



ARAS as Platform for Process Stabilization and Efficiency Improvement



Precision. Passion. Partnership.

GETRAG's way of implementing ARAS

Agenda

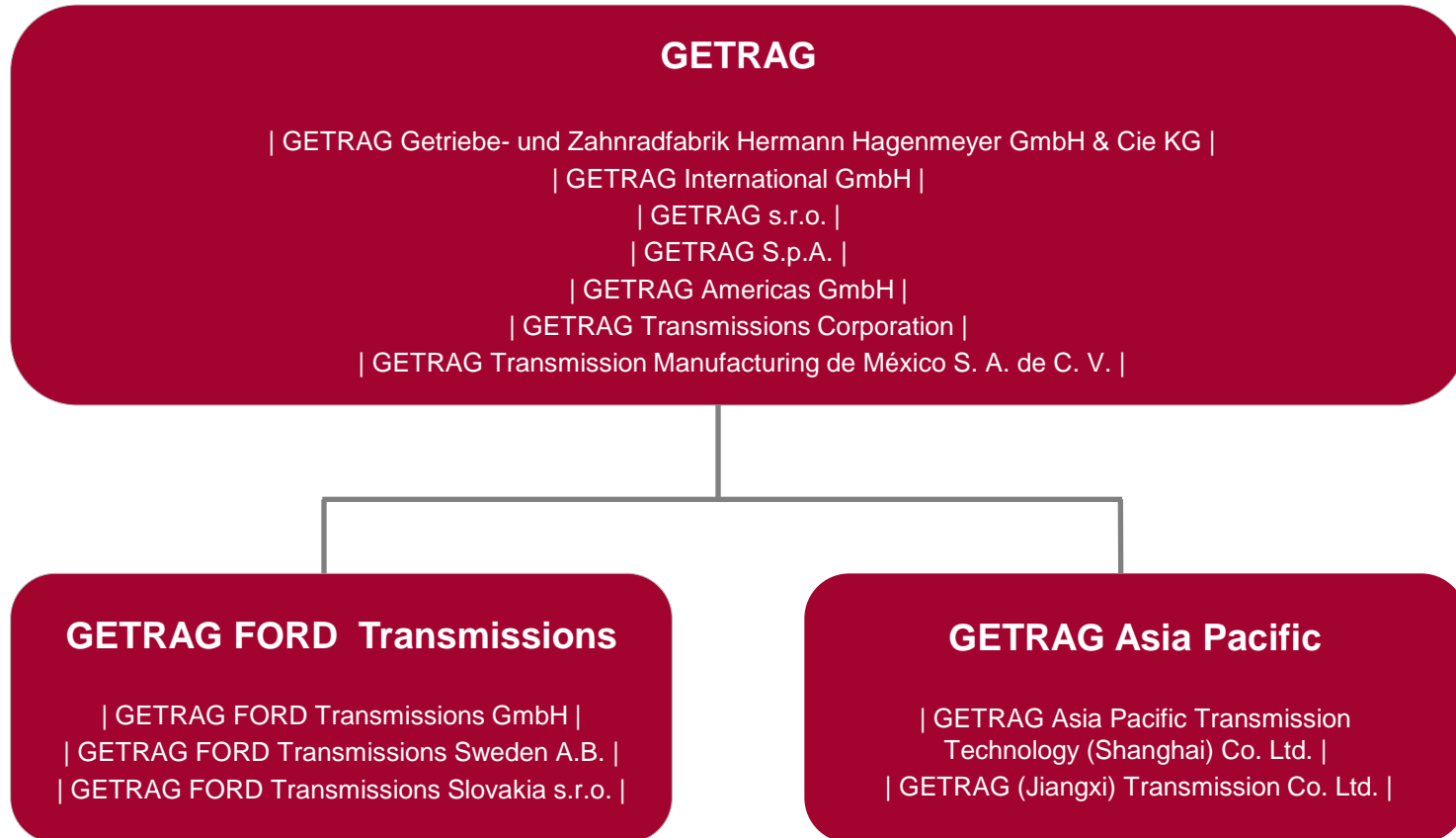
- Company Presentation
- Background & Vision
- GETRAG's Solutions
- GETRAG's Approach
- Conclusion

Company Presentation



Precision. Passion. Partnership.

Structure of GETRAG



GETRAG worldwide



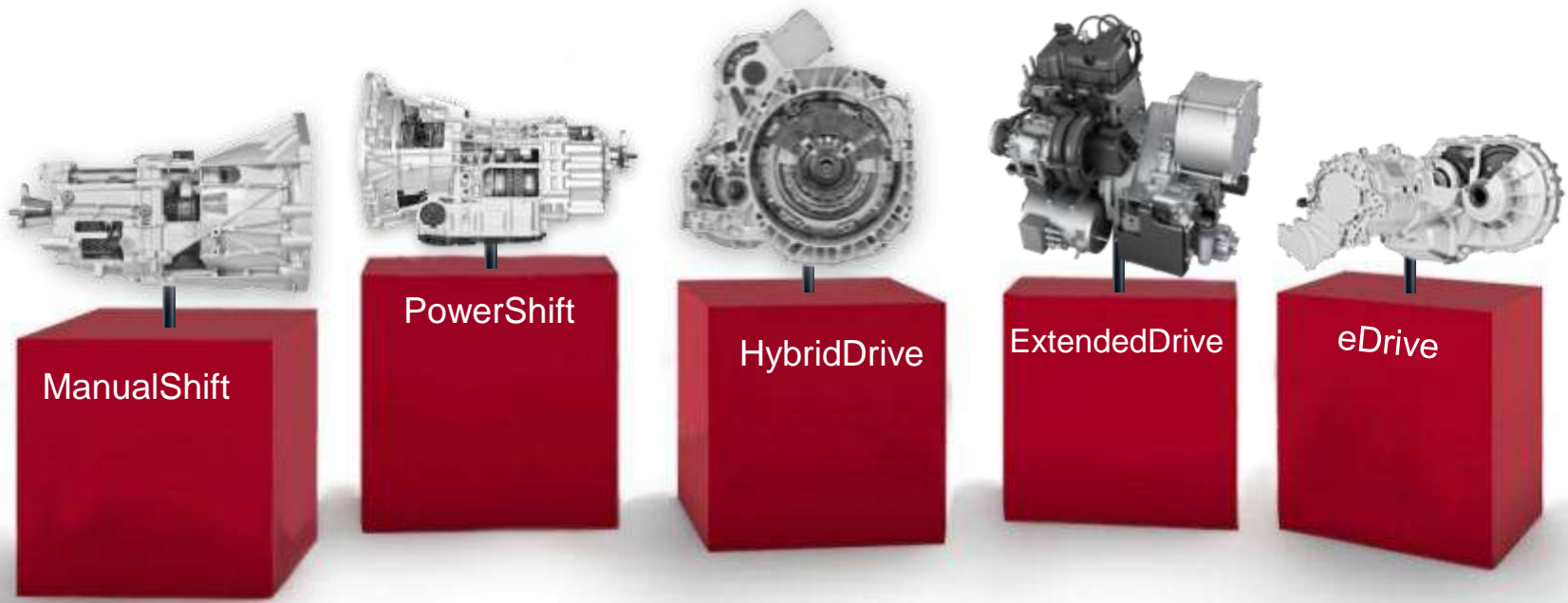
22 locations worldwide in Europe, North America and Asia

12 individual companies

current figures after sale of the axle business

(12/2011)

Product Portfolio:



Largest independent supplier of passenger car transmissions worldwide

We deliver worldwide



Partner of all major automotive manufacturers worldwide

Audi	Dongan	Great Wall	Mazda	Southeast Auto
BMW	Dongfeng	Haima Auto	MINI	Toyota
Brilliance Auto	FAW Hongta	Holden	Mitsubishi	Volvo
Changan	Ferrari	JAC	Nissan	VW
Changfeng	Fiat	Jaguar	Opel	Zhengzhou Nissan
Chenghe-Suzuki	Ford	Jiangling Motor	Porsche	Zhongxin Auto
Chrysler	Ford Otosan	JMC Landwind	Qoros Auto Co., Ltd	
GM Daewoo	Foton	Karmann	Renault	
Daimler	GM	Land Rover	Skoda	

GETRAG in figures



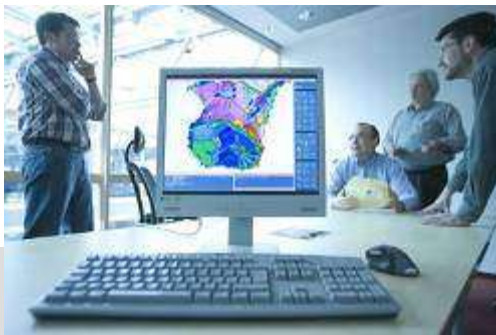
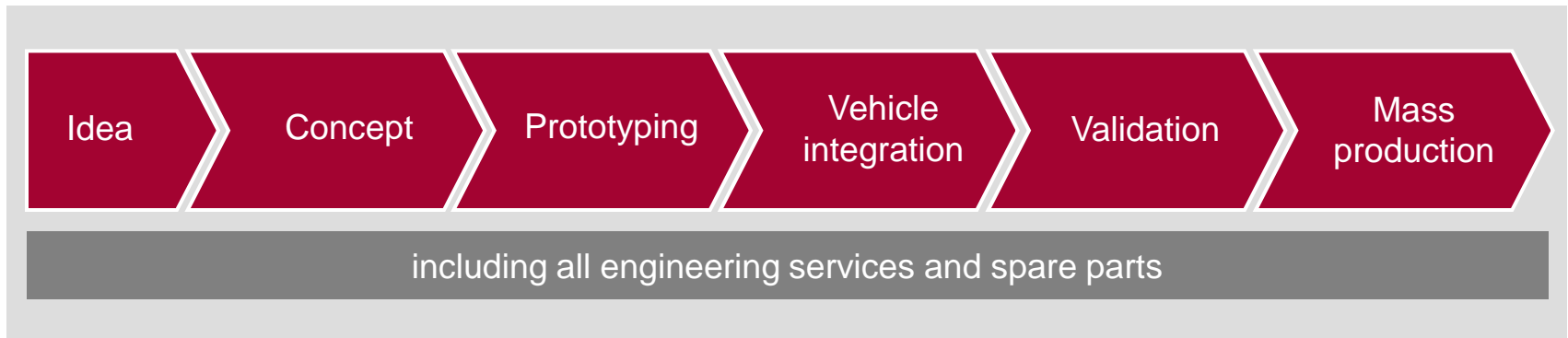
Key facts 2011

Sales	3 bn EUR*
Global production	3.5 m transmissions
Employees	12,500

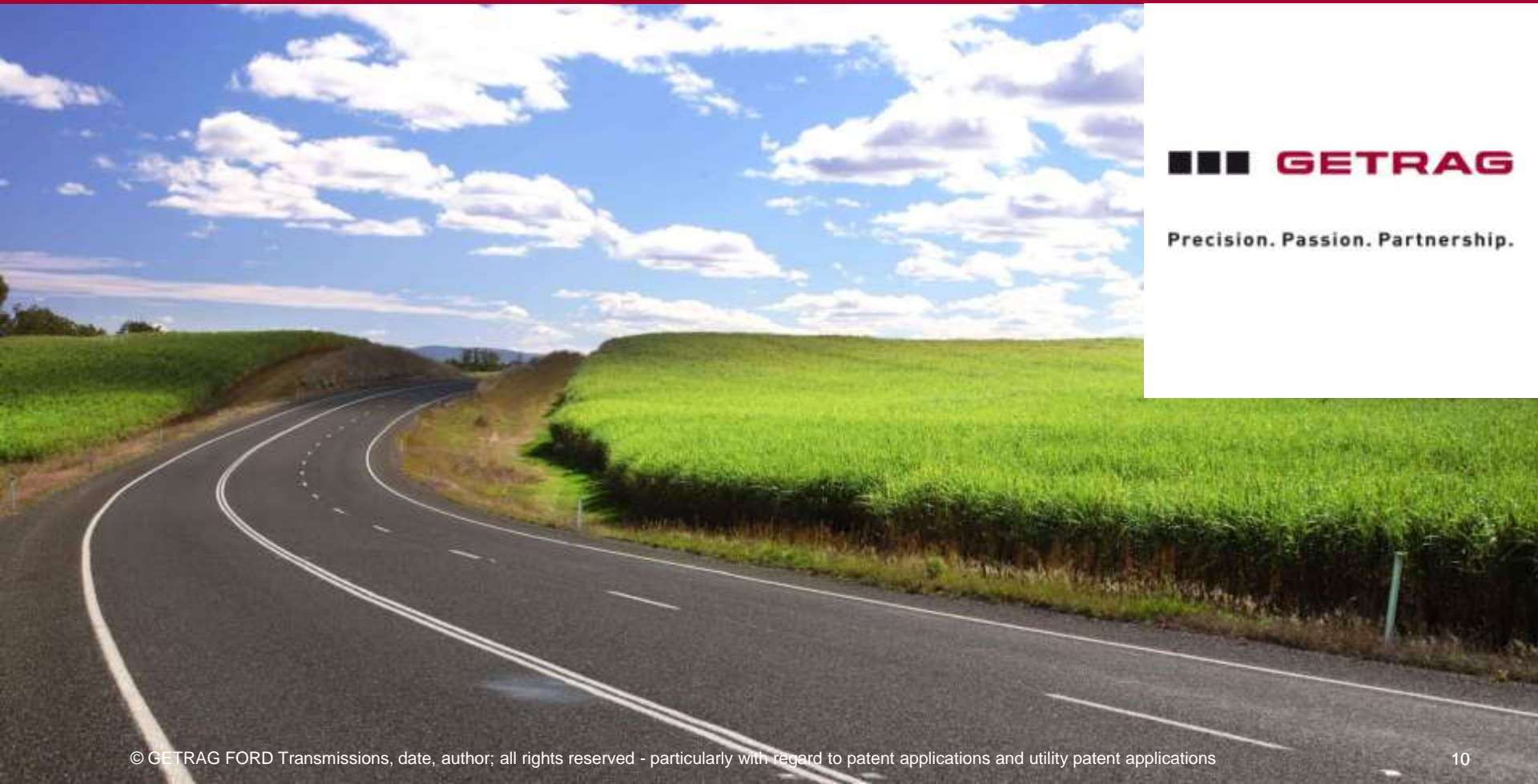
*consolidated
(01/2012)

Systems Supplier

Our service range covers the entire process chain:



Background and Vision



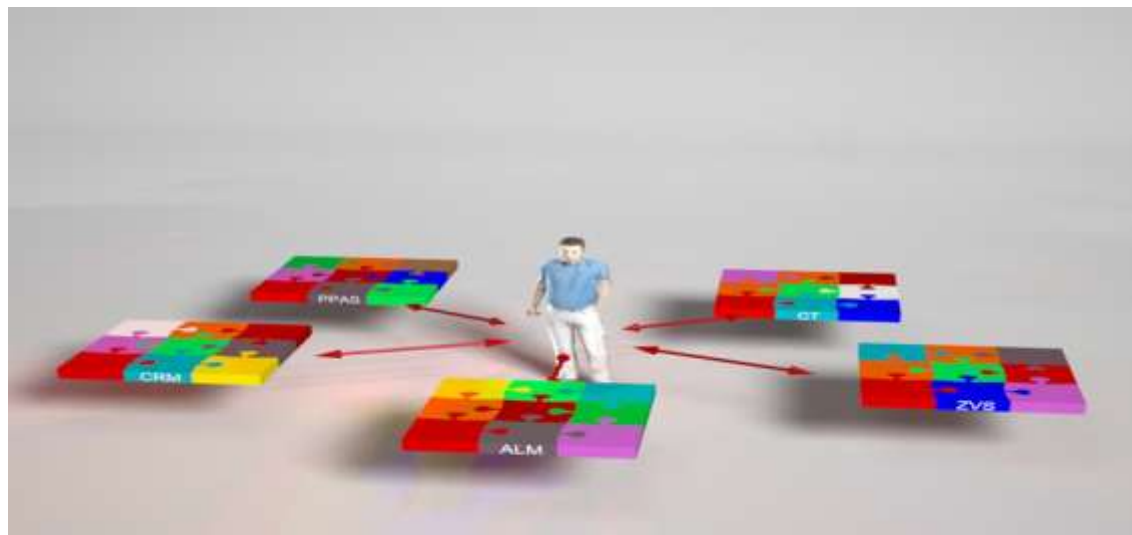
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IT Challenges

- Migrate from a Ford integration to GETRAG infrastructure
- Replace Ford applications with GETRAG solutions
- Integration of various systems
 - Keep proven solutions for specialists
 - Enable easy access to data for everyone that needs
- Harmonize applications developed over years

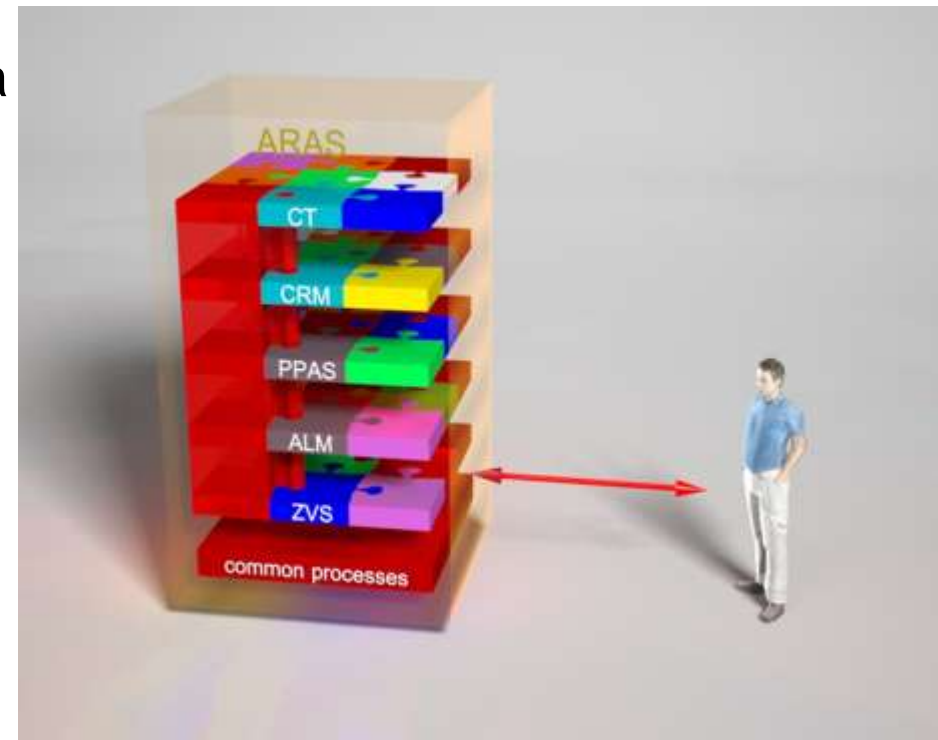
Current Situation

- Only partially integrated databases for
 - Hardware development
 - Software development
 - Manufacturing locations
- Manual interface between specialist systems



Evolutionary Approach

- Create an integration platform
- Only replace systems if required anyway
- Keep solutions which are functionally okay
- General access specialist systems via integration platform
- Eliminate inconsistent data
- Single source for master data
- Implement workflows



GETRAG's Solutions



Precision. Passion. Partnership.

Infrastructure

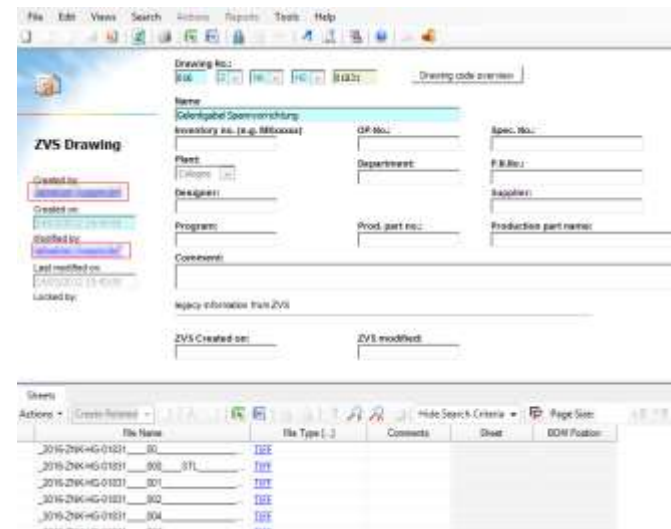
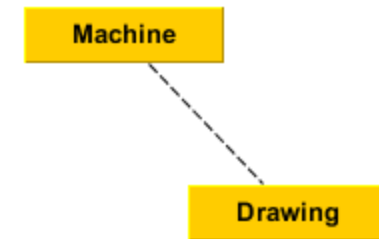
- XEON 4-core, 4 GB RAM
- Windows Server 2003
- MS-SQL Professional 2005
- IIS 6
- Application-, Database- & Vault-Server on 1 machine
- Clients XP, Vista, Win-7 (32/64 bit)
- ARAS 9.2 SP 2

- ~400 user
- Central database & fileserver (NetApp)
- 4 locations (Germany, Sweden, UK, France)



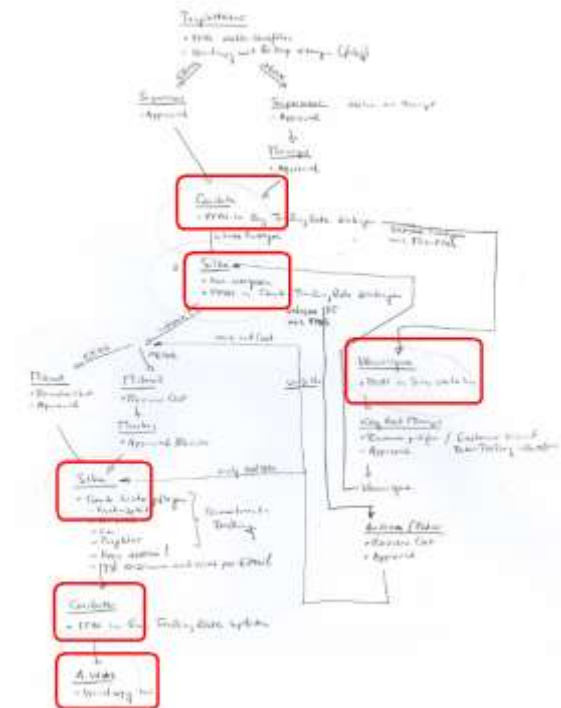
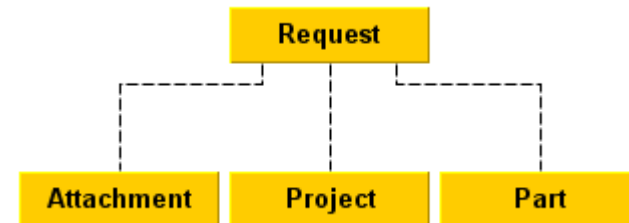
Drawing Management (ZVS)

- Management of machine documentation
- Very simple data structure
- 4500 drawings
- > 20,000 files
- ~ 100 users
- Implementation: 12/2010
- In 2012 roll-out to UK & France



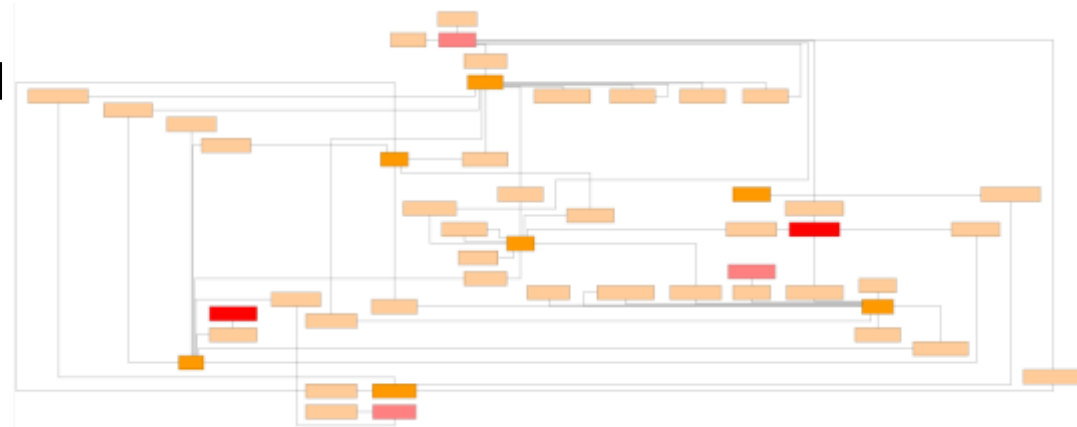
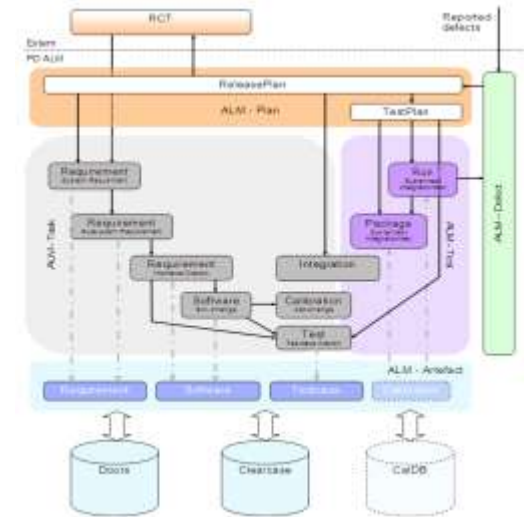
Prototype Approval (PPAS)

- Approve prototype orders
- Simple data structure
- Complex form
- Flexible workflow
- KPI calculation
- ~ 150 user
- Implementation: 01/2011



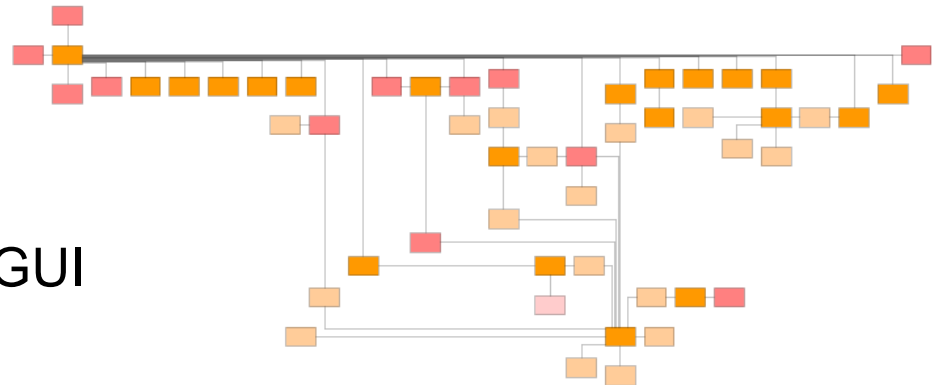
Application Lifecycle Management (ALM)

- Software Release Management
- Defect Handling
- Test Management
- Task Tracking
- Reporting
- Very complex data structure
- Special views for navigating complex structure
- ~ 100 User
- Implementation: 03/2011



Budget Planning

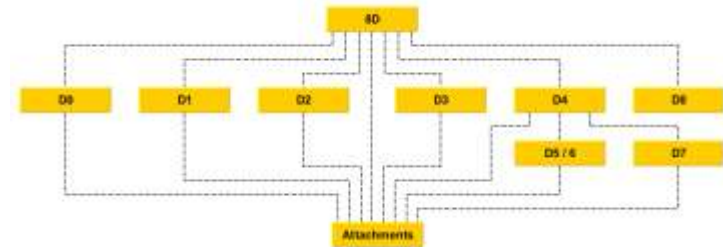
- Budget Planning for Product Development
- Co-operation between Sales, Prod Dev, Controlling and PMO
- Improve process stability and repeatability
- Very complex data structure
- Complex reporting
- Multiple workflows
- Role based access control & GUI
- ~ 100 User
- Implementation: 07/2011



Budget Calculation		Calculation Version No.	Date	File	Calculation Type	Probability (%)
GRAND TOTAL						
TOTAL					234.15	7.68
Project Management					4.34	2.05
2632-ProjectDev		1000h	2010	6	0.27	0.36
2632-IP/PA & Project Coordination		1000h	2010	0	0.58	0.38
2632-Prototype & Serial Coordination		1000h	2010	0	0	0.05

8D Handling

- Replaces multiple 8D applications
- Common knowledge base
- Simple data structure
- 4000 potential users
- Implementation: 08/2011



GETRAG
GFT 8D Report (BAO)
8D-2012-02-0003

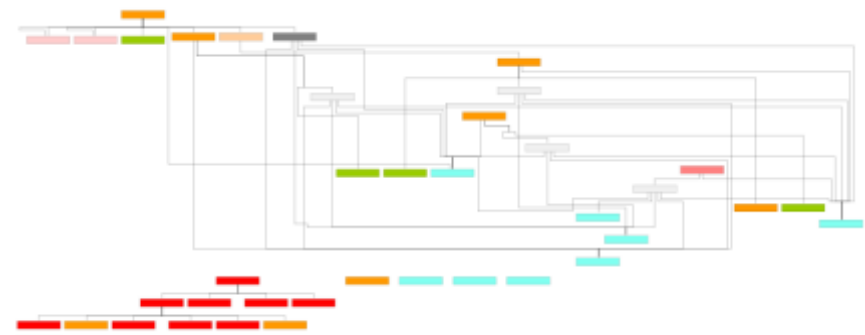
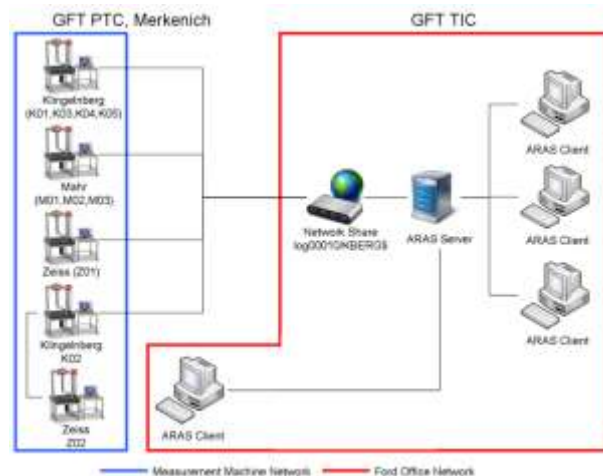
General Information		
Title:	[...]	
Date:	Created on:	19.02.2012
Organization:	Created by:	19.02.2012
Customer:	Approved by:	19.02.2012
Affected Product(s)		
Customer Symptom Statement		
Customer Symptom Description		
D0 - Emergency Response Action		
Emergency Response Action 1 of 1		
Statement:	Responsible Lead	
Description:	not defined	
Verification:	not defined	
Verified:	Scheduled	Implemented
Validated:		
D1 - Team		
Name:	Role:	Company:
Chairman:	Chairman:	
Leader:	Leader:	
Member:	Member:	
D2 - Problem Description(s)		
Statement:		
Description:		
D3 - Interim Containment Action(s)		
Interim Containment Action 1 of 1		
Statement:	Responsible Lead	
Description:	not defined	
Verification:	not defined	
Verified:	Scheduled	Implemented
Validated:		
Released:		

GETRAG
GFT 8D Report (BAO)
8D-2012-02-0003

D0 - Root Cause(s)	
Root Cause 1 of 1	
Statement:	Description:
Verified:	Scheduled
Validated:	Implemented
Released:	
D000 - Permanent Corrective Action 1 of 1	
Statement:	
Description:	
Verified:	Scheduled
Validated:	Implemented
Released:	
D8 - Closure	
Please date:	
Closure Statement:	

CMM Result Handling

- CMM reports automatically loaded to ARAS
- Replaces paper based process
- Links Prototype Center to Product Development
- Simple data structure
- 70 users
- Implementation: 03/2012



Current Projects

- CATIA V5 data management
- Management of transmission design parameter
- Engineering Change Management
- Upgrade 9.2 SP2 -> 9.3 SP2
- Aras Access Management
- Automated Testing

Next Steps

- Global roll-out
 - Germany (several locations)
 - UK
 - France
 - Slovakia
 - China
 - USA
- Central database
- Local vaults



GETRAG'S Approach



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GETRAG's Approach

- 1 week of training by Aras consultant
- Start with a simple project
 - Not much to loose
- Build a core team to develop & maintain application
- Run projects in an “agile“ way
- Get external resources to help
 - But implementation controlled by GETRAG
- Aras Solutions are a good starting point
- Not using Aras Solutions
 - Copy what we need to specific Item Types
 - Don't want to be dependant on Aras descisions

The Team

- 8 people trained
- Project staffing
 - 1 – 2 people permanently
 - 3 – 4 people part time

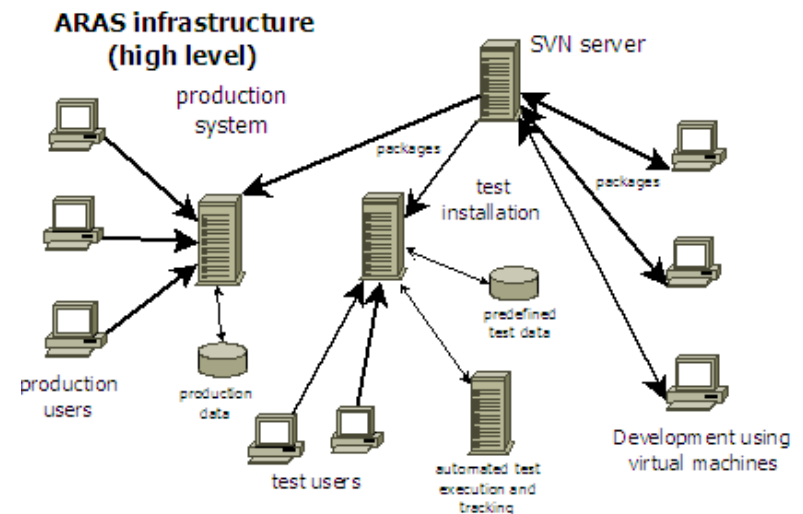
- Training period for experienced software developer about one month

GETRAG's Additions

- jQuery & Dojo usage
 - Forms
 - Lists
 - Charting
- Improved history display
- jQuery based client for shop floor access
- Package analysis using yEd
 - Show dependencies
 - Error checking

Development Environment

- Separate database for each project
- Test environment for integration tests
- MANTIS Bug Tracker for issue tracking
- Subversion for versioning of Aras configuration
 - PC Integration with Tortoise
- Mediawiki for documentation (system & user)
- Continuous integration planned



Conclusion



Precision. Passion. Partnership.

Findings using Aras

- Readiness for intensive familiarization required
- Committed people are an asset
 - Take it as an opportunity not just another task
- Aras provides good helpdesk
- Active community
 - Good ideas for specific solutions
- Relatively good documentation
 - Significant improvement of training material
 - Programming documentation not complete yet
- Improvements for “Package Handling“ desirable
- Standard client too dependant on Internet Explorer settings



Precision. Passion. Partnership.

Thank you!