

Cadenas eCATALOGsolutions and the Demag product configurator

Augsburg, 8 February 2011

12th CADENAS Industry Forum

Achim Tymura

Demag Cranes – At a glance

- With more than 220 locations in over 60 countries, Demag Cranes is one of the leading suppliers of industrial and harbour cranes and has one of the most extensive networks of distributors and service stations in the entire crane industry.
- In “Demag” and “Gottwald”, the Group has well-established brands that stand for excellent product and service quality.
- The Group is an innovative and technological leader with a product range that reaches from a single crane component through to fully-automated systems in industrial and port logistics environments.
- Full range of services from advisory services, project engineering, manufacturing and logistics through to after-sales service – around the clock, 365 days a year.
- Turnkey supplier and globally active partner for projects in all the markets in which our customers are active, worldwide.

DEMAG
CRANES AG

DEMAG
Cranes & Components

GOTTWALD
port technology



Demag Cranes Group – On three pillars

DEMAG CRANES AG

Demag Cranes AG

Revenue: EUR 931.3 million*

Operating EBIT: EUR 54.2 million*

Employees: 5,711**

DEMAG
Cranes & Components

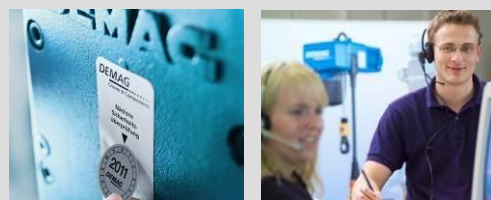
GOTTWALD
port technology

Industrial Cranes



- Industrial cranes
- Crane construction kit
- Rope and chain hoists
- Drives

Services



- Maintenance
- Refurbishment
- Spare parts
- Full service contracts

Port Technology



- Harbour cranes
- Automatic guided vehicles and stacker cranes
- Software solutions

Historical overview I

- **2010** Integration of Demag Cranes Group through worldwide bundling of operative functions and centralising shared services
- **2008** Demag Cranes has been quoted on the MDAX® since May 2008 on the Frankfurt Stock Exchange
- **2006** Consolidation of Demag Cranes & Components GmbH and Gottwald Port Technology GmbH under the umbrella of Demag Cranes AG and IPO on 23 June 2006
- **2002** Demag Cranes & Components GmbH and Gottwald Port Technology GmbH are taken over by Demag Holding S.à r.l. (Luxembourg), in which Siemens AG and private equity investment funds advised by Kohlberg Kravis Roberts have a shareholding.

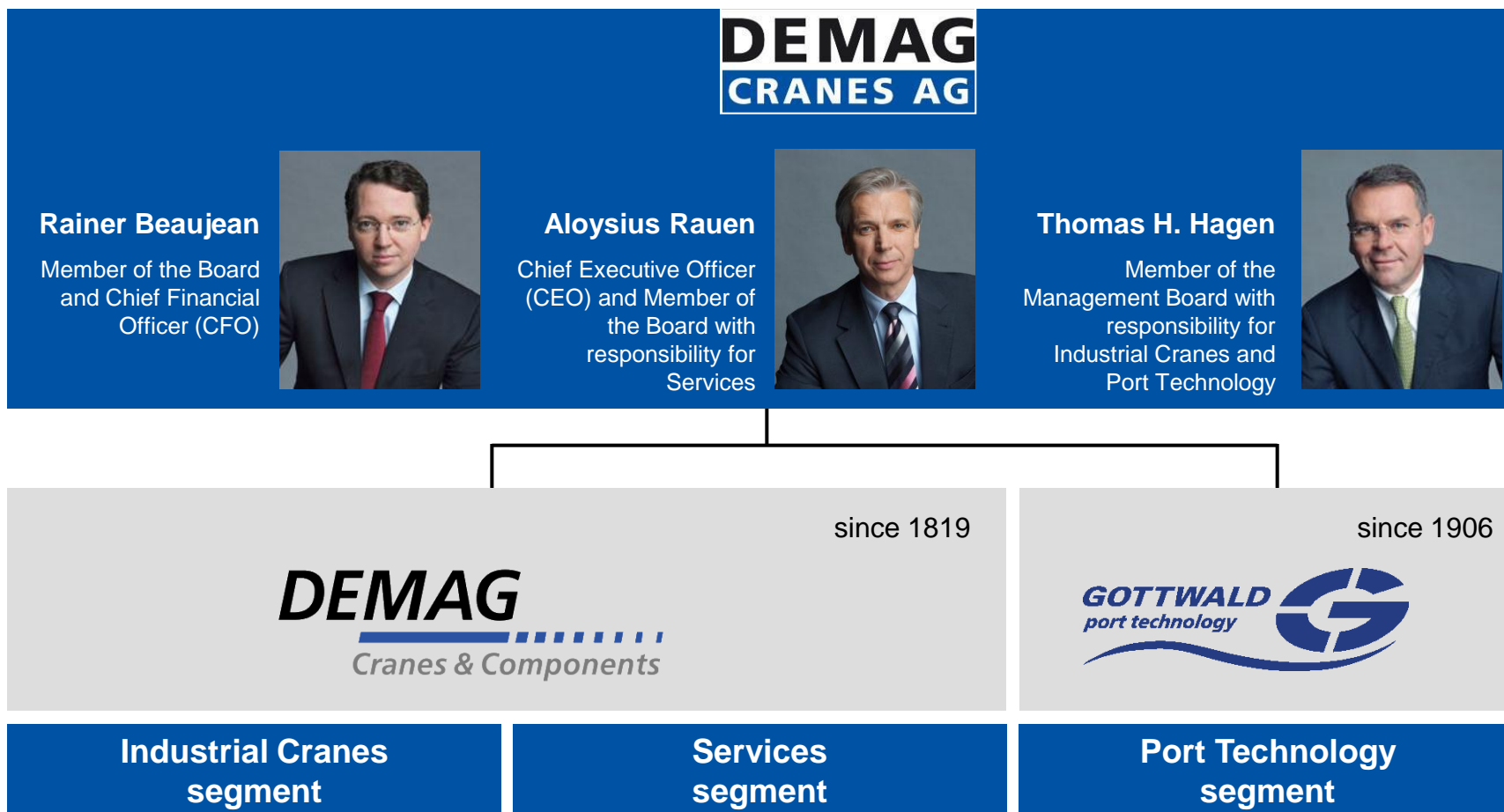


Historical overview II

- **2000** Mannesmann is taken over by Vodafone; Siemens AG and Bosch GmbH acquire the mechanical engineering division of Mannesmann AG
- **1988** Leo Gottwald KG is taken over by Mannesmann and integrated into Mannesmann Demag AG
- **1974** Mannesmann takes over Demag and develops Mannesmann Demag AG
- **1956** Leo Gottwald KG builds the first mobile harbour crane
- **1910** The first hoist with an electric drive enters production
- **1906** Today's Gottwald Port Technology GmbH is founded under the name of Maschinenfabrik Ernst Halbach AG in Düsseldorf
- **1819** Today's Demag Cranes & Components is established under the name of Mechanische Werkstätten Harkort & Co. in Wetter an der Ruhr.



Demag Cranes AG – Organisation and management team



Demag Cranes AG – Organisation and management team II

Executive Committee

The Executive Committee consists of the Management Board as representatives of the Group and six further Executives.

Rainer Berthan

Executive Vice
President, Production



Dr. Lars Brzoska

Executive Vice
President, Sales



Dr. Mathias Dobner

Executive Vice President,
Research & Development,
Engineering



Dr. Martin Habert

Executive Vice
President, Services



Peter Pohlner

Executive Vice
President, Human
Resources

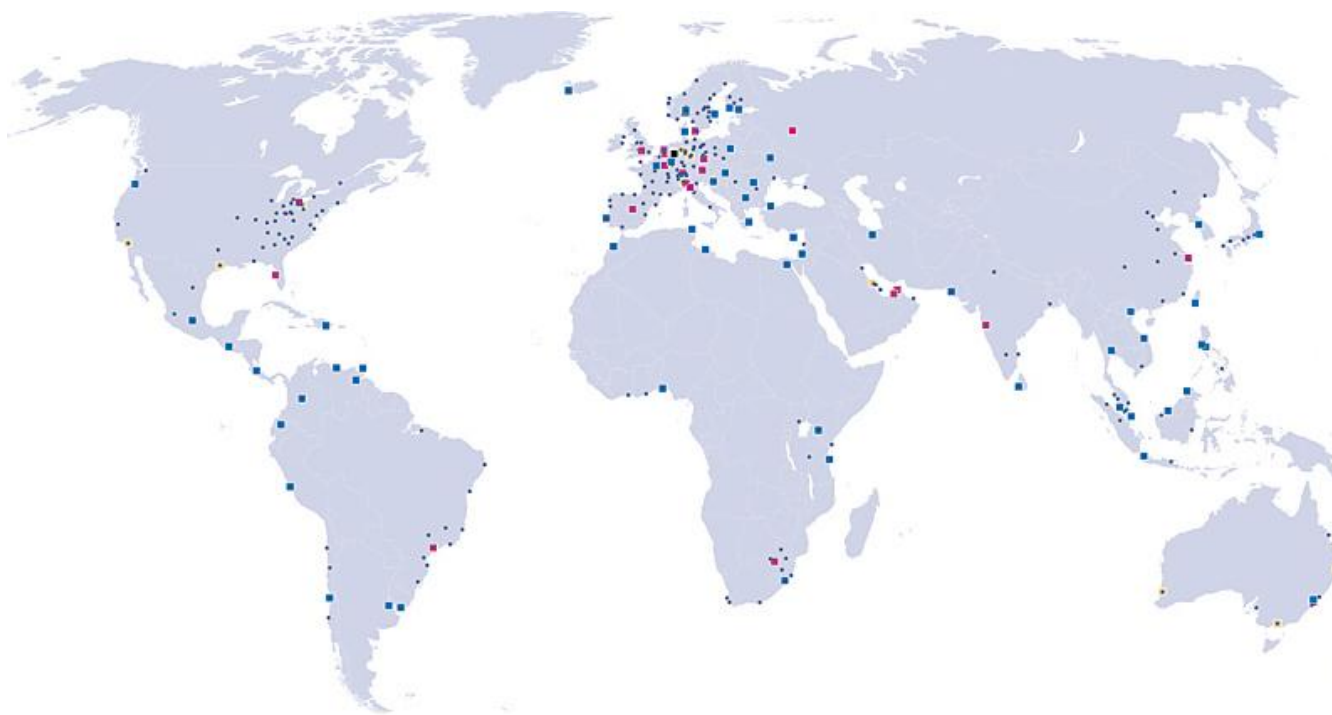


Dr. Robert Wassmer

Executive Vice President,
Product and Contract
Management



Demag Cranes worldwide



- Production locations
- Regional subsidiaries
- Foreign agencies
- Service locations

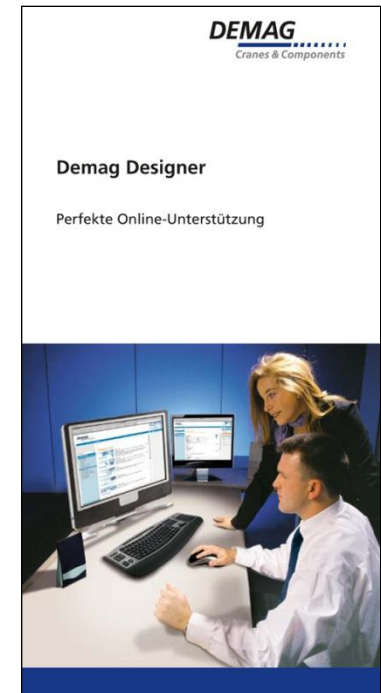


Cadenas eCATALOG solutions and the Demag product configurator

- Project
 - motivation
 - quotation, contract, time scale
 - Demag's product configurators (designer tools) – an overview
 - organisation
 - definitions and agreements (workshop)
 - procedure
 - draft design for a travel system
 - interface
 - system architecture
- Experience
 - gained from the project
 - gained during operation
- Live presentation

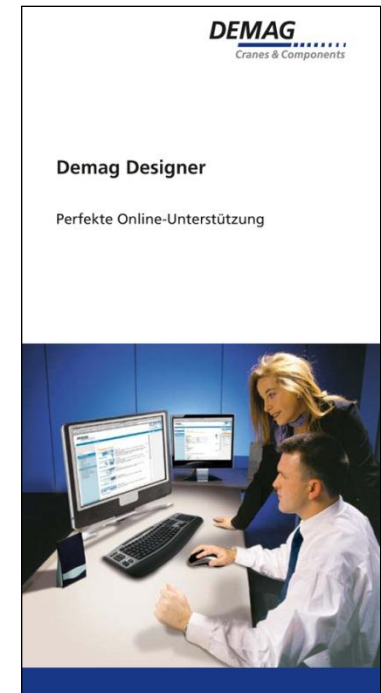
Project – Motivation I

- Development of new Demag product configurators (designer tools)
- Criteria for deciding on the replacement of existing CAD modules
 - proprietary configurator generator based on Pro/Engineer
 - own in-house CAD server
 - maintenance
 - costs
 - availability
 - licences for Pro/Engineer
 - currency
 - costs
 - maintenance
 - work involved
 - costs



Project – Motivation II

- how extendible is it?
- to what extent can it be integrated?
- number of CAD formats
- Key principles
 - one designer system for all
 - CAD accessibility for all
- Target groups
 - employees
 - regional subsidiaries
 - foreign agencies, partners
 - customers
 - interested parties



Demag's product configurators (designer tools) – an overview

Industrial Cranes



Drives



Power supply systems



Hoists



camos.

Project – Quotation, contract, time scale I

- Partner search: quotation phase in Q2 2005
- Decision in favour of Cadenas during Q3 2005
- General agreement on 15 September 2005
 - project scope
 - call-up agreement
 - general provisions



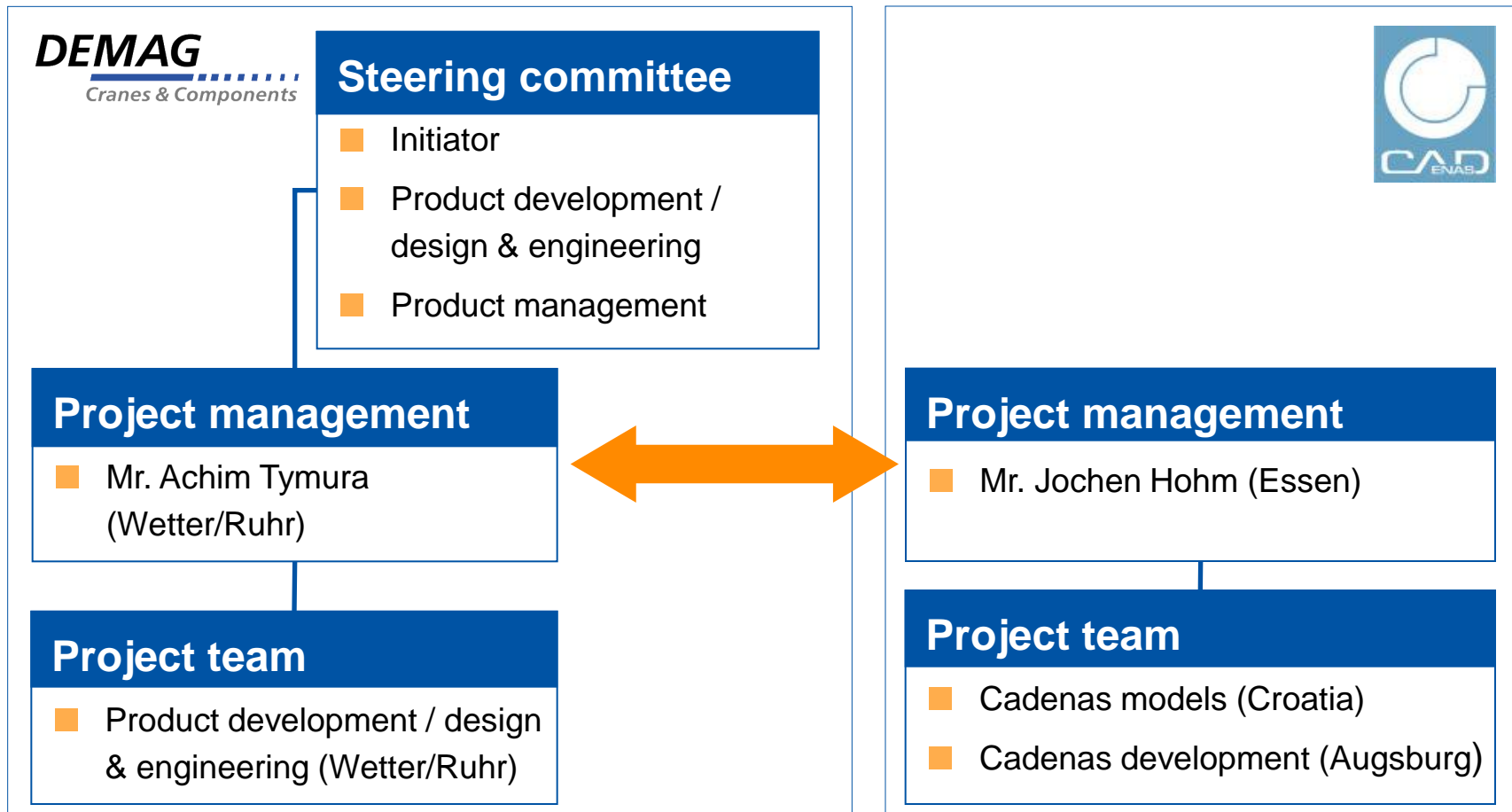
Project – Quotation, contract, time scale II

- Cadenas eCATALOG solutions for a new Drive Designer
 - project initiated on 1 September 2005 (workshop)
 - project completed on 20 December 2006 (mutual confirmation via approval document)

- Drive Designer
 - development initiated in Q4 2006
 - 1st version in Q3 2008
 - link to eCATALOG solutions in 1st half of 2010
 - general roll-out on 12.08.2010



Project – Organisation



Project – Workshop definitions and agreements I

- Definition workshop to develop the interface between the Drive Designer and eCATALOG solutions
- Division of tasks between eCATALOG solutions and Drive Designer
 - Drive Designer
 - supplies configuration parameters
 - eCATALOG solutions
 - evaluates these configuration parameters
 - defines the individual parts required
 - generates the model in line with the draft design



Project – Workshop definitions and agreements II

- Decision on linking and incorporating in Drive Designer after comparing alternatives
 - XML as transfer file
 - Drive Designer always transfers all the parameters (relevant parameters are included)
 - approx. 200 parameters with a range of different values
 - the format of the parameter names (maximum of 15 characters, underscores are automatically removed by Cadenas...)
- Decision on degree of detail required



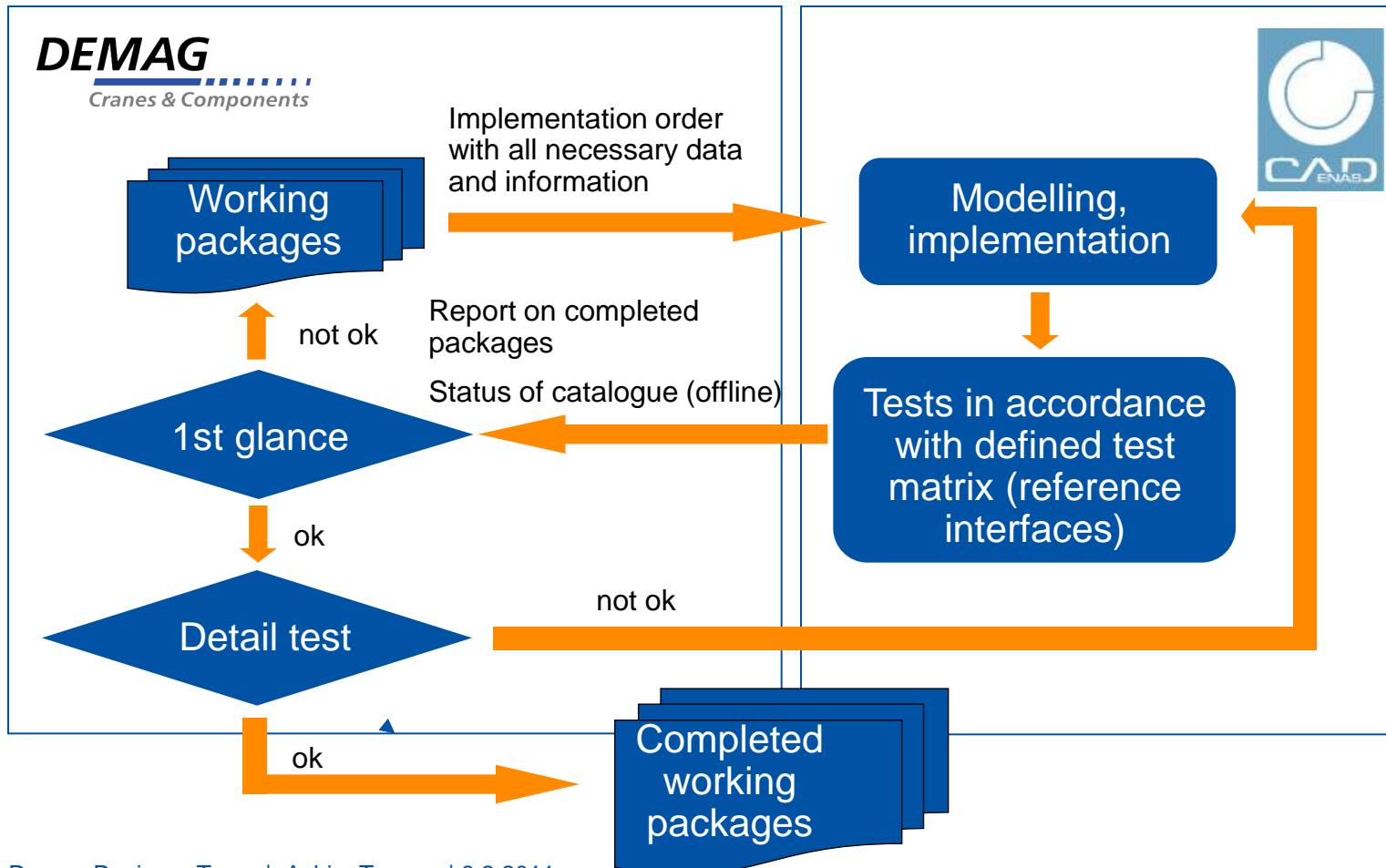
Project –

Workshop definitions and agreements III

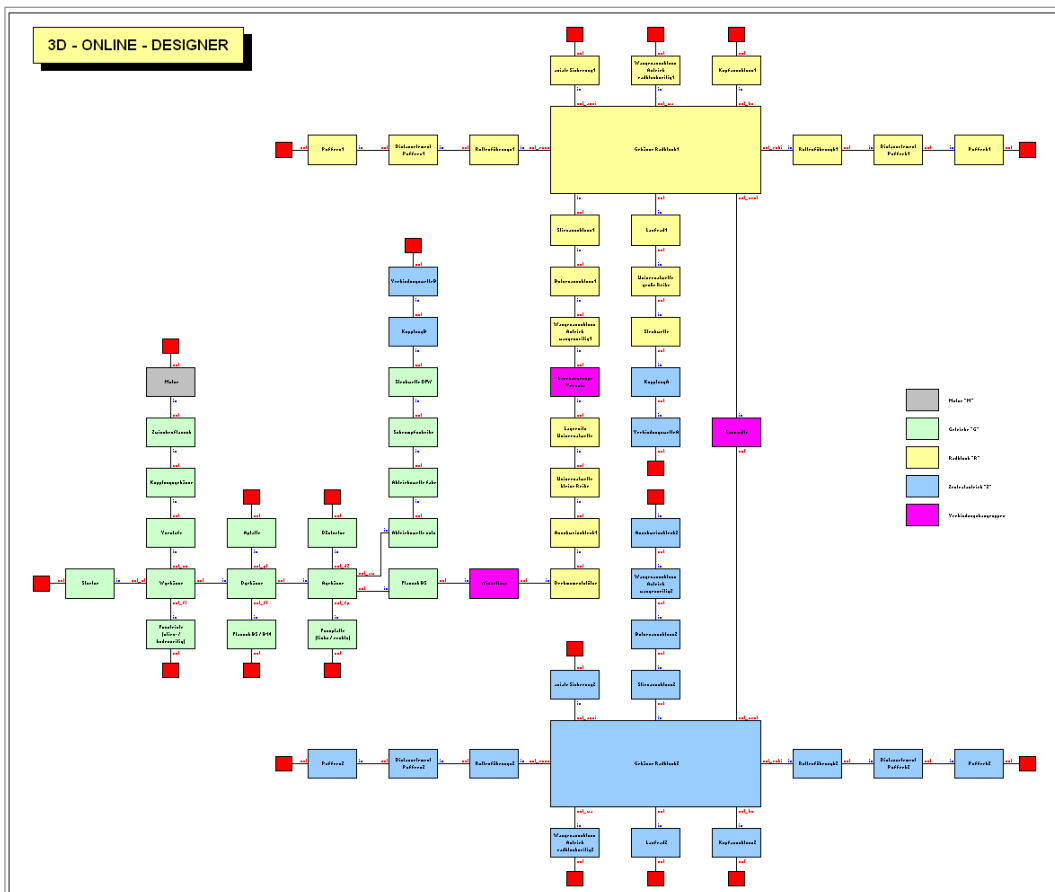
- CAD data provided by Demag Cranes
 - Pro/Engineer (existing models, making up approx. 80 per cent)
 - design drawings (drafted with agreed level of detail, making up about 20 per cent)
 - Excel spreadsheets (to determine individual parts required)
 - draft design
 - technical product catalogues (PDF, printout)
- Cadenas processes CAD data
 - parts modelled in Cadenas format (in accordance with Pro/Engineer or drawing)
 - catalogue implementation (in accordance with individual parts defined and draft design)
- Agreement on timing and procedures



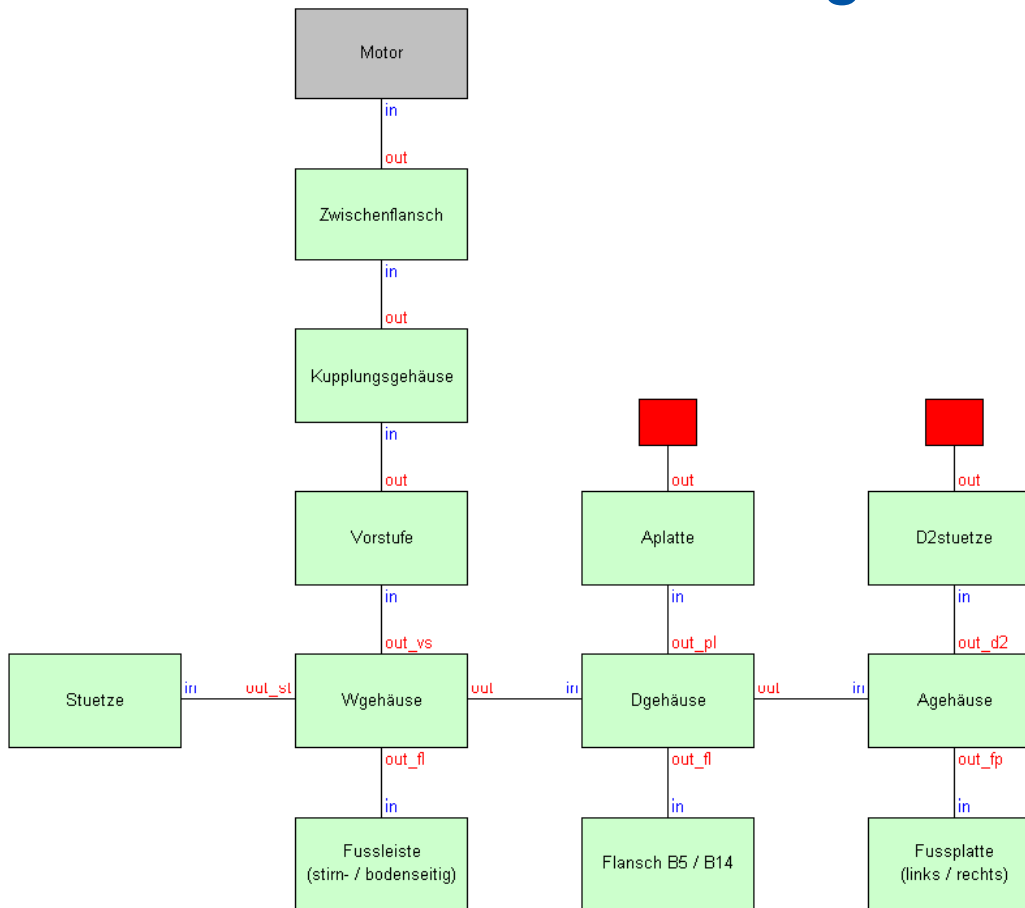
Project – Procedures, definitions and agreements



Project – Draft design for a travel system – definitions and agreements



Project – Draft design for a travel system, extract: definitions and agreements



Project – Workshop definitions & interfaces

```

<?xml version="1.0" encoding="UTF-8" ?>
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  ...
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    <value>w</value>
  </var>
  ...
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    <name>p_g_basis_bg</name>
    <value>80</value>
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  ...
  <var>
    <name>p_g_bfkennz_typ</name>
    <value>b5.0</value>
  </var>
  <var>
    <name>p_g_awkennz_typ</name>
    <value>75</value>
  </var>
  ...
</main>

```

Gearbox type = angular gearboxes

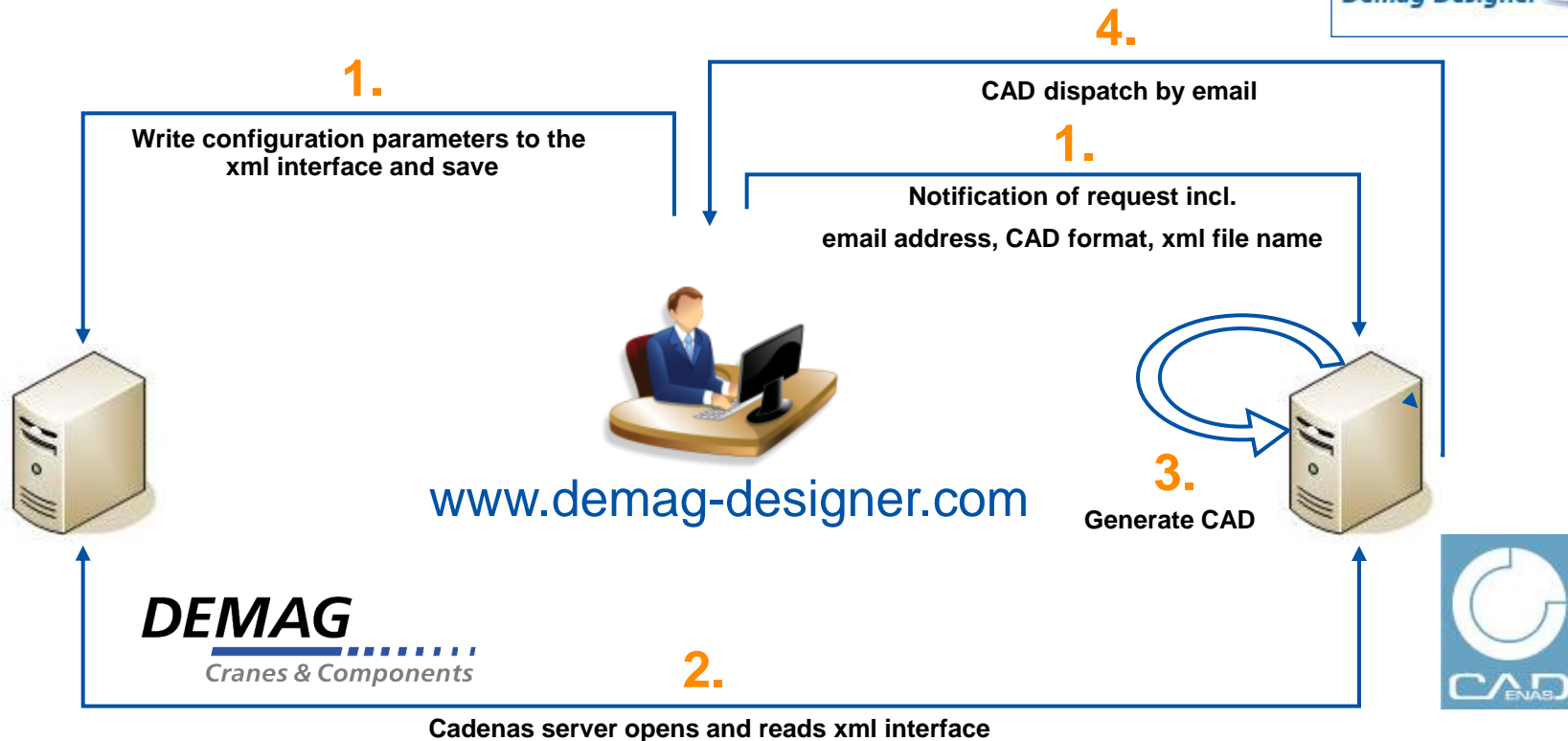
Gearbox size = 80

Design type = B5 flange, mounting position 0

Shaft code = 75



Project – Definition of system architecture (CAD requests via Demag Designer)



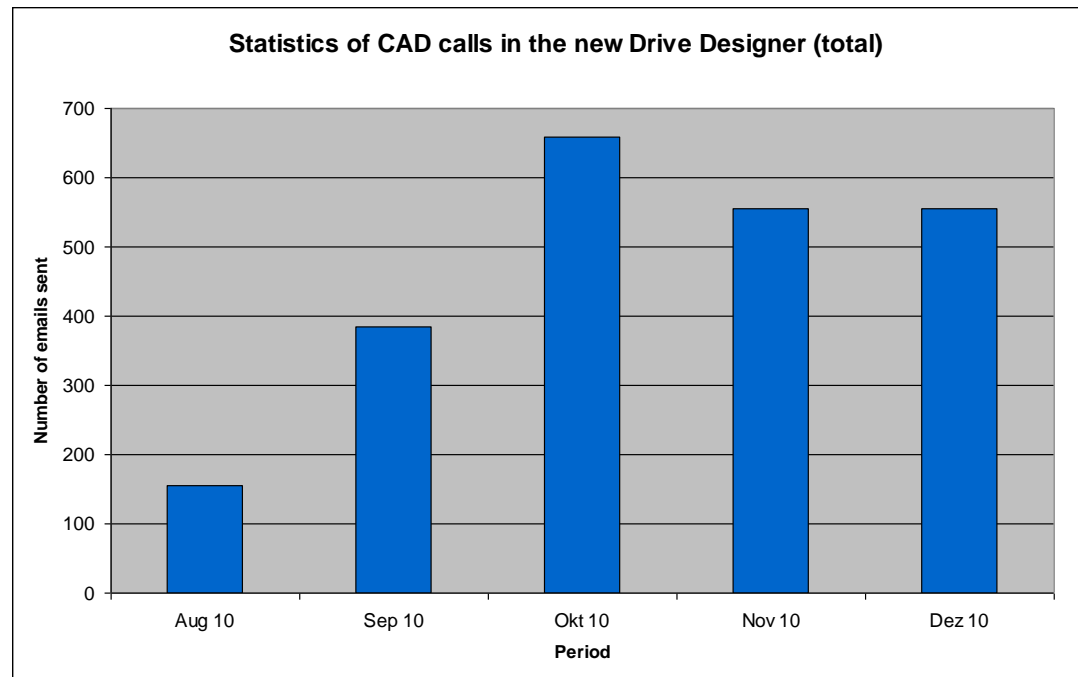
Experience I – ...feedback from the project

- Procedures in line with project management principles
- Obstacles
 - data volumes
 - high levels of complexity and variance
 - high quality down to the finest detail (to the last millimetre)
- Overcoming the obstacles
 - very high targets set and high standard of objectivity
 - very good communication systems
 - short response times
 - mutual understanding and fairness at all times



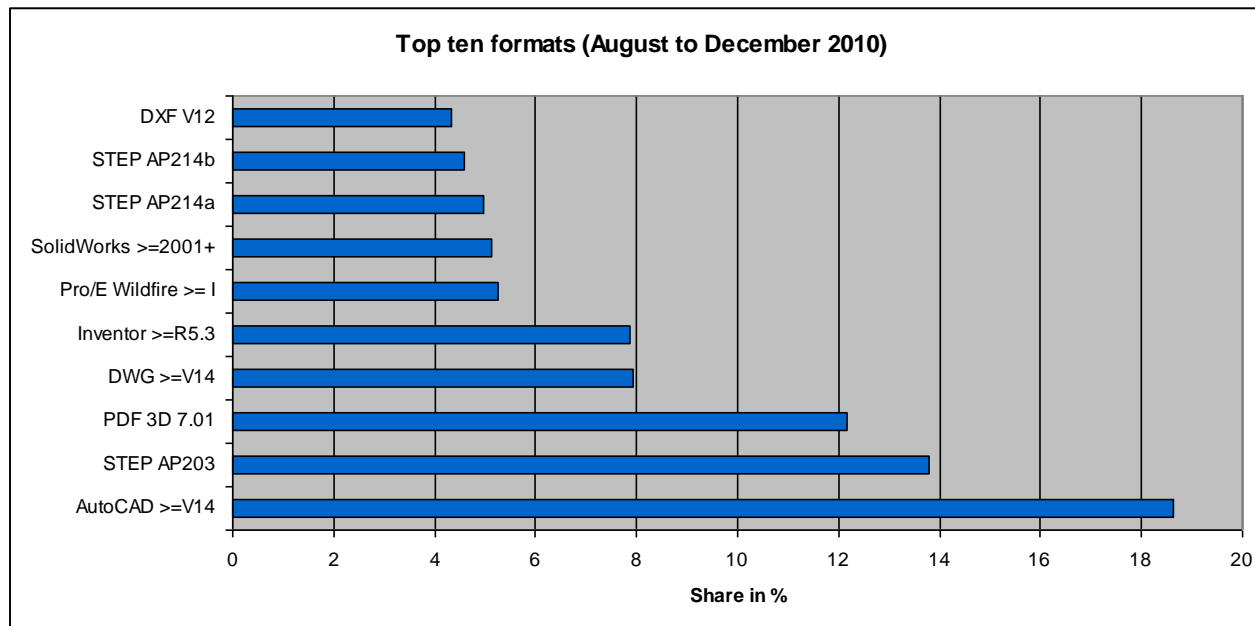
Experience II – ...feedback from practical use

- Roll out eCATALOG solutions with Drive Designer on 12.8.2010
- Call-up statistics



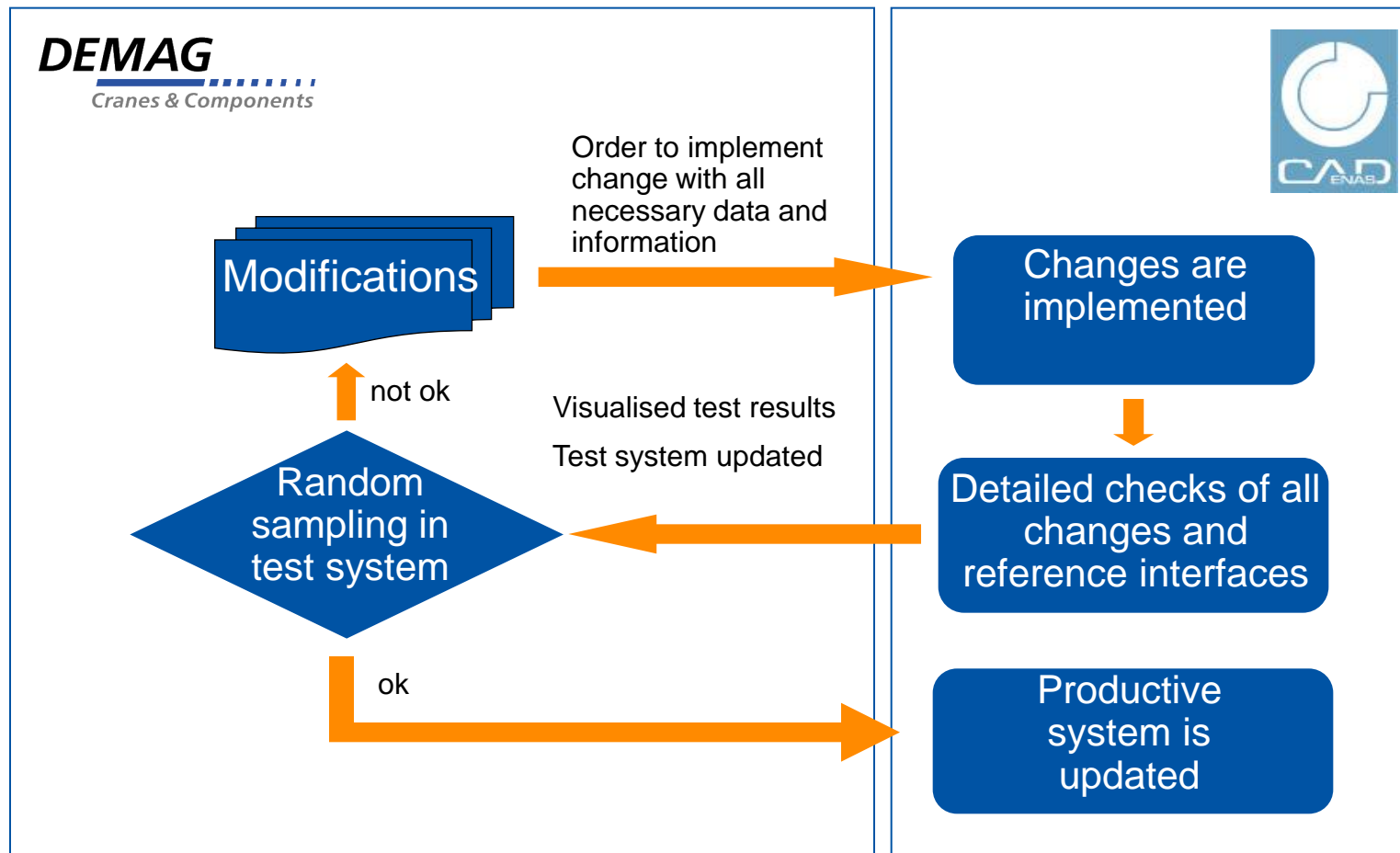
Experience III – ...feedback from practical use

■ Formats called



■ Introduction of fault and change management

Experience IV – ...feedback from practical use, change management



Experience V – ...feedback from practical use

- Operation of Cadenas eCATALOG solutions together with Demag product configurators from the point of view of Demag Cranes & Components GmbH
 - CAD data generation Cadenas eCATALOG solutions
 - CAD server Cadenas server array
 - maintenance none
 - costs defined in call-up contract
 - availability permanent
 - Licences all standard formats via Cadenas
 - currency very high
 - costs defined in call-up contract



Experience VI – ...feedback from practical use

- Maintenance
 - work involved in line with change management
 - costs by quota
- Extendibility possibility exists
- Integration capability possibility exists
- Number of CAD formats very high



Live presentation

Links

- Demag Cranes AG
www.demagcranes-ag.com
- Demag Cranes & Components GmbH
www.demagcranes.com
- Demag Designer Portal
www.demag-designer.de

The screenshot shows the Demag Designer Portal website. The header includes the Demag logo and 'Cranes & Components'. The main content area is titled 'Designer Portal' and features a grid of design tools categorized by crane type and component. Each tool is represented by a small image and a title, with an 'Info' icon next to it. The footer contains copyright information and navigation links.

Designer Portal

Deutschland | Login | Kontakt

Sprache: Deutsch

Designer Portal

- Designer Portal
 - Frequenzrichter
 - Antriebstechnik
 - Drive Designer online
 - Kettenzug
 - Seilzug
 - Hoist Designer
 - I-Profil Schwenkkran
 - KBK Designer
 - Crane Designer
 - More

Designer Portal

Frequenzrichter <i>DI Designer</i>	Antriebstechnik <i>Drive Designer</i>	Drive Designer online <i>Drive Designer</i>
Kettenzug <i>DC Designer</i>	Seilzug <i>DR Designer</i>	Hoist Designer <i>DH Designer</i>
I-Profil Schwenkkran <i>KBK Designer</i>	KBK Designer <i>KBK Designer</i>	Crane Designer <i>Crane Designer</i>

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Many thanks for your attention.

Contact

Demag Cranes & Components GmbH

Achim Tymura

Ruhrstrasse 28

58300 Wetter

Germany

Phone: +49 (0) 2335 92-7141

Fax: +49 (0) 2335 9264-7141

achim.tymura@demagcranes.com

www.demagcranes.com