



# Agilent OpenLAB CDS as a Standard @ Evonik Antwerp

**Sam Vercammen**

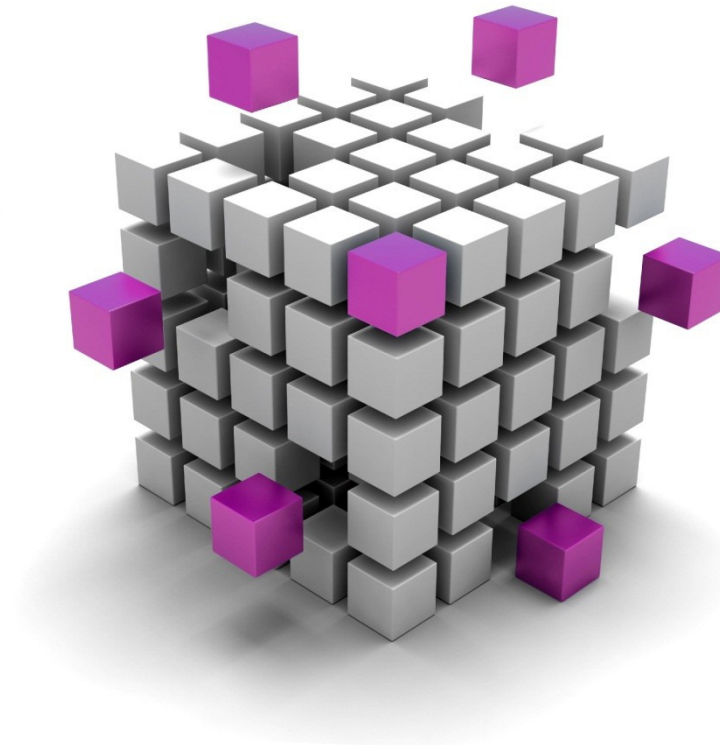
26.11.2015



**EVONIK**  
INDUSTRIES

# Scope of the presentation

- Evonik Industries AG
- Evonik Antwerpen
- Migration project Agilent OpenLAB CDS
  - Main reason
  - Approach
  - Decision : client/server
  - Proof of Concept
  - Roll-out
  - Current situation

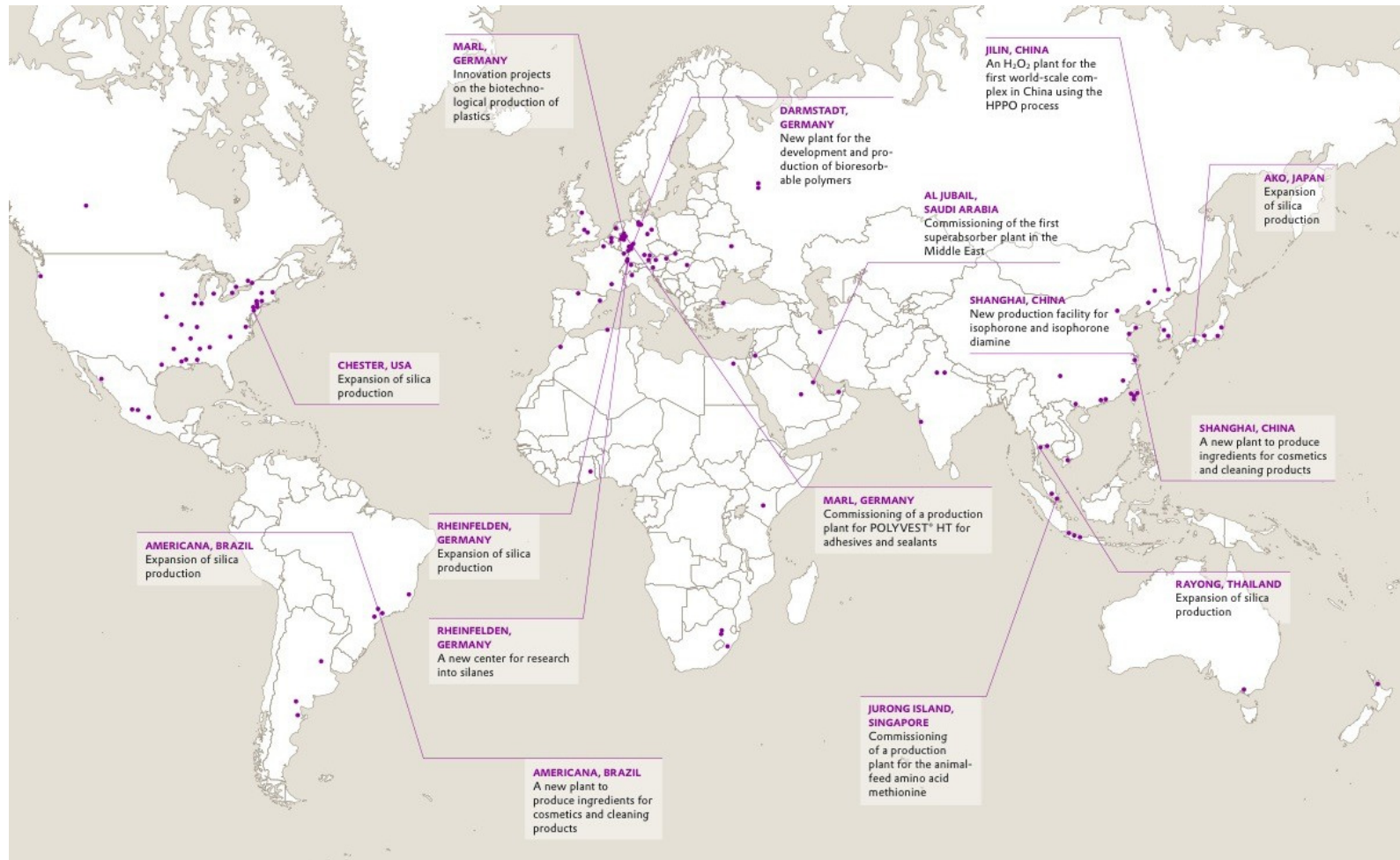


# An attractive company

- Evonik is one of the world's leading specialty chemicals companies.
- The central elements of our strategy for sustained value creation are profitable growth, efficiency, and values.
- Around 80 percent of Evonik's sales come from market-leading positions, which we are systematically expanding.
- We concentrate on high-growth megatrends, especially health, nutrition, resource efficiency, and globalization.

# Global presence

Production sites in 25 countries, active in over 100 countries, worldwide investments.



# 2014: Evonik in figures

Employees December 31, 2014  
**33,412**

**14.5 %**

Profitability (adjusted EBITDA margin)

**€1.867 billion**

Adjusted EBITDA

Return on capital employed (ROCE)

**12.3 %**

**€12.9 billion** sales

# Evonik Antwerpen



Our business, our key figures (31.12.2014)

**1.061 employees**

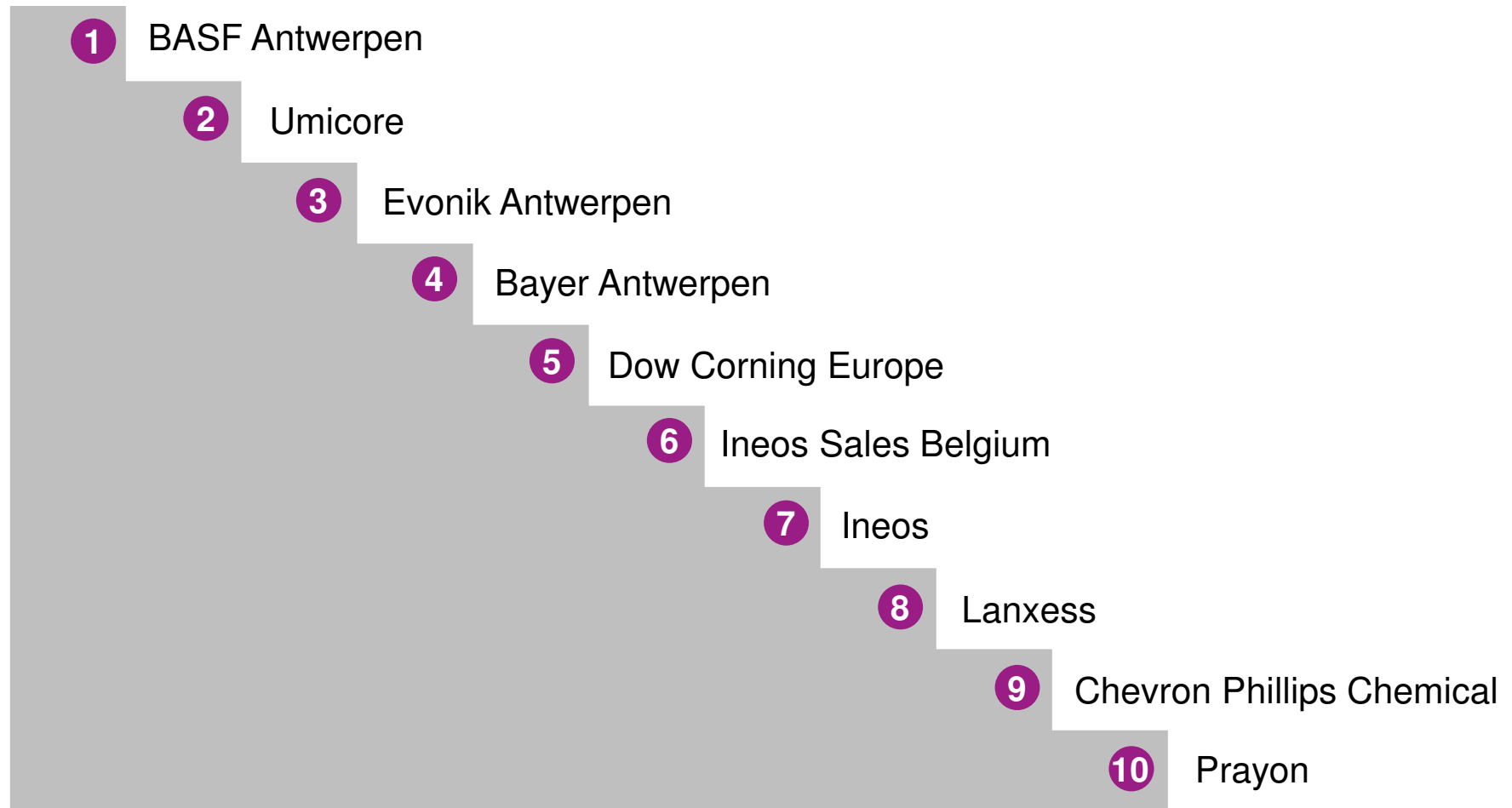
**Sales: € 1,200 billion**



**Replacement value: € 1,683 billion**

# Ranking chemical industry 2013

(525 companies in Belgium)



# Port of Antwerp



Evonik Antwerpen





# Evonik Antwerpen



# Migration to Agilent OpenLAB CDS

## Main reason for the project



- Expansion of an existing production plant (OX) in Antwerp
- Existing production lab
  - 8 Agilent GC
  - 4 PC
    - OS: Windows XP
    - Software : Agilent Chemstation Workstation
    - 1 PC for 2 GC
- Because of the expansion project
  - Increase with 11 GC
- Decision to start a project for the complete lab (19 GC) : 2 alternatives
  1. Migration to Chemstation Workstation based on Windows 7
  2. Migration to a distributed system (client/server solution)



# Migration to Agilent OpenLAB CDS Approach for the project



- Analysis of existing situation for all the labs in Antwerp
  - IT-analysis
  - Agilent in figures : Statement of work
- Requirements for
  - IT / Lab analysts / production managers
  - availability of the lab systems
  - connections to other systems (LIMS, PIMS, SAP,...)
  - future improvements
- Cost comparison (TCO) : workstation ⇔ distributed system
- Proof of Concept (PoC)
- Roll-out OX Lab
- Roll-out other Labs
- Continuous improvement



# Migration project Agilent OpenLAB CDS

## Existing situation Agilent june 2014



Plant	GC	(HP)LC	A/D
OX	8 ( +11)		
AO	1		
PACM	4		
Central Lab	4	1	
ACA	4		
SL	3	1	
ME	2	1	1
B	2		
ACMC	7		
<b>Summary</b>	<b>46</b>	<b>3</b>	<b>1</b>

# Migration project Agilent OpenLAB CDS

## Existing situation Agilent June 2014



- Challenges from an IT perspective:
  - Different Agilent applications and software versions
  - Different types of PC hardware
  - Operating System : mostly Windows XP
  - Different backup procedures for lab data
  - Not every lab PC is connected to the IT-network (stand-alone systems)
  - In some labs : dedicated printers directly connected to PC
  - Soft-/hardware installation or in case of problems : support from vendor necessary

# Migration project Agilent OpenLAB CDS

## Existing situation Agilent June 2014



- Challenges from a user / customer perspective :
  - Lab analyst has to work with different kind of software in different labs
  - A lot of manual manipulations of lab data
  - Lab data only available at dedicated lab PC's (no common overview)
  - In Labs with several lab devices also a lot of used space for the PC hardware
  - Need for different levels of access rights and permissions
  - Availability is not for every lab the same

# Migration project Agilent OpenLAB CDS

## Decision : client/server and PoC



Summary: arguments for the final decision:

- Existing IT-Infrastructure : difficult to manage !  
For the new project : as much as possible use of standard Evonik hardware
- Common approach for the whole site has many benefits
- Client/Server solution has many benefits
  - Central storage, backup, administration (users, privileges, licenses, ...)
  - Connection to other systems is easier
  - Application can be installed on a FAT-Client or on a Citrix server
  - Complete overview of the Lab in one window
  - The more lab devices, the less the costs pro device
  - Several levels of availability for the customer (fail-over)
- All kind of Lab analysis can be done with the Agilent OpenLAB CDS software
- Decision : Distributed client/server system if PoC and Fail-over test have positive result

# Migration project Agilent OpenLAB CDS

## Proof of Concept : IT-Infrastructure

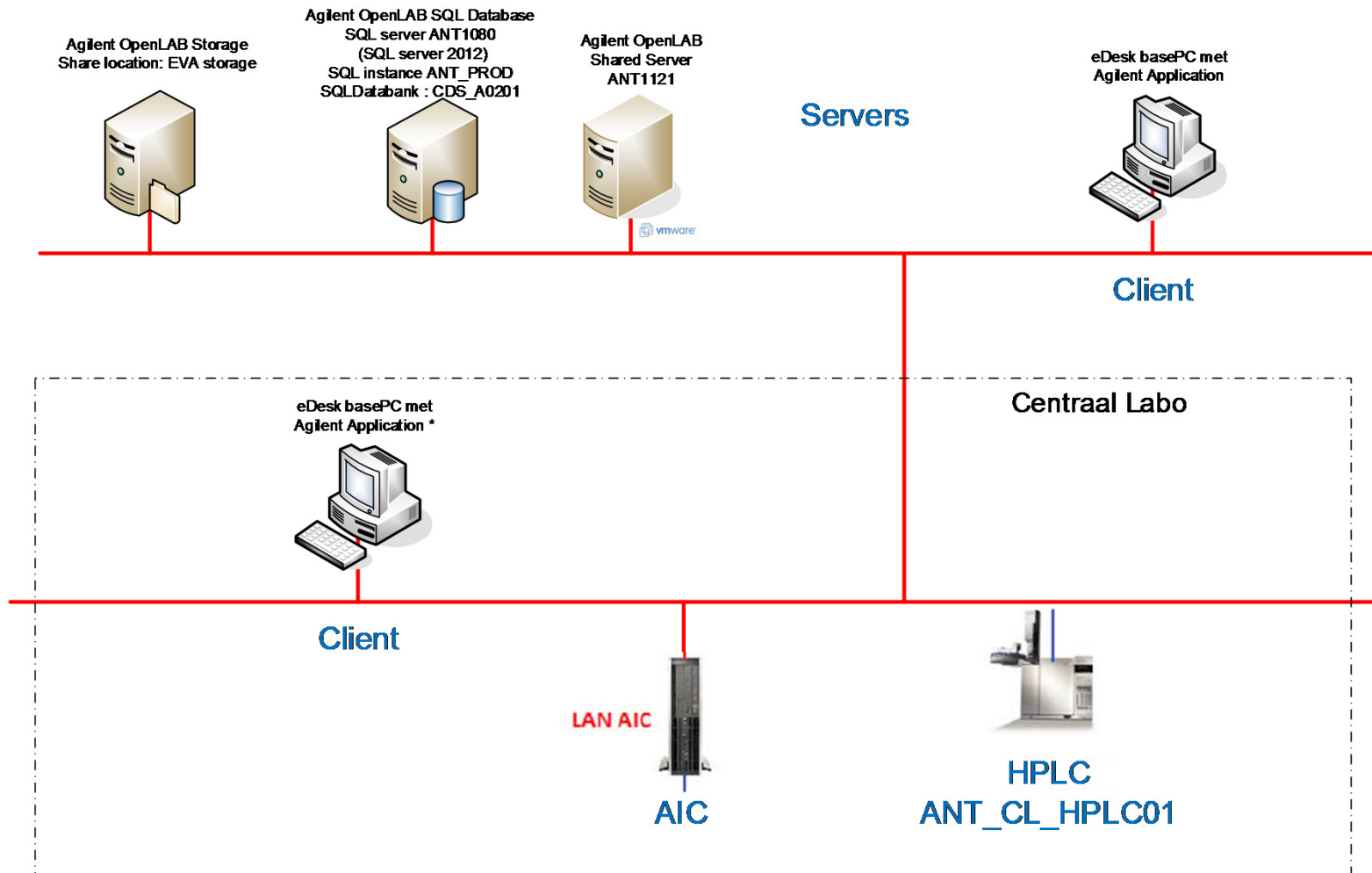


- Servers
  - Storage : storing centrally the data/methods/sequences
  - Shared Service : manage access to other components (**Agilent License necessary**)
  - Database : SQL : keeping track of privileges/central system configurations
- Client
  - Agilent Instrument Controller (AIC) : standard Evonik PC
  - **Agilent License for AIC necessary**
  - Agilent Application : Client as well as Citrix
- Users/Groups
  - Users/groups : managed by Evonik Active Directory
- Network
  - All devices and AIC on the same IT network
- Lab Device Agilent HPLC : **Agilent License for HPLC Instrument**





# Migration project Agilent OpenLAB CDS Proof of Concept : IT-Infrastructure



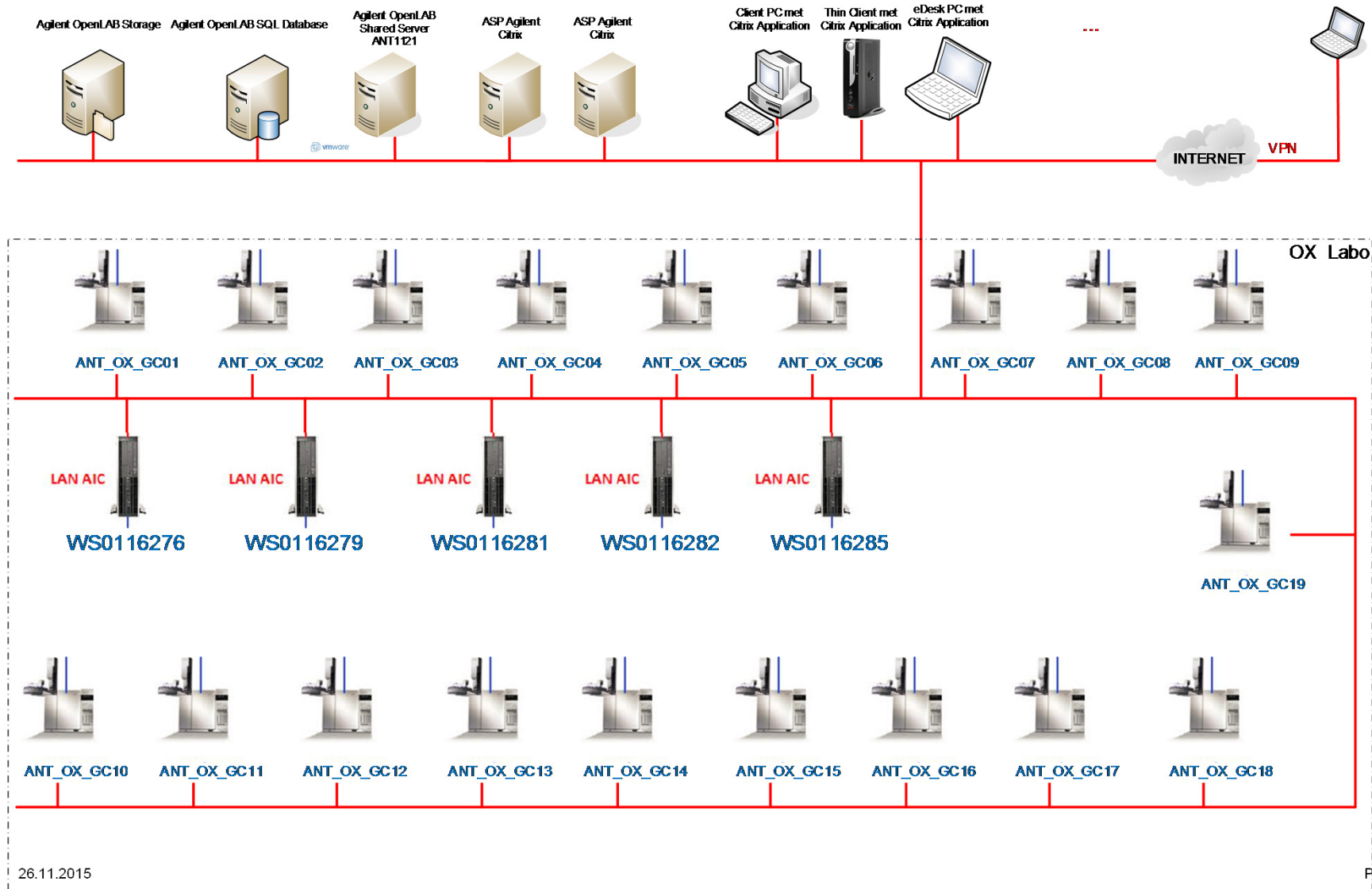
# Migration project Agilent OpenLAB CDS

## Proof of Concept : Fail-over



- Normal situation
  - In case of (short) network/server outage: AIC will continue to acquire and buffer data of ongoing analysis
  - In case of AIC problem; easy to connect the devices to another AIC (max. 4 devices)
- For critical instruments/Labs : backup plan in case of an IT-incident
  - “Fail-over” solution : (Agilent License necessary)
  - Installation on a standby workstation or an existing AIC is possible
  - Change on an AIC between “client/server” and “fail-over” mode : can be done by operator/analyst without IT (procedure)
  - “Fail-over” mode
    - Is an option
    - acquiring data up to 4 Instruments on 1 Fail-over AIC
    - AIC works like a local workstation in Fail-over mode
    - Synchronization between fail-over AIC en servers takes place before and after the IT-Incident

# Migration project Agilent OpenLAB CDS Roll-out OX-Lab



# Migration project Agilent OpenLAB CDS

## Current situation / next steps



- Current situation
  - 26 Labdevices in 5 different labs are connected to the client/server system
  - Other labdevices : 2016
- Continuous improvement
  - Firewall implementation
  - Connection to PIMS/LIMS/SAP : 2016

# Migration project Agilent OpenLAB CDS Agilent OpenLAB Control Panel



Management

+ Create - Edit ✕ Delete ↻ Refresh  
🔧 Edit Privileges 📊 Edit Columns 📧 Edit Notifications 🖨️ Select Printer

Instruments and Locations Properties

Navigation

- Instruments
- AO
- Centraal Labo
- ME
- Oxeno
- SL

Instruments Administration

Status	Name	Project	Location	Application	Type	Controller	Description	Last Configured B	Last Configured	Created	Used By	Run Sta
▶	ANT_ME_GC01	ANT_ME_GC0	ME	EZChrom	Agilent 7890 GC S	WS0133017	GC01 ME Labo			2015-10-30T09:05		
▶	ANT_ME_GC02	ANT_ME_GC0	ME	EZChrom	Agilent 7890 GC S	WS0133017	GC02			2015-10-30T09:05		
▶	ANT_ME_LC01	ANT_ME_LC0	ME	EZChrom	Agilent LC	WS0133017	LC ME labo	DEGUSSAIT8480	2015-11-24T10:01:50	2015-10-28T14:50		
▶	ANT_OX_GC01	ANT_OX_GC0	Oxeno	EZChrom	Agilent 6890 GC	WS0116281		DEGUSSAIAA053	2014-12-09T13:45:03	2014-12-09T13:43		
▶	ANT_OX_GC02	ANT_OX_GC0	Oxeno	EZChrom	Agilent 6890 GC	WS0116281		DEGUSSAIAA053	2014-12-09T13:57:20	2014-12-09T13:56		
▶	ANT_OX_GC03	ANT_OX_GC0	Oxeno	EZChrom	Agilent 6890 GC	WS0116281		DEGUSSAJ1217	2015-01-28T13:32:32	2015-01-28T13:31		
▶	ANT_OX_GC04	ANT_OX_GC0	Oxeno	EZChrom	Agilent 6890 GC	WS0116281		DEGUSSAJ1217	2015-01-28T13:37:35	2015-01-28T13:36		
▶	ANT_OX_GC05	ANT_OX_GC0	Oxeno	EZChrom	Agilent 7890 GC S	WS0116279		DEGUSSAIAA053	2015-01-13T12:15:03	2015-01-13T12:09		
▶	ANT_OX_GC06	ANT_OX_GC0	Oxeno	EZChrom	Agilent 7890 GC S	WS0116279		DEGUSSAIAA053	2015-01-20T11:43:14	2015-01-20T11:42		
▶	ANT_OX_GC07	ANT_OX_GC0	Oxeno	EZChrom	Agilent 7890 GC S	WS0116279		DEGUSSAIAA053	2014-10-21T17:45:14	2014-10-21T11:20		
▶	ANT_OX_GC08	ANT_OX_GC0	Oxeno	EZChrom	Agilent 7890 GC S	WS0116279		DEGUSSAIAA053	2014-12-09T14:19:33	2014-10-21T11:40		
▶	ANT_OX_GC09	ANT_OX_GC0	Oxeno	EZChrom	Agilent 6850 GC	WS0116282		DEGUSSAJ1217	2015-01-28T12:22:36	2015-01-28T12:21		
▶	ANT_OX_GC10	ANT_OX_GC1	Oxeno	EZChrom	Agilent 6850 GC	WS0116282		DEGUSSAJ1217	2015-01-28T12:28:29	2015-01-28T12:27		
▶	ANT_OX_GC11	ANT_OX_GC1	Oxeno	EZChrom	Agilent 6850 GC	WS0116282		DEGUSSAJ1217	2015-01-28T12:33:10	2015-01-28T12:32		
▶	ANT_OX_GC12	ANT_OX_GC1	Oxeno	EZChrom	Agilent 6850 GC	WS0116282		DEGUSSAIAA053	2015-01-28T14:03:58	2015-01-28T14:02		
▶	ANT_OX_GC13	ANT_OX_GC1	Oxeno	EZChrom	Agilent 6850 GC	WS0116285		DEGUSSAIAA053	2015-01-28T14:15:36	2015-01-28T14:14		
▶	ANT_OX_GC14	ANT_OX_GC1	Oxeno	EZChrom	Agilent 6850 GC	WS0116285		DEGUSSAJ1217	2015-04-20T12:18:36	2015-04-20T12:17		
▶	ANT_OX_GC15	ANT_OX_GC1	Oxeno	EZChrom	Agilent 6850 GC	WS0116285		DEGUSSAJ1217	2015-06-09T13:25:25	2015-01-28T11:33		
▶	ANT_OX_GC16	ANT_OX_GC1	Oxeno	EZChrom	Agilent 6850 GC	WS0116276		DEGUSSAJ1217	2015-02-04T13:47:47	2015-02-04T13:47		
▶	ANT_OX_GC17	ANT_OX_GC1	Oxeno	EZChrom	Agilent 6850 GC	WS0116276		DEGUSSAIAA053	2015-01-28T14:38:46	2015-01-28T14:38		
▶	ANT_OX_GC18	ANT_OX_GC1	Oxeno	EZChrom	Agilent 6850 GC	WS0116276		DEGUSSAJ1217	2015-03-25T11:54:26	2015-03-25T11:47		
▶	ANT_OX_GC19	ANT_OX_GC1	Oxeno	EZChrom	Agilent 6850 GC	WS0116276		DEGUSSAJ1217	2015-06-09T14:29:22	2015-01-28T14:28		
▶	ANT_SL_GC01	ANT_SL_GC01	SL	EZChrom	Agilent 6890 GC	WS0131441	GC6890	DEGUSSAIAA053	2015-07-07T17:43:38	2015-07-07T09:01		



**EVONIK**  
**INDUSTRIES**