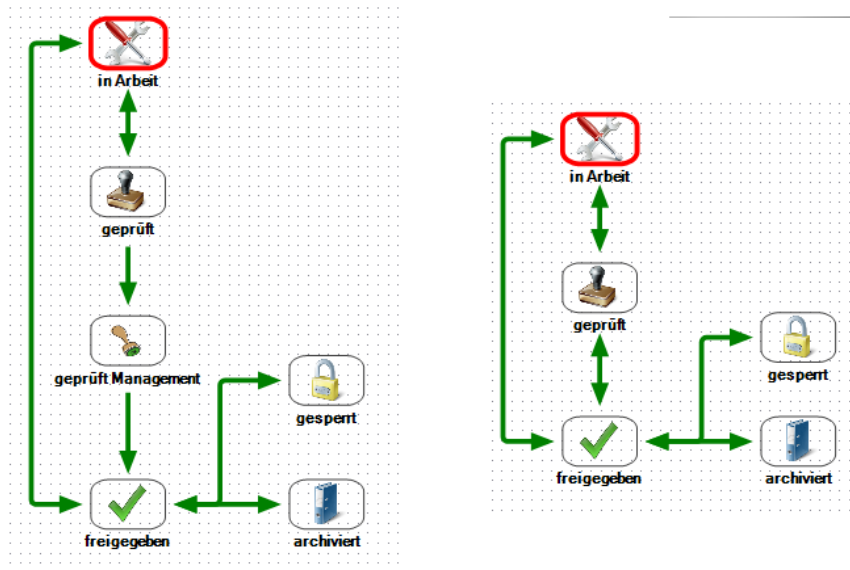
### Support/Control of the approval process

- Through managed documentation



### Support/Control of the approval process

- Can also be controlled via different workflows





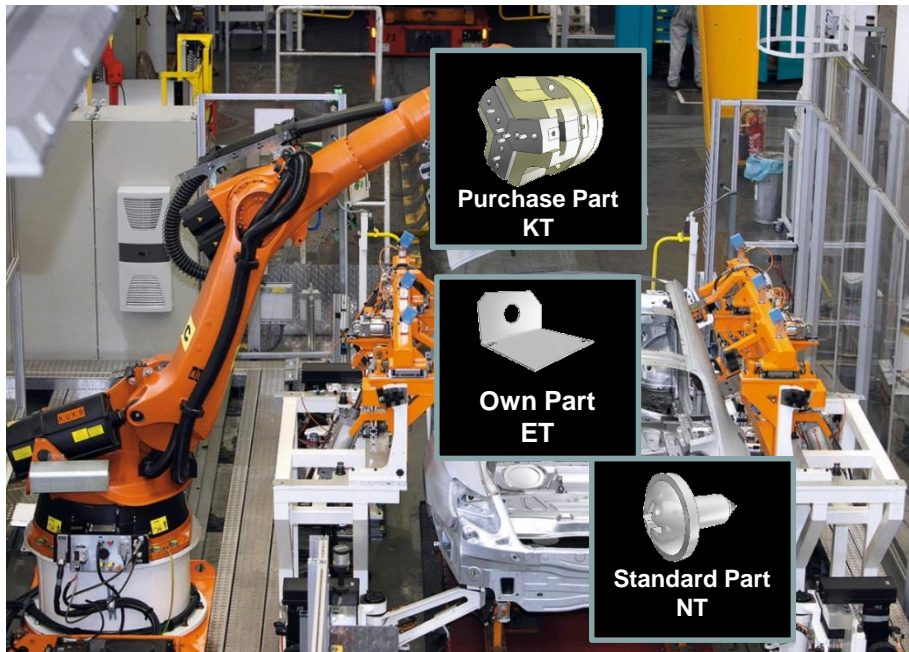
### Advantages

- Direct reference to the number of similar parts for the checkers
    - Reasons why the engineer used them
    - Advance check as to whether a similar part was used
  - Workflow change depending on similar parts
    - Automatic additional approval by one or more people
    - Accidental release of similar part is no longer possible
- ➔ Due to the restricted control of the release of similar parts, the engineer will always check for reuse. Unnecessary additional work in the subsequent release process is eliminated. The creation of new parts is minimized.

# Your Partner for PLM and DMS

## Proactive Reuse during the Engineering Process

### CADENAS and keytech are deeply integrated



Product  
Design  
**GEOsearch**


Resources  
**PARTsolutions**

Strategic  
Purchase  
**Purchaseengineering**

(c) 1992-2011 CADENAS GmbH | Dipl. Ing. (FH) Jürgen Heimbach

### Advantages

- Standard Parts
  - Automatic Creation
  - One-time item assignment from keytech
- Geometric Analysis
  - Automatic analysis of all CAD geometries
  - CADENAS meta data is filled directly from keytech
  - Searching in CADENAS and/or keytech delivers a result in both systems
- Support of the geometric double search
- Support of an earlier search for adequate purchased parts

 With direct access to the CADENAS catalog, the need to produce new parts is reduced by increasing the reuse of parts and by implementing purchased parts!

Thank You for your Attention

