SIEMENS

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SIMATIC WinCC Open Architecture & CERN

A.I.M.E / Athens / 2. - 3. December

ETM at a glance

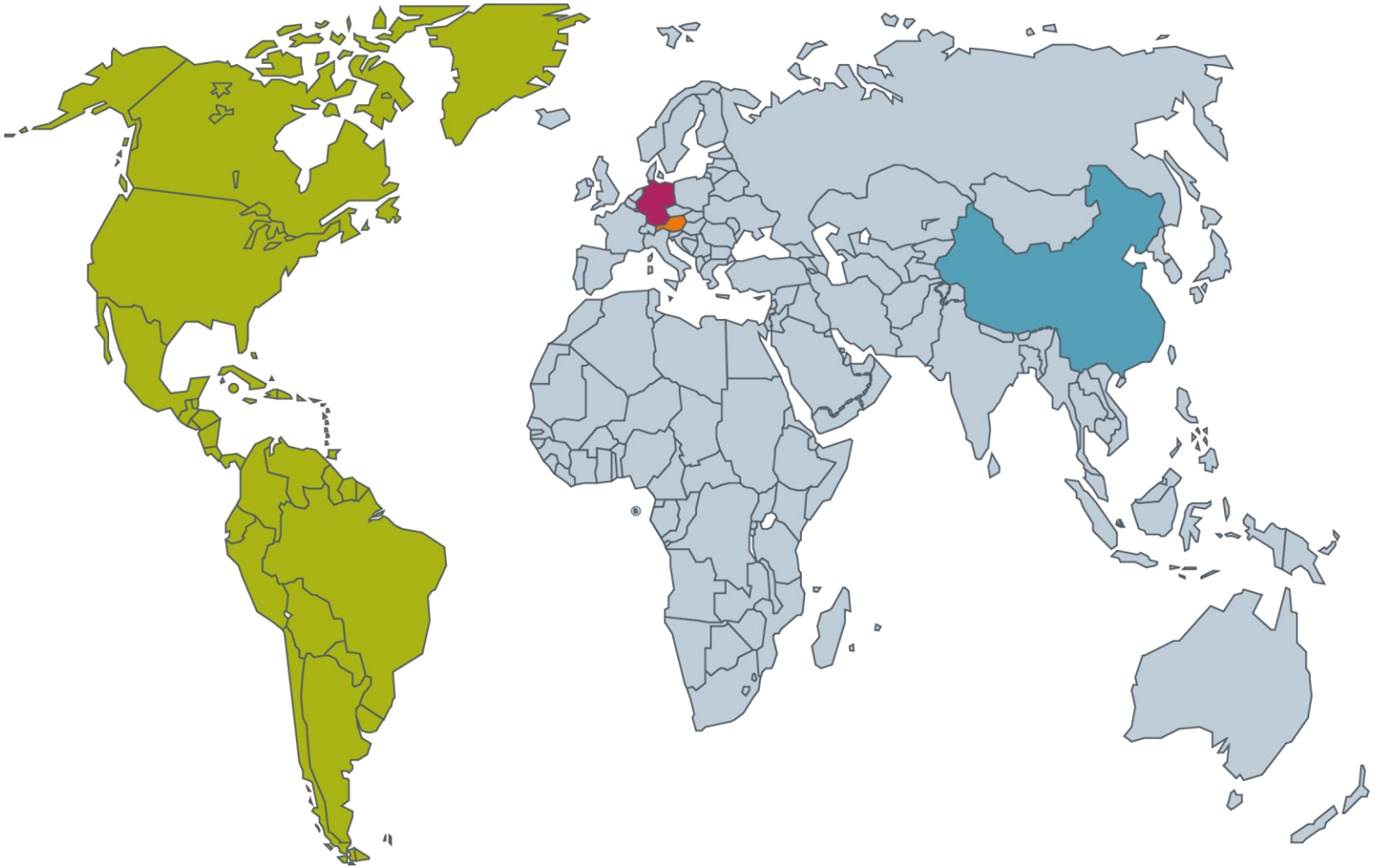
ETM - SIMATIC WinCC Open Architecture

ETM develop, market and service the most powerful, independent and open SCADA software **SIMATIC WinCC Open Architecture** for customers with highest demands and the need for a long term relationship.

SIMATIC WinCC Open Architecture is today …

- A base system for OEM products and customization
- A SCADA solution for large, complex and customer specific projects
- An engineering platform and middleware for solutions beyond classic SCADA requirements

Worldwide WinCC OA support



Headquarter
ETM professional control GmbH
(Eisenstadt)

Support through
headquarter

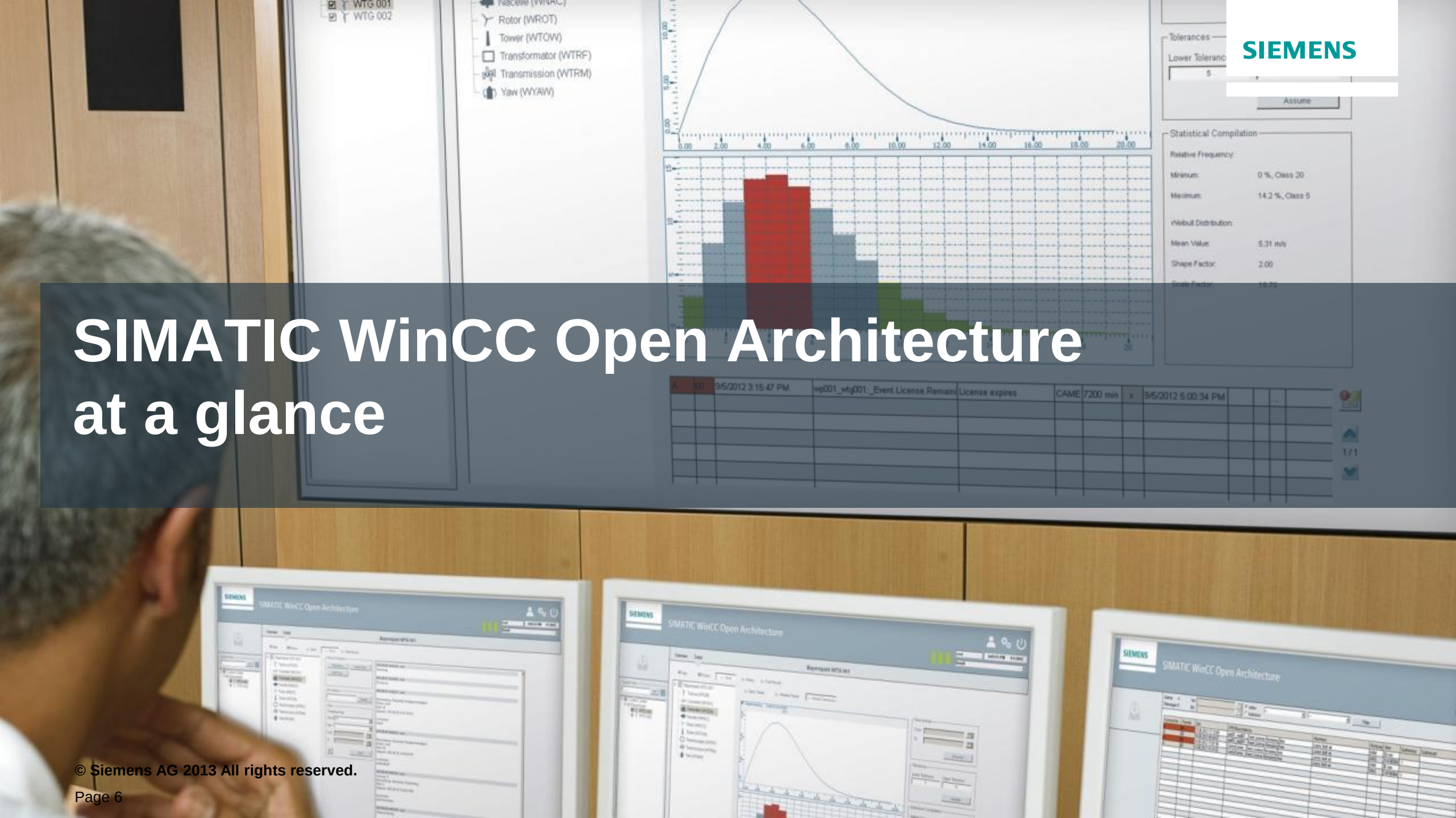
CoC WinCC OA for
GERMANY
(Hanover)

CoC WinCC OA for
AMERICAS
(Plano/Texas)

CoC WinCC OA for
CHINA
(Beijing)

Worldwide projects with SIMATIC WinCC Open Architecture

ucebit • Mauell • Norcon • OMV • OSMO • Paul Scherer Institut • Pintsch Bamag • Planet Soft • Rechenzentrum Wien • Rittmeyer • Ro



SIMATIC WinCC Open Architecture at a glance

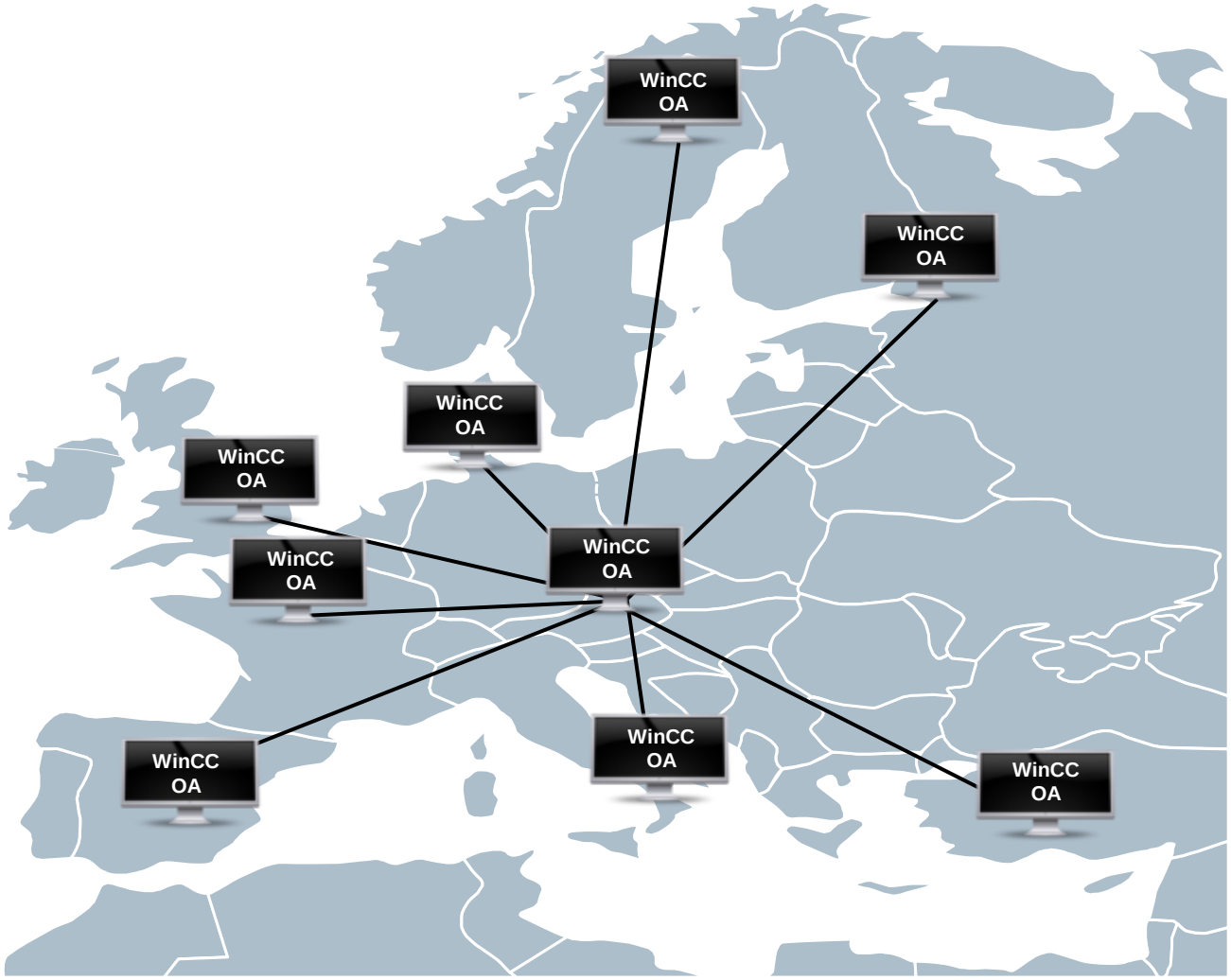
Highlights SIMATIC WinCC Open Architecture

- **Object orientation** enables efficient engineering and flexible system expansion
- **Distributed systems** up to 2,048 servers
- **Scalable** – from small single-user systems to distributed, redundant high-end systems with more than 10 million tags
- **Platform-independent** and available for Windows, Linux and Solaris
- **Hot standby redundancy** and Disaster Recovery System ensure the highest levels of system reliability and availability
- Platform for **customer-specific solutions**
- **Extensive range of drivers** and connection options OPC, OPC UA, S7, Modbus, IEC 60870-5-101/104, IEC 61850, DNP3, XML, TCP/IP, …

WinCC OA is the perfect solution for large scale applications

- for geographically wide distributed plants
- for big and/or complex systems
- freely scalable and expandable
- for the highest security requirements
- the only SCADA system with SIL 3-certification

Supports > 10,000,000 data points



Scalability

- Single Station Architecture
- Large Scale Applications (CERN, New York Metro)
- Raspberry Pi (Prototype)

RaspberryPi

SIMATIC WinCC Open Architecture Version 3.12

IE 9 & 10

Windows 8.1

Windows Server 2012

RedHat 6

Oracle Solaris x86

Multitouch

Secure communication - SSL

WinCC OA iPhone App

Video Management

Saia-SBus

IEC 61850

Ethernet IP - Rockwell

Layout Management

Delta patches

Script Wizard

Simple Para

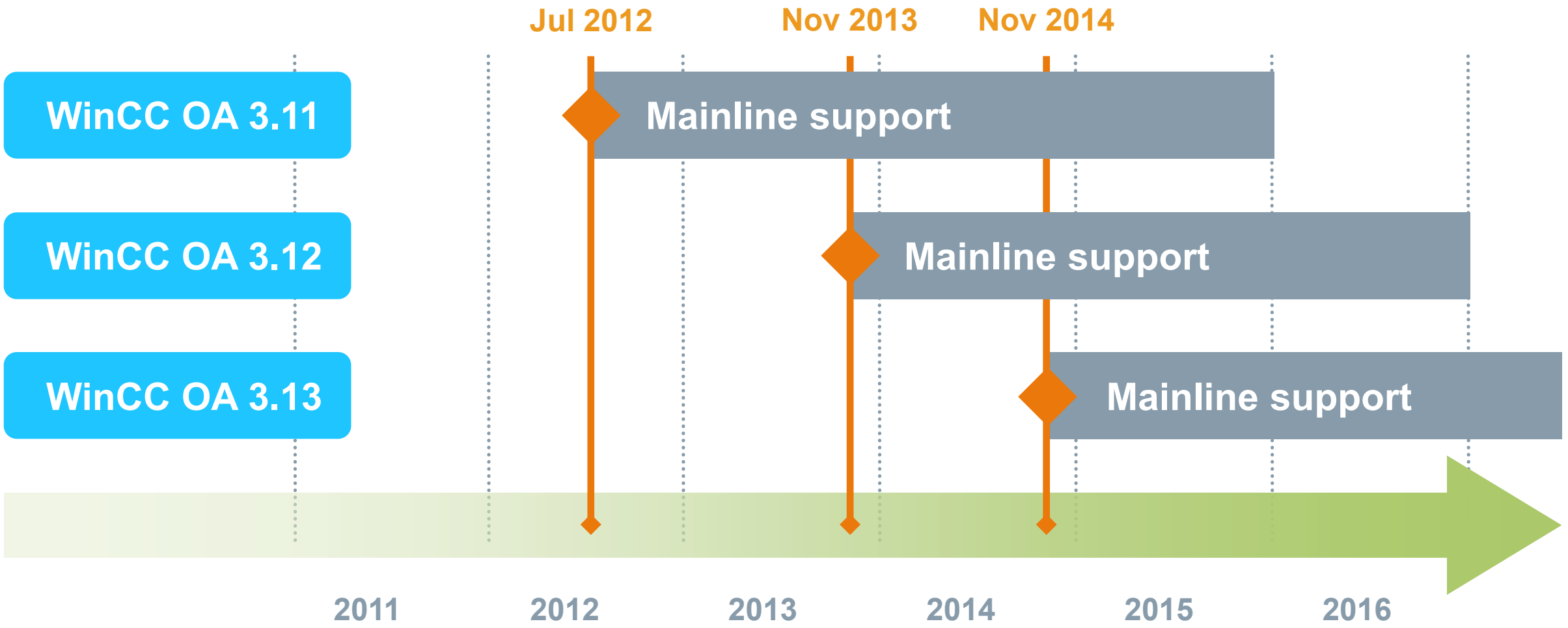
Common Name Service

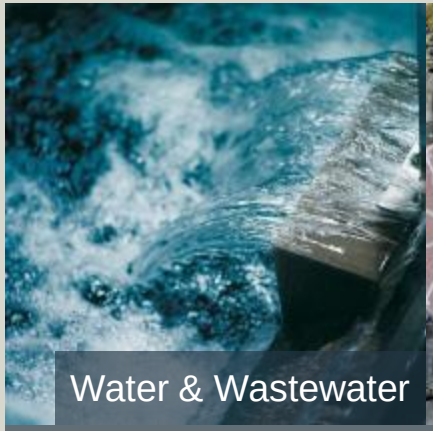
Setup refactoring

Integrated version control

QR-Code generator

Roadmap SIMATIC WinCC Open Architecture




Water & Wastewater


Research

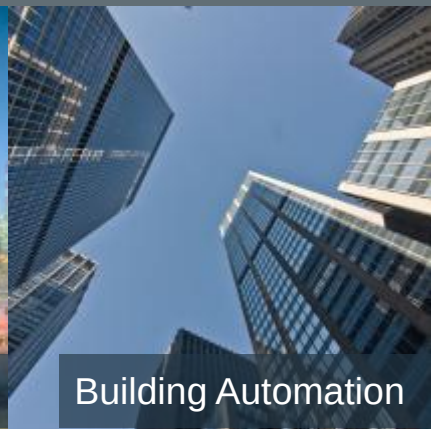

Energy


Industry

References in the focused industries

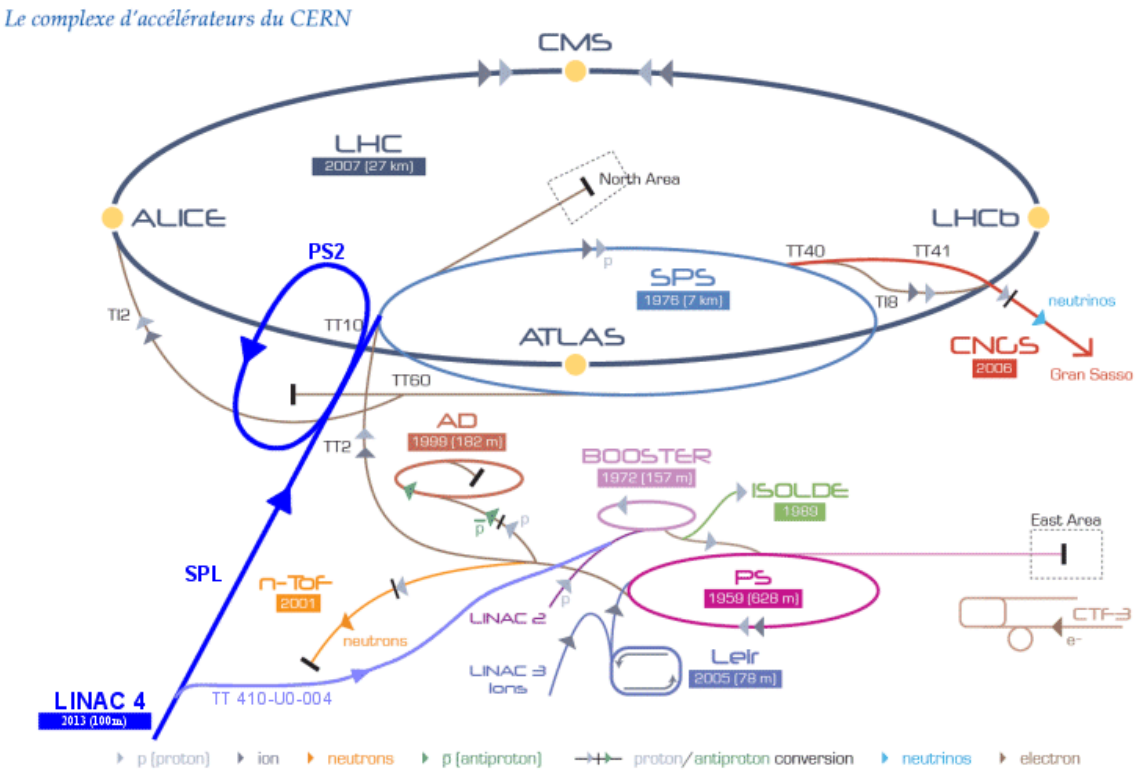

Traffic & Transport


Oil & Gas


Building Automation

References in Research with SIMATIC WinCC Open Architecture

- Particle accelerator CERN (CH)
- University Bonn (DE)
- Italian National Center for Oncological Hadrontherapy CNAO (IT)
- Particle accelerator Cancer research institute MedAustron (AT)
- GSI (DE)
- Research Center Karlsruhe (DE)
- Center of Advanced Technology India (IN)
- more then 100 research institutes associated with CERN worldwide

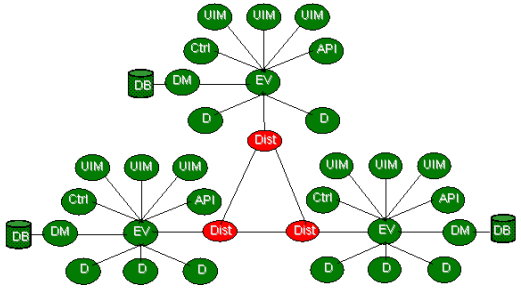


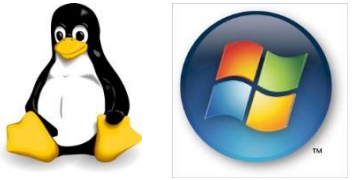
WinCC OA & CERN

Relation with CERN

- CERN choose WinCC OA (PVSS) after a public tender in 2000
  - Extensive evaluation (10 man-years) of several products

- Main criteria
  - Scalability
  - Openness
  - Multiplatform





- Partnership established from the beginning
  - Regular exchanges at all levels
    - Management, developers, support,
  - Access to experts from both sides
  - Developments driven by CERN requirements in many cases.

Enhanced Partnership with CERN

- Openlab

CERN openlab is a unique public-private partnership between CERN and leading ICT companies. Its mission is to accelerate the development of cutting-edge solutions to be used by the worldwide LHC community.

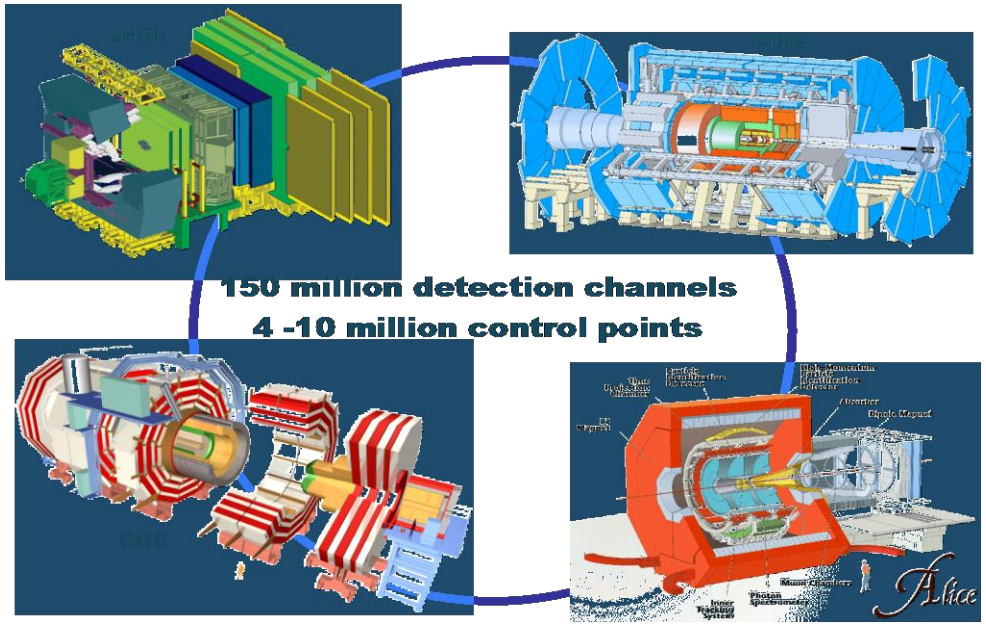
- Inner Cirle Programm

The ETM Inner Circle group is a very small group (< 20) of users, who ETM consider to be WinCC OA experts! This expert group can react faster and more efficient. Typical question to this group might be: "*We want to implement feature …, What do you think about …?*"

CERN Systems

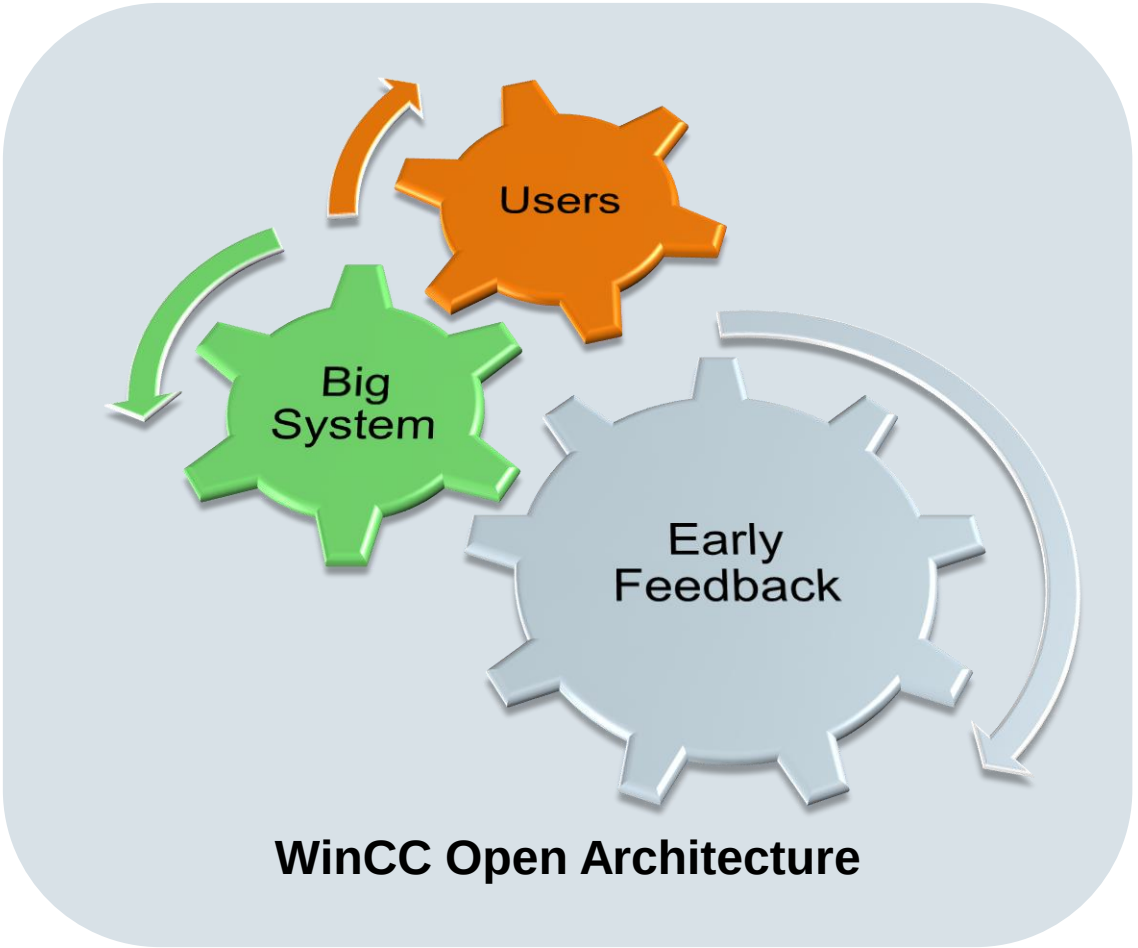
- De facto standard for SCADA systems in all domains
  - Experiments, Accelerators, Technical Infrastructure
- Very large distributed systems
  - Mainly hierarchical topology
- 20 User Interfaces per control room and up to 200 remote UI's
- Integrated with CERN services
  - Single Sign-On, Protocols (e.g. DIP, CMW), etc
- CERN standard OSes: Windows, Scientific Linux
- Connection to hardware is a mixture of OPC and many other drivers (including the customer's own developments)

Application	WinCC OA Systems	Parameters (Million dpes)
ALICE	100	3
ATLAS	130	12
CMS	90	10
LHCb	160	10
Accelerator Complex	120	10



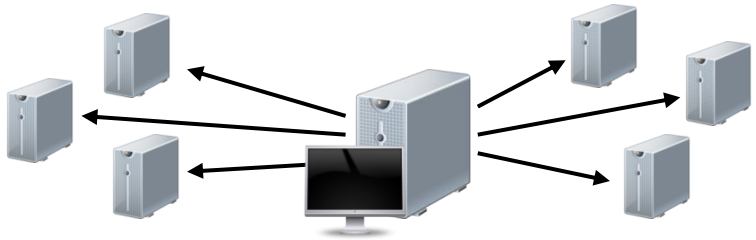
Benefits for ETM

- General improvements of tools
- Large community of developers
  - 1,000 developers worldwide
- Very large scale of systems
  - Some of the largest distributed controls built with industrial tools
- Push the product to the limits
  - Number of datapoints, archive volume, etc
- Innovative ideas
- Benefited from CERN expertise in many fields
  - E.g. Oracle databases, distributed systems
- Early feedback on versions
  - Prerelases/betas/prototypes available for CERN



Examples

- RDB Archiver (for Oracle)
  - Openlab Poster
- QT User Interface
- Distributed Systems
- Web User Interface
- SVN integration
- Performance Benchmark of the WinCC OA Configuration Manager (ASCII Manager)
  - Openlab Poster



Conclusion

- Not just a “Client – Provider” relationship
  - CERN is more than a customer
- Mutual benefits
- Important collaboration for both

SIMATIC WinCC Open Architecture

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