

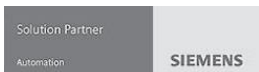
Introduction

Selected references

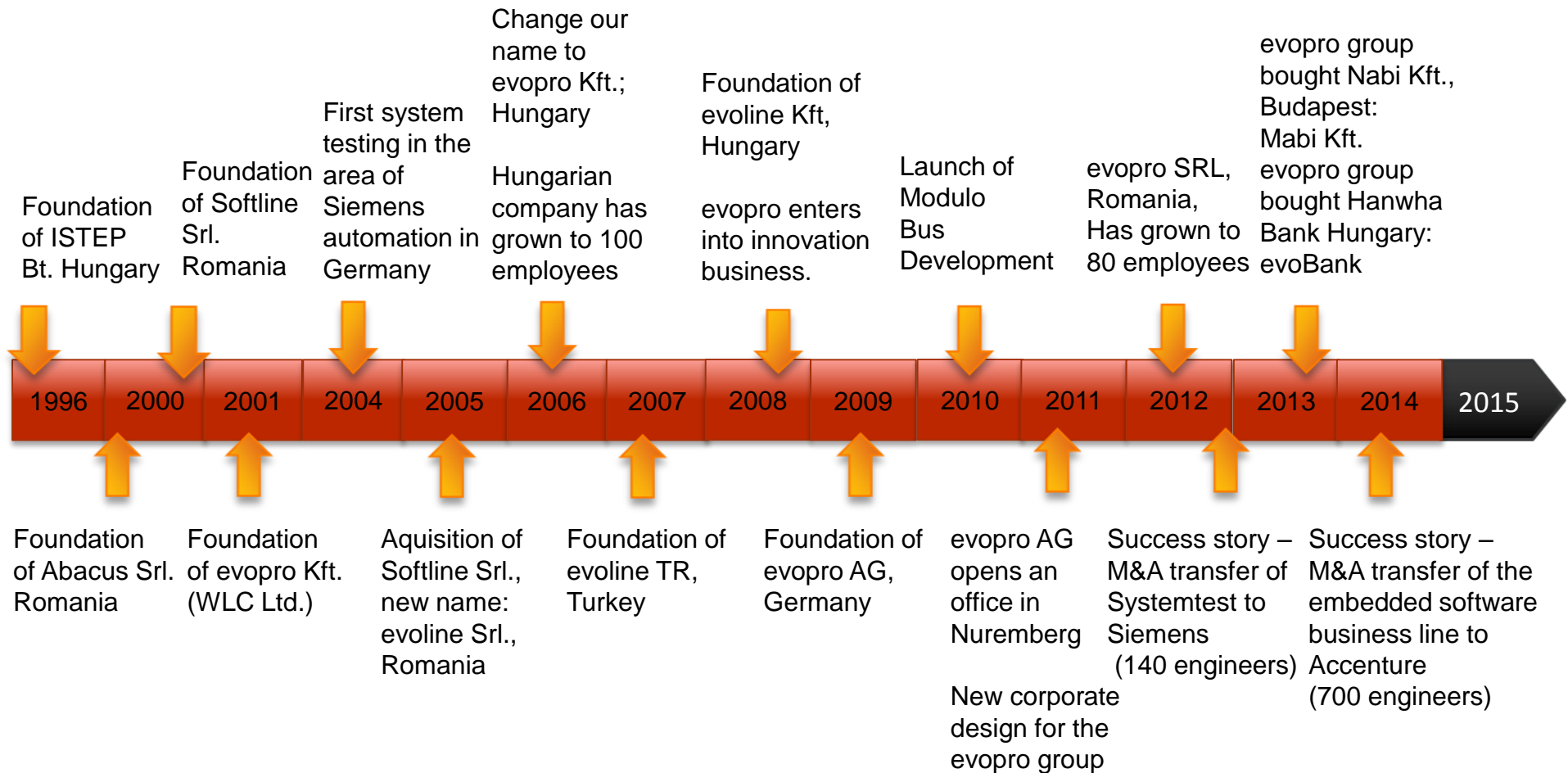
Group introduction - facts & figures

*As an engineering service provider,
evopro delivers worldwide into various industrial domains.*

- Established in 1996
- Main offices:
 - Germany (Regensburg)
 - Hungary (Budapest) – HQ
 - Romania (Cluj)
- Further foreign entities: Austria, Norway, UAE
- Award Winner of the BMWi's „Diversity Growth. Prosperity“ award for businesses with the best „culture of welcome“
- Hungarian Quality Product Award Winner
- Award Winner of Budapest Brand
- Best Workplace Award Winner



evopro group milestones





Mr. Csaba Mészáros
Chairman, Owner

- Industrial Automation Experience 20 years
- Executive management with trans-border cooperation and customer care 14 years
- Aquisition of two large business branches to Siemens and Accenture
- President for R+D and Innovation of the Hungarian Chamber of Commerce and Industry 2 years
- „For the Hungarian Economy” Awardee 2015

Language skills

- English, German



Mr. Balázs Bodnár
Managing Director, Owner

- Industrial Automation Experience 9 years
- Telecom and IT sector 11 years
- Nuclear I&C 4 years
- Executive manager responsibility for different engineering and support organizations in international environment 14 years
- General Secretary of the Scientific Society of Measurement, Automation and Informatics

Language skills

- English, German, Spanish, Russian

Company structure

evopro Holding



Sales & Marketing, Purchasing, HR, Finance, IMS, IT

evopro systems engineering



Industrial automation, Control systems:
Automotive, Process, Nuclear/Energy,
Rolling stock, Marine

Measurement and Test:
Automotive, Electronics

Vehicle development:
Composite technology
Drives system

110 engineers

40 engineers

10 engineers

Cabinet
Manufacturing
Field Installation

30 technicians

evopro Innovation



Railway diag
SW development
Mobile app.
Cloud Computing

50 engineers

evotech



Electrical design
Panel building
Installation
Services

10 engineers
60 technicians

evopro systems engineering - Competences

Control Systems engineering

evopro systems engineering Kft

Domain competences

Production Systems Division



Nuclear/Energy Automation Division



Base competences

Project management, Site management, Installation works management,
Project controlling, Assistance

PLC Controls

HMI / SCADA / DCS

Industrial bus- and
communication systems

Custom SW
development,
Systems Integration

Drive Systems
Robotics

Commissioning
Virtual commissioning

Electrical design
and installation

Cabinet/Panel
Manufacturing

evopro systems engineering

- tools and technologies

- **Electrical and mechanical design**

EPlan, Autocad, Engineering Base, Dialux, Rittal Power Engineering, Simaris, Alpha Select, Rapsody, Comos,
Autocad, Catia, Engineering Base, Inventor, NX, ProEngineer, Solid Edge, Solid Works

- **Drives, Motion control**

Siemens: Masterdrive, Micromaster, Movidrive, Simodrive, Sinamics, Sinumerik, Simotion, Robicon
Other: Beckhoff, Lenze, SEW, Sumitomo,...

- **Robotics**

KUKA, ABB, Fanuc, ...

- **PLC controls**

Siemens Simatic
Other: ABB, Allen Bradley, Beckhoff, Bosch Rexroth, Fanuc, Phoenix Contact, Schneider, Mitsubishi, Modicon, Omron, ...

- **HMI/SCADA/DCS**

Siemens: PCS7, WinCC, WinCC Flexible, WinCC OA, PVSS
Other: **LabView**, InTouch, Factory-Link, Infilink, Citect, 4Mation

- **Industrial bus- and communication systems**

Industrial Ethernet, Profibus, Profinet, Modbus, EtherCAT, EIB, ASI, Canbus, BACnet, IO-Link

- **Industrial IT**

Cisco networking technologies, Microsoft server technologies



Control Systems Turn-key offering

Factory automation (Automotive, Tire, Electronics) Process control (Power, Cement, Chemical, Steel, Food)

- Requirements capture and analysis, specification development
- Control system architecting and design
- Simulation, design evaluation
- Electrical design
- Cabinet manufacturing / Electrical installation / Instrumentation
- Controls and communications software development
- Applications development
- Virtual commissioning
- On-site commissioning
- System Integration into plant management information system
- Testing: Functional- and Integrated System Acceptance Test
- Maintenance & Support

90 controls engineers



evopro systems engineering, evotech – Competences

Electrical design

- Power distribution and control panels
- Complete electrical system design

Panel building

- Power switchboards (up to 7000 A)
- MCC panels
- Control switchboards

Electrical installation

- Turn-key electrical solution
- HV/MV/LV substations, power stations, industrial solutions, building installation,

Services

- Maintenance, emergency support



ISO 9001

SIVACON
Technology by

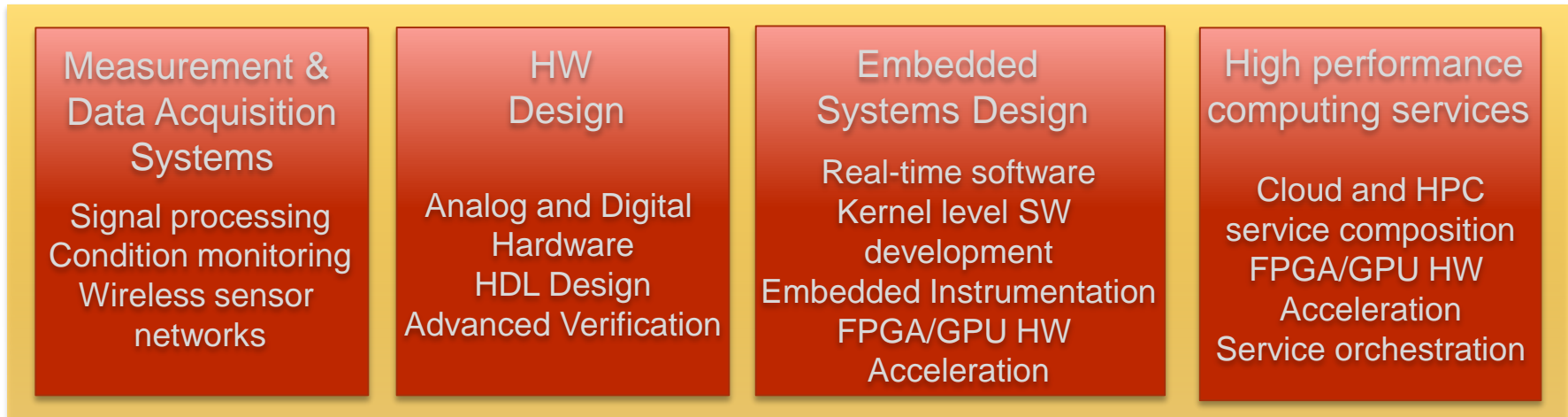
SIEMENS



evopro Innovation

– areas and focus

- The motto of evopro group “it’s possible!” comes to its real meaning through this company. If the available latest industrial technologies do not provide the right solution, this team takes over the task.



technology



References: automation



evopro
systems engineering

Body-in-white production line

Complete electrical package

Daimler Automobile Plant (Ger)

Project data

- Main contractor (line builder): EBZ
- End customer: Daimler, Germany, Bremen
- Duration: 2011 – 2015



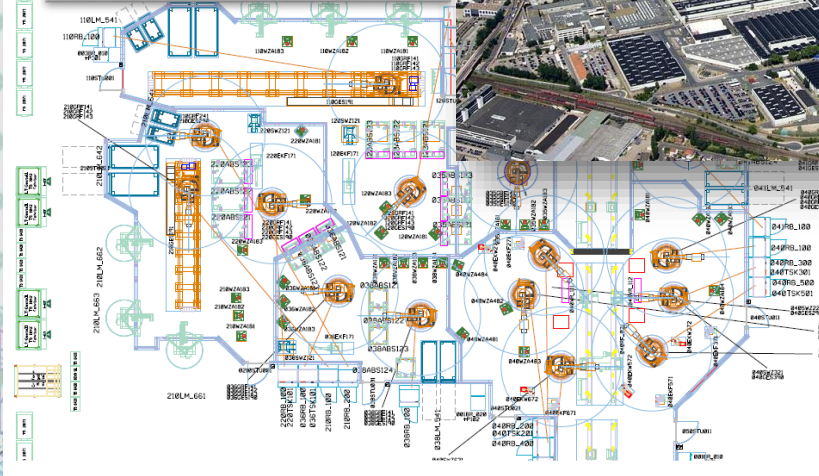
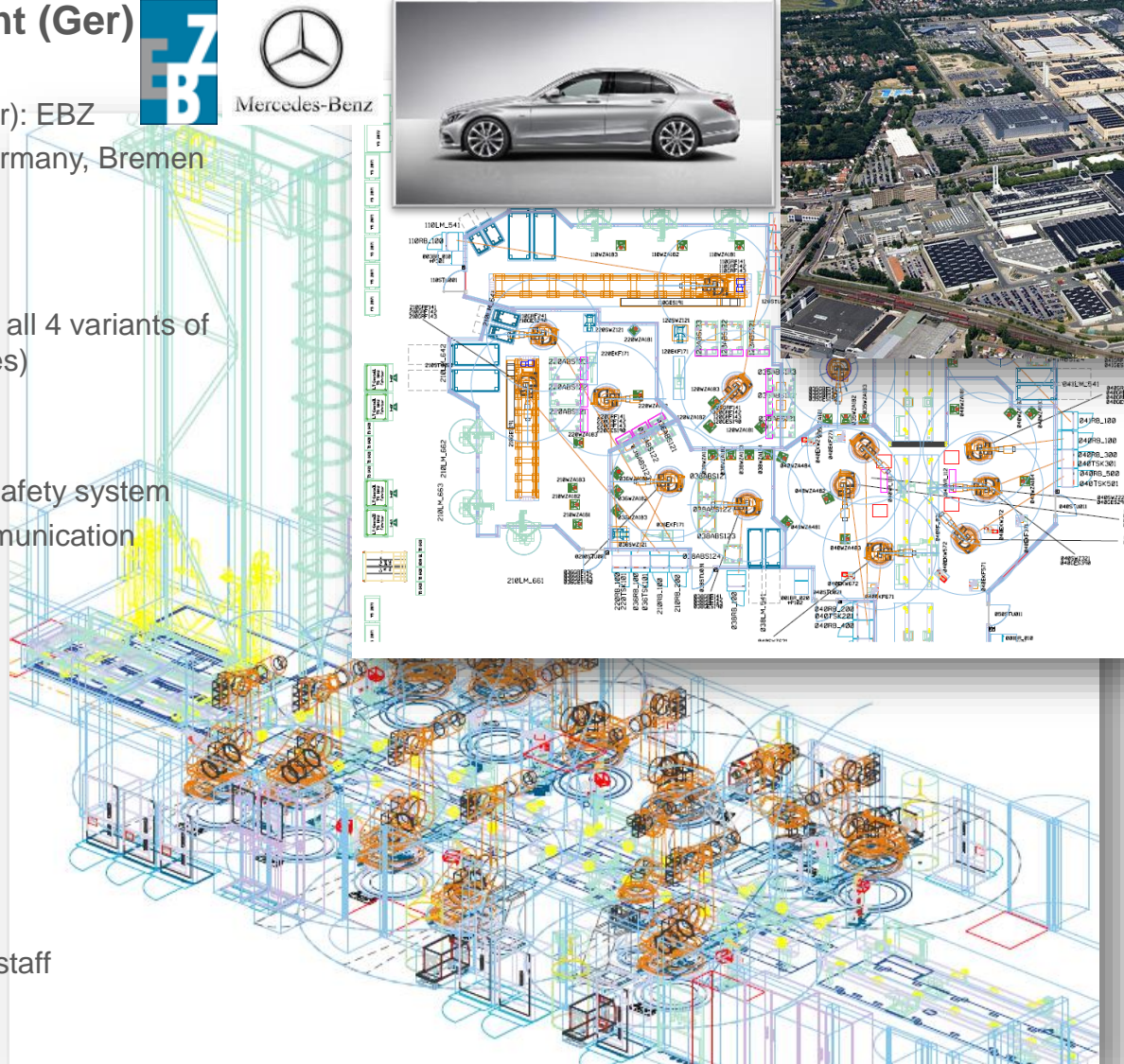
Project scope

Complete Z2 line automation for all 4 variants of Model BR205 (C-Class Mercedes)

- Electrical design
- Electrical Installation
- PLC SW design including safety system
- HMI visualization and communication
- Overall commissioning
- Cycle time optimization

Products and Technologies

- 390 KUKA KRC4 robots
- 46 SIMATIC S7 319F/416
- ET-200S/200pro, Profinet
- SIMATIC RF620R
- 20 PLC engineers
- 130+ Electrical installation staff



Substation Automation System

New Automobile Plant – AHM Győr (Hu)

Project Data:

- **End customer:** AUDI Hungária Motor Kft. – Győr, HU
- **Realisation:** 2011- 2013



Project scope:

- **Design and Parameterisation** of Substation Automation System for Monitoring and Control of the Energy Distribution (**about 11.000 data points**)
- **Visualisation** in 8 Substations
- **Archiving, Event Log, Alarm Logs, User Rights Management, Trends, Alarm concept**
- **Commissioning** of the Substation automation system
- **Documentation**
- **Training** for the operation personnel

Products and Technologies:

- **SIEMENS SICAM PAS** (Power Automation System) Substation Automation System (Server-Client Architecture)
- **SIEMENS SICAM SCC** Visualisation System
- **Ruggedcom intelligent switches**
- **SIEMENS SIPROTEC 7SJ64** Protection Devices (**195 pcs**)
- **Used protocols:** IEC 60870-5-103, 104 (Master/Slave)



Control Systems Engineering - Nuclear

Nuclear power plant: Flamanville (Fr)



Automation system development in non critical areas **SIEMENS**

- Software controls support of power plant automation system
- Specification of EDF requirements
- Increasing effectiveness of individual function blocks
- Managing development from planning to testing

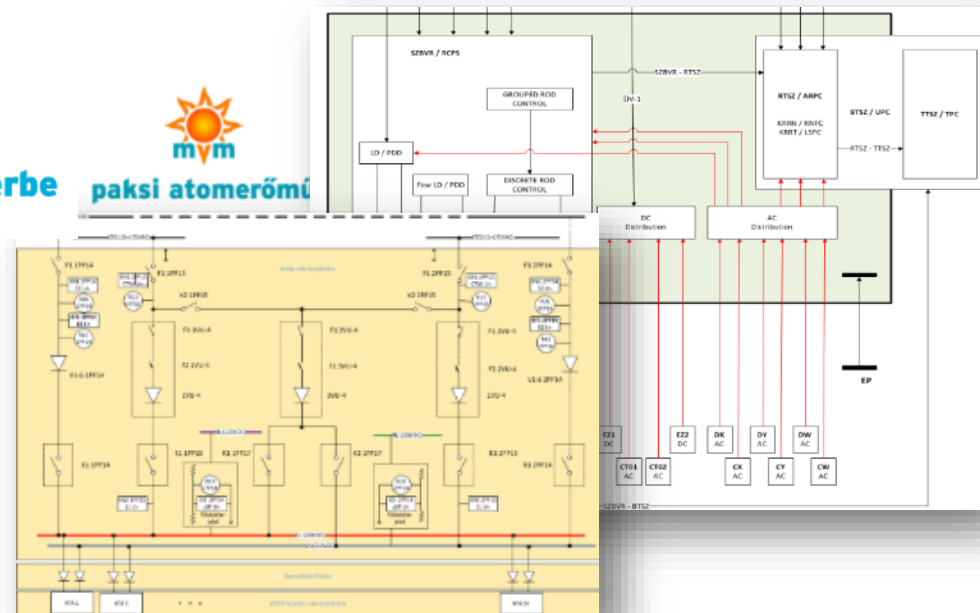


Nuclear power plant: PAKS (Hu)



Control System Refurbishment, Requirements specifications for:

- Control Rod Control System [RCS]
- Reactor's Power Control System [RPC]



Nuclear power plant Paks, HU

Information Security Plan for Paks Nuclear Power Plant (2012)

Project data:

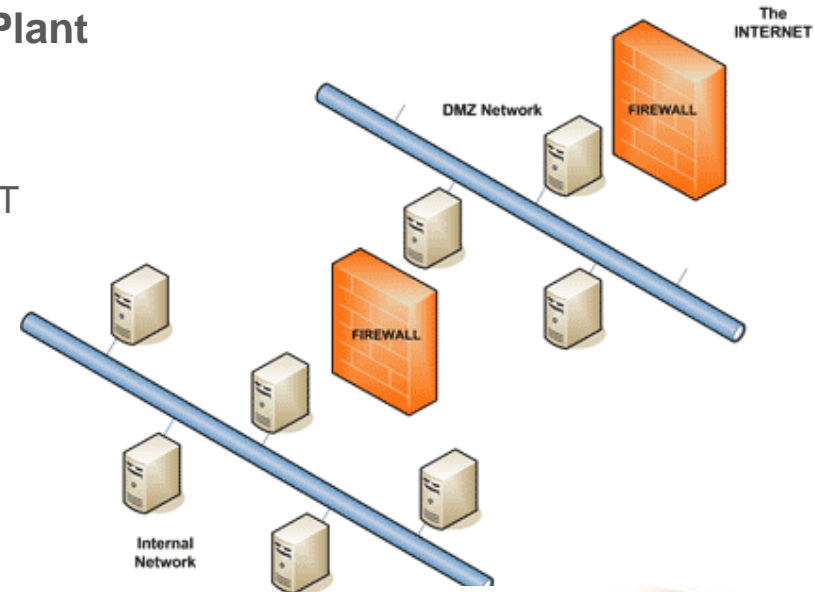
- The project is part of the continuous improvement of the IT security in Paks
- Need for a modern Security Plan based on Security Controls

Project scope:

- Overview of standards and guidelines on IT Security
- Interviewing plant personnel on IT security
- Overview and correction of existing company-specific procedures and directives
- Incorporate owner's security requirements and directives

Work Based On:

- ISO/IEC 27000 standards series (information security standards)
- National Institute of Standards and Technology (NIST) Special Publication 800-53
- International Atomic Energy Agency (IAEA) Safety Guide Series
- Hungarian laws and regulations



Control systems - Measuring system upgrade

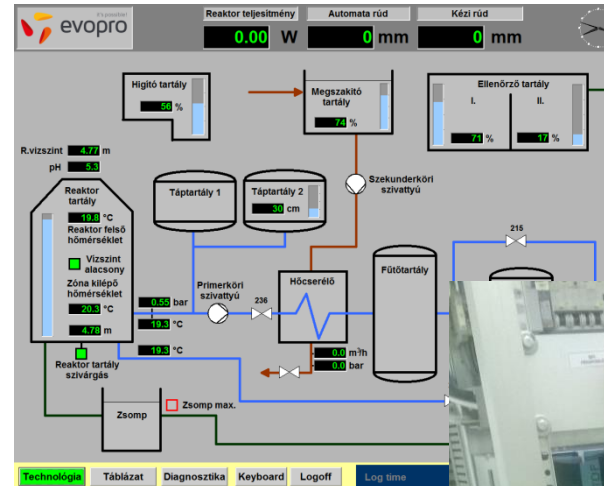
BME Nuclear Technical Institute Instrumentation upgrade of Training reactor (2013-14):

Project tasks:

- Instrumentation exchange and application
- Cabling, UPS electric power supply
- SIL2 safety loops
- PLC data acquisition for non safety signals
- Visualization and data storing: industrial PC and touch panel
- Mechanical and electrical design, documentation, official licensing

Products and technologies:

- Simatic S7-300 CPU, Simatic IPC 227D
- TIA Portal V12
- ET200
- Ethernet / PROFIBUS DP / RS-232 communication
- Phoenix safety relay
- Stahl safety limit switches



Cold Neutron Source, Beijing, China

Protection, Control and Monitoring System (PCMS) for a Cold Neutron Source (CNS) (2013 – 2016)

Project data:

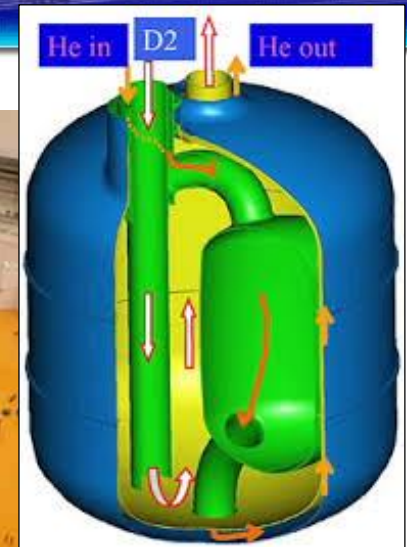
- End customer: China Advanced Research Reactor (CARR), Beijing
- Sophisticated light-water tank reactor, with 60 MW power
- CNS produces an extremely low temperature neutron beam
- CNS implementation in 2015
- Purpose: scientific research

Project scope:

- Control System Engineering
- Electrical design, cabinet assembly
- PLC programming for data acquisition, protection and control
- SCADA programming for operator interface and long-te
- Commissioning and Tests

Products and Technologies:

- SIMATIC S7 414-4H redundant PLC system
- SIMATIC ET 200M
- SIMATIC STEP7
- SIMATIC WinCC 7.0 HMI and SCADA
- Redundant Industrial Ethernet
- Redundant PROFIBUS DP



Nuclear power plant Paks, HU

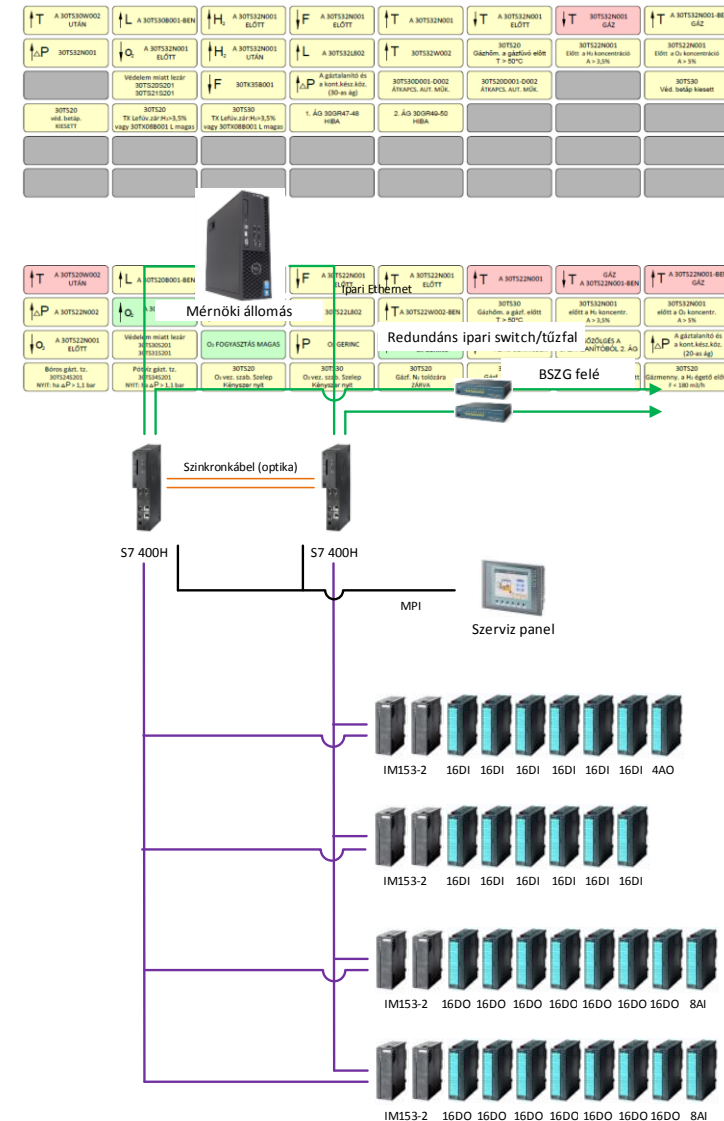
Reconstruction of the signalling system in the common control room II. KÜV in Unit 3 – Pilot project (2015-2016)

Project tasks:

- Design of the new system
- Elaboration of the Software Plan and FAT Procedure document
- PLC Software development and HMI Software development
- Delivery of the redundant hardware and software for the new control system of the signalling board
- FAT
- Exchange of the 80 signalling modules in the signalling board
- Establishing connection to the Plant Computer system
- Dismantling, installation and commissioning of the new control system
- Training for the operation and maintenance personnel
- As-Built Documentation

Products and technologies:

- Simatic S7-400 H CPU & I/O Modules
- Simatic WinCC
- Profibus, Modbus communication
- CISCO ASA 5505 security routers





evopro
Innovation

Big Physics: Beam Emission Spectroscopy Integration

■ **Projects:**

- KSTAR (Daejeon, Republic of Korea)
- EAST (China)
- JET (UK)

■ **Project role:**

- Li beam emitter control
- EPICS integration of Emitter and optical sensing

■ **Technical architecture:**

- NI9112, 9022(ECU), 9476(DO), 9425(DI), 9264(AO), 9205(AI), 9402(DIO), PS15
- 35 digital IO
- 12 analog IO
- Software: LabView, EPICS



Summary

- Extensive industrial background in control systems engineering
- Solid base for delivering high value (xM €), long-term (several yrs.) projects - both, financial and procedural
- In-house competence to deliver turn-key measurement, data acquisition and control system solutions based on commercial of-the-shelf or custom designed components
- International delivery and support capabilities
- High motivation to take part in newbuild Paks NPP 5/6



International projects

The image displays a world map with orange highlights on several continents, including North America, South America, Europe, Africa, and Australia. Surrounding the map are logos of numerous international partner companies, organized in rows:

- Row 1:** BMW, Mercedes-Benz, Audi, Suzuki, EBZ, KUKA, ThyssenKrupp, Schnaithmann, ZF Lenksysteme.
- Row 2:** BRIDGESTONE, HANKOOK, MICHELIN, KNORR-BREMSE, KRONES, AGC, KIENER, GROB.
- Row 3:** Dubai Airports, bud Budapest Airport, BAA Heathrow London, BAA Gatwick, Incheon Airport, M Flughafen München, aena aeropuertos, ERICSSON.
- Row 4:** SIEMENS, Royal Mail, SWISS POST, Magyar Posta, MÁV, Continental TEMIC, Infineon, JABIL.
- Row 5:** e-on, MOL, FKF ZRT., GE, Unilever, ALGIDA.
- Row 6:** EDF, paksi atomerőmű, MÁTRAI ERŐMŰ ZRT., ME, DIPA, BRITISH AMERICAN TOBACCO HUNGARY.
- Row 7:** Iiszaviz VÍZERŐMŰ KFT., ALCOA, ai, OAM Ózdi Acélművek, SPX, Tetra Pak.
- Row 8:** ROTARY Fűrési Zrt. - Drilling Ltd. (A MEMBER OF THE Hochtief GROUP), Columbian, pepsi, P&G Procter & Gamble.
- Row 9:** DUNA-DRÁVA CEMENT, KSTAR, Wigner, T-Systems, OSRAM, KESZ, SWIETELSKY, HOCHTIEF, METRO.



it's possible!

evopro

group

Thank you for your
kind attention!

Contact:

Erzsébet Horváth

Head of Nuclear I&C and Energy Automation division

+36 30 956 5652

erzsebet.horvath@evopro-group.com

The evopro group

Hauszmann A. u. 2.

H-1116 Budapest

www.evopro-group.com