

Together Success...

COMPANY PROFILE



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1. MAIN ACTIVITY

SISKON - Skopje is an engineering company operating in the field of integrated automation systems, complete automation in electrical - energy systems used for control of processes in the field of industry, power plants, mining, substations etc.

We offer and supply multidisciplinary engineering projects and consultancy in the field of process control and realization of systems based on a "Turn-key" principle.

Starting from computer aided design made in EPLAN and project benefit analysis, advice for choice of brand name electrical equipment, such as SIEMENS, RITTAL, PHOENIX CONTACT, LAPP KABEL, KLAUKE, CARLO GAVAZZI etc. to assure long uninterrupted work life, SISKON has become a reliable source for systems upgrade, spare parts availability, as well as provision of test assembly reports, quality assembly staff and factory and site acceptance tests. Ending with quick response time within and after the warranty period, SISKON has proven itself through many projects for the biggest and most significant companies in Macedonia. It can be relied on for technical support, programming and fault analysis made by experienced and proven engineers.

The list of our projects includes substation automation with SIPROTEC devices and applied SICAM PAS and PASCC software in the energy sector, dosing, weighing and transport systems as well as control and regulation applications with SIMATIC and WINCC in the industry sector etc.

SISKON was founded in 1995 and it has been working and developing successfully ever since, on principles of knowledge, quality, promptness and fairness.

On the Macedonian market, SISKON is also a distributor of foreign companies, thus enabling the projects to be realized quickly, efficiently and cost effective.

2. ORGANIZATION

SISKON - Skopje realizes its developing and production concepts through the following basic contents:

AUTOMATION – Complete automation projects starting from project design, purchasing of equipment, cabinet design and production, SIMATIC S7 PLC software design with PROFIBUS and PROFINET networks, SCADA WinCC control and monitoring systems, installation, commissioning and documenting. We also cover services in the guaranty and the post guaranty period.

DRIVE TECHNOLOGY - Products, systems, applications and services for the entire drive train. Converters and inverters: SINAMICS, MICROMASTER, SIMOVERT, SIMOREG. Motors and geared motors MOTOX. Gear units and couplings FLENDER.

BUILDING TECHNOLOGIES – Design and implementation of building automation, security and fire safety (SIEMENS – BT).

ENERGY - Design and assembly of substation automation and low voltage switchgear. SIPROTEC 4/5 protection devices Bay Control Units (BCU) and parameterization via DIGSI software. Power automation with SICAM PAS and SICAM SCC (former PASCC).

DATA CENTRES – IT Security Rooms and Micro Data Centres • RITTAL®
We provide complete modular solution for Data Centres: design, assembly, construction of enclosures/containers/safes with high protection against fire, water, dust, fumes and external access. Proven by International Tests and Certificates.

COMMERCIAL - Representation of foreign companies in the field of automation, drives, low voltage equipment, energy, process automation, industrial connection technology, interface, surge protection, cables, electrical cabinets, tools, installation materials, security products: video surveillance, access and perimeter control, fire safety products, data/security rooms etc.

We are an **ISO 9001:2008**, **ISO 14001:2004** and **OHSAS 18001:2007** certified company.

3. PERSONNEL

SISKON activities are realized with the following staff:

Bachelor of Science in Electrical Engineering	12 employees with experience in design, programming and putting into operation.
Master of Science in Electrical Engineering	1 employee with experience in design, programming and putting into operation.
Bachelor of Science in Mechanical Engineering	2 employees with experience in design, programming and putting into operation.
Master of Science in Architectural Engineering	2 employees with experience in design, Project management, TQM and putting into operation.
Technicians, electrical & mechanical	8 employees with experience in design, assembly and putting into operation.
Warehouse	1 employee
Office assistant/Accountant	3 employees

Our engineers possess recognized licenses & certificates (types A and B) in accordance with current international standards being issued by Chamber of Certified Architects and Certified Engineers of Macedonia.

When the projects exceed the capacity of the company, external partners and specialists are involved.

4. COMPANY PARTNERS

SISKON complements its main activities with the following companies, consultants and associations:

SIEMENS AUSTRIA	In the field of Low, Medium and High Voltage, Energy Automation
SIEMENS SERBIA	In the field of Industrial and Process Automation and Drive technology
SIEMENS CROATIA	In the field of Power Plant Automation
SIEMENS KONCAR CROATIA	In the field of Power Transformers
TEKSTROM	In the field of PLC systems
ETAI	Member of Society for Electronics, Telecommunications, Automatics and Informatics (ETAI)
MAKO CIGRE	Member of INTERNATIONAL COUNCIL ON LARGE ELECTRIC SYSTEMS MAKO CIGRE
Chamber of Certified Architects and Certified Engineers - Macedonia	Member of Chamber of Certified Architects and Certified Engineers of Macedonia
IASTE Macedonia	Participating company in program for exchanging students through IASTE Macedonia (Macedonian Association for the International Exchange of Students for Technical Experience)

5. REPRESENTATION OF FOREIGN COMPANIES

SISKON is a representative of the following West European companies for the Macedonian market:

	<u>since</u>	
SIEMENS GERMANY	1995	Partner and Distributor for Automation
SIEMENS AUSTRIA	2014	Siemens Advanced VAR Partner for Energy Automation <ul style="list-style-type: none">- Advanced Partner for Substation Automation- Advanced Partner for Protection- Advanced Partner Power Quality
SIEMENS AUSTRIA	2015	Agency and Distribution Agreement for Low, Medium, High Voltage and Power Transformers
SIEMENS SERBIA	2015	Distributor for Industrial and Process Automation and Drive Technology
RITTAL	1997	Distributor
Phoenix Contact	1998	Distributor
LAPP KABEL	1997	Distributor
Klauke/Greenlee	1998	Distributor
Carlo Gavazzi	2014	Distributor

6. CONTACT DETAILS

Director: Vladimir Dilevski

SISKON, Skopje
Taškentska 4^a
1000 Skopje
Macedonia
tel.: + 389 2 3062 423
fax. + 389 2 3061 250
email: siskon@siskon.com.mk
Web: www.siskon.com.mk



7. REFERENCE LIST

OF THE MOST SIGNIFICANT PROJECTS

7.1. WORKS IN PROGRESS

7.2. INDUSTRIAL and PROCESS AUTOMATION & DRIVE
TECHNOLOGY

7.3. ENERGY

7.4. DATA CENTRES

7.5. MOBILITY

7.6. BUILDING TECHNOLOGIES SERVICES

7.1. WORKS IN PROGRESS

Item No.	Client	Project Name and Description of Works	Realization
1	"MEPSO" AD Skopje, Macedonia SisKon Joint venture with SIEMENS, Serbia	SS "DUBOVO" 400/110 kV upgrade Siemens and SisKon consortium are performing all necessary works and activities for functional upgrade of AD "MEPSO" SS in Dubrovo, Macedonia.	2017 2020



7.2. IADT

Item No.	Client	Project Name and Description of Works	Realization
1	QATAR VINYL COMPANY, Qatar	Upgrade of the existing SICAM WINCC v.2 SCADA system of the facility to the latest version of SICAM SCC v.8 SCADA. Commissioning and putting into operation of the new system. In phase of realization.	2016
2	FENI Industries, Kavadarci, (Cunico Resources NV)	Revitalization of the Crane 2 automation system "Turn-Key" Project. Supply and putting into operation a new automation system for the Crane 2. The automation system is distributed and based on SIMATIC S7-300 with ET200M stations. The movement and load stabilization is conducted with SIEMENS SIMOTRAS HD – 3 phase AC Controllers for slip-ring motors. Communication between the Simotras HD and PLC is Profibus DP.	2015
3	FENI Industries, Kavadarci, (Cunico Resources NV)	Reconstruction of STACKER "Turn-Key" Project. Purchase, delivery and commissioning of new automation system for the STACKER; system based on SIMATIC S7-1500 with 3 ET200SP stations. SCADA based on WinCC. STACKER is controlled by SINAMICS inverters. Communication between the inverters and PLC is PROFINET. The system provides autonomous work of the STACKER based on its position, angle of rotation and "arrow" position. Anti-collision System for the STACKER and RECLIMERS included.	2015
4	TITAN, Cement Factory Usje, Skopje	Automation System for Cement Packing Facility 3 Design, assembly and commissioning of the control cabinets. The automation system for the Cement Packing Facility No3 is decentralized and based on SIMATIC S7-300. The SCADA system is based on WinCC 7.0.	2015
5	TITAN, Cement Factory Usje, Skopje	Redundant SCADA server Extension of the existing SCADA system (for vertical coal mill, coal silos, hot exhaust gases, horizontal coal mill and mill for cement 5) with the signals for control and monitoring of the SCADA system for Kiln4 and implementing the Redundancy Option for WinCC7.0.	2014
6	TITAN, Cement Factory Usje, Skopje	SCADA for SNCR system for "Kiln 3" and "Kiln 4" Extension of existing SCADA system for "Kiln 4" with the signals for control and monitoring of the SNCR system for Kiln3 and Kiln4. The existing SCADA system is based on WinCC 7.0.	2014
7	RZ Institute - Skopje	Automation system for Industrial Dryer The automation system for the Industrial dryer is centralized and based on SIMATIC S7-1200. HMI part is composed of one KTP600 panel. The movement of the cart from the dryer is controlled by SINAMICS G120C inverter. Temperature Control system included in PLC.	2014
8	FENI Industries, Kavadarci, (Cunico Resources NV)	System for process visualization, Mixing plant. "Turn-key". Design, delivery and erection of control cabinet including PLC S7-1200 for analogue signals collection, based on SCADA system for visualization of measuring units.	2014
9	TITAN, Cement Factory Usje, Skopje	Implementation of Client-Server and MULTI-USER SCADA architecture Several single-user SCADA were connected at one multi-user SCADA project. The single-user projects were: 1. Vertical coal mill (which consisted the SCADA-s for Vertical coal mill, Coal silos, Hot exhaust gases, and Horizontal coal mill) 2. Mill for cement 5 The project is made up of 1 server and 5 clients. SCADA server is DELL Power Edge 710, and the clients are DELL Optiplex; and is based on WinCC 7.0.	2014

Item No.	Client	Project Name and Description of Works	Realization
10	FENI Industries, Kavadarci, (Cunico Resources NV)	System for process monitoring at silos for petroleum coke. "Turn-key" Project. Design, delivery and erection of control cabinet with PLC S7-1200 for signals collection; wireless signals transmission using Phoenix-Contact Trusted Wireless including SCADA system for visualization of petroleum-coke level in silos.	2014
11	FENI Industries, Kavadarci, (Cunico Resources NV)	Supply and installation of equipment for dryer burners and dosing system. Project includes commissioning of MMC cabinets for plants and SCADA system for system visualization and control.	2014
12	TITAN, Cement Factory Usje, Skopje	Horizontal Coal Mill. Extension of the existing SCADA system - "Vertical coal Mill" with the signals for control and monitoring of the Horizontal coal mill. The existing SCADA system is based on WinCC 7.0. The automation system of the horizontal coal mill is based on OMRON PLC. Connection between the OMRON PLC and the SCADA system is achieved by Kepware OPC Server.	2014
13	FENI Industries, Kavadarci, (Cunico Resources)	Automation system for waste water, at mixing plant. "Turn-key" Project. Design, delivery and erection of control cabinet including PLC S7-1200 system control. (SCADA)	2014
14	SLOBODA Factory, Negotino	Design, installation and commissioning of MCC cabinet with equipment for plants management needed at FENI Dryer plant (burner). SCADA system for system visualization and control.	2014
15	Jugohrom Feroalozj, Jegunovce	Revitalization of weighing system for Furnace 1-4. Replacement of existing Siwarex-M outdated modules with Siwarex-U modules. Program adjustment in compliance with the new modules including process visualization programme.	2014
16	FENI Industries, Kavadarci, (Cunico Resources NV)	Supply and installation of equipment for Roto-furnace burners and dosing system. Project includes commissioning of MMC cabinets for plants and SCADA system for system visualization and control.	2013
17	TITAN, Cement Factory Usje, Skopje	Automation system for Hot Exhaust Gases. "Turn-Key" project. Design, assembly and commissioning of control cabinets. The automation system for the Hot Exhaust Gases is decentralized and based on SIMATIC S7-400. All signals for system control and monitoring are added to the existing SCADA system - "Vertical Coal Mill". The existing SCADA system is based on WinCC 7.0.	2013
18	ELEM, REK Oslomej	Reconstruction of the control system for the coal feeder in Power Plant REK Oslomej, "Turn-Key" project. Design, assembly and commissioning of a completely new control system. Automation System is centralized and based on SIMATIC S7-1200. HMI part is composed of one KTP300 panel. Feeder movement is controlled by 4 inverters SINAMICS G120C. Communication between the inverters and PLC is PROFIBUS.	2013
19	FENI Industries, Kavadarci, (Cunico Resources NV)	Radio-system for Rotary-kiln. Assembly, delivery and erection of system for wireless temperature signals transmission from Rot-furnace to control room using Phoenix-Contact Trusted Wireless	2013
20	TITAN, Cement Factory Usje, Skopje	Automation system for Coal Silos. "Turn-Key" project. Design, assembly and commissioning of the control cabinets. Coal silos automation system is centralized and based on SIMATIC S7-300. All signals for system control and monitoring are added to the existing SCADA system -"Vertical coal Mill" (based on WinCC 7.0)	2013

Item No.	Client	Project Name and Description of Works	Realization
21	JSC Macedonian Power Plants ELEM - REK Bitola Coal Mine Suvodol	Automation of the well drainage system in coal mine. Turn-key project. Remote control and monitoring of the well drainage system (Siemens SCALANCE Wireless), Cascade PID SIMATIC S7, frequency control MICROMASTER for the 19 submersible pumps control. WinCC SCADA integrated.	2012 2013
22	PELAGONIJA-GRADBA, Bitola for Municipality of Novaci	Fountain regulation system in Novaci Municipality. "Turn-key" Project. Assembly, delivery, installation and commissioning of cabinet with PLC S7-1200 including tailored program for system visualization and regulation of a control panel KTP 400.	2013
23	FENI Industries, Kavadarci	Pelletizer system No.6; "Turn-key" project: Electrical project design, installation, commissioning.	2012
24	TITAN, Cement Factory Usje, Skopje	Design, assembly and commissioning of the control cabinets. The automation system for the water heating is distributed and it is made up of SIMATIC S7-300 and 1 distributed unit ET200M. All signals for control and monitoring of the system are added to the existing MP270B operator panel. The existing MP270B system is based on WinCC flexible.	2012
25	ELEM, REK Oslomej	Extension of the system for monitoring process variables with additional 40 signals in Power Plant "Oslomej". "Turn-Key" project. Design, assembly and commissioning of SCADA system. Automation system based on PLC SIMATIC S7-400, 5 distributed units ET200M, 2 servers on which system for visualization WINCC is installed. The system works in parallel with the existing system.	2012
26	FENI Industries, Kavadarci, (Cunico Resources)	System for granulation of metal No. 2; "Turn-key"; Design, assembly and commissioning of control system including local SCADA	2011
27	FENI Industries, Kavadarci, (Cunico Resources)	Rotary ore dryer revitalization: Cabinet building including frequency inverters 200kW (Micromaster, Sinamics) and commissioning	2011
28	ELEM, REK Oslomej	System for level measurement at the steam separator of the boiler OB380. System is based on usage of SIMATIC S7-3152DP CPU where the correction of dp takes part (in a function of the pressure at the separator) Client:	2011
29	Usje AD Cement Factory Skopje, (TITAN group)	Automation system for Rotary Kiln No.4 Design, assembly and commissioning of the control cabinets. The automation system is distributed and it is composed of SIMATIC S7- 400 PLC and 20 distributed units ET200M. The SCADA system is based on WinCC	2011
30	Jugohrom Feroalozj, Jegunovce	Weighing system for 9 weighing scales furnace: "Turn-key" project.	2011
31	ELEM, REK Bitola	Weighing belt scales; Installation and commissioning of 4 Siemens Milltronics belt scales for coal weighing.	2010
32	ELEM, REK Oslomej	SCADA system for monitoring process variables. "Turn-Key" Project. Design, assembly and commissioning of the SCADA system. Automation system is distributed and it is composed of PLC SIMATIC S7-400, 4 distributed units ET200M, 2 servers on which system for visualization and data acquisition WINCC is installed. The system works in parallel with the existing system.	2010

Item No.	Client	Project Name and Description of Works	Realization
33	Makstil - Skopje (Duferco Group)	Crane automation	2010
34	Silmak, Jegunovce	Cooling water system for furnace 7 and 8; "Turn-key". Automation of water circulation for cooling furnaces 7 and 8. Realized with 132 kW SIRIUS softstarters.	2009
35	OKTA Refinery, Skopje	Switchboard 04kV, 2500 A. "Turn-key". Design, supervision and putting into operation of 0,4kV switchboard consisting of 18 panels.	2009
36	ELEM, REK Oslomej	System for measuring heavy oil consumption. System for measuring heavy oil consumption at the OB380 boiler is based on usage of 2 SITRANS FC MASS 2100 sensors, 2 SITRANS FC MASS 6000 transmitters, SIMATIC S7-200 PLC and TD 400 operator panel. System allows monitoring of the flow in circulation and recirculation part and gives the information about the current and total consumption of heavy oil.	2009
37	Silmak, Jegunovce	Dozing, weighing and transport – Furnace 7; "Turn-key". Complete automation of system for dozing, weighing and transport of the material to the furnace. Realized with SIMATIC S7-300 and color operator panel MP270B through which receptures are given. Monitoring of the system realized with WinCC Flexible.	2009
38	Titan Cement Factory "Usje", Skopje	Packing machine "Turn-key" project. Revitalization of filling and packing machine, design, installation and supervision.	2008
39	Mittal Steel, Skopje	Flattening machine; "Turn-key". Putting into operation of 0,4kV switchboard and modernization of the control.	2007
40	Brilijant, Stip	Alarm device in test-tube production. "Turn-key" project. Design and putting into operation of the cabinet with alarm device. Realization with SIEMENS LOGO.	2007
41	Siemens Croatia (Power Plants ELEM - REK Oslomej TPP)	Visualization of steam temperature control. "Turn-key". Operator interface realized with WinCC PC station and 2 color graphical operator panels MP270B, visualization software WinCC Flexible.	2007
42	Usje AD Cement Factory Skopje, (TITAN group)	Control & visualization of water pump and crude-oil Station. "Turn-key". Realized with SIMATIC S7-300 PLCs and operator interface realized with color graphical operator panel MP270B, visualization software WinCC Flexible.	2007
43	Silmak, Jegunovce	Dosing and batching system. "Turn-key". Dosing and weighing system with five, one-component, weighing scales, fed from five bunkers. Realized with SIMATIC S7-300 PLCs and special weighing modules SIWAREX U. Input of all recipes and operator interface realized with color graphical operator panel MP270B, and visualization software ProTOOL.	2006
44	Silmak, Jegunovce	Control of furnace cooling 160 kW. "Turn-key" project. Realized with MICROMASTER frequency inverter with PID and softstarters.	2005
45	Silmak, Jegunovce	Transport track control. "Turn-key". Control of 8 transport belt tracks for silo filling. Realization with SIMATIC S7-300 and MP270B.	2005

Item No.	Client	Project Name and Description of Works	Realization
46	TUTUNSKI KOMBINAT – Tobacco factory, Skopje	Tobacco Belt Scale. “Turn-key”. Design, installation, commissioning and putting into operation. Supply and assembly of the low voltage cabinet. Realized with S7-300 PLCs, SIMOREG DC converter and OP37.	2004
47	JSC Macedonian Power Plants ELEM - REK Bitola mine Suvodol	Automation of "OBTO" conveyor system. Project design, installation, commissioning and putting into operation. Supply and assembly of the low voltage cabinets for the "OBTO" system. Automation realized for four conveyor systems with five S7-300 PLCs, Profibus – SICLIMAT modem network and WinCC SCADA system. Connection to bagger SRS 1300.	2003
48	Pivara AD brewery, Skopje	CIP – Clean In Place; Complete automation project with SIMATIC S7-300, OP37 and Profibus. Realized complete with low voltage switchgear.	2002
49	FENI Industries, Kavadarci, Cunico Resources NV	Visualization in control room; Complete automation project for the control room in “Separation” sector. SCADA system for data acquisition and control realized with SIMATIC S7-300 PLC and two stations of WinCC SCADA system. Connection to periphery devices, sensors and actuators and connection to distribution boards.	2002
50	MZT FAM, Skopje	Automation of “CNC” tool machine. “Turn-key”. Design, cabinet installation and commissioning. Realized with SINUMERIC 802D CNC control.	2002
51	JSC Macedonian Power Plants ELEM - REK Oslomej mine “Turn-key”.	Retrofit of excavator SRS 400 - Complete automation project for SRS 400 reconstruction. Realized with SIMATIC S7-300 PLC. Parameterization and operator interface with graphical operator panel OP27 and visualization software ProTOOL. SIKOSTART Soft Starters, DC inverters and AC vector inverters are used.	2001
52	JSC Macedonian Power Plants ELEM - REK Oslomej mine	Coal mills slip prevention. “Turn-key” project. Complete automation project Slip prevention of eighteen coal mills in the Power Plant. Realized with SIMATIC S7-200 PLCs. Parameterization and operator interface with graphical operator panel OP37 and three OP7. and visualization software ProTOOL.	2001
53	TUTUNSKI KOMBINAT “Tobacco factory”, Prilep	Vacuum control. “Turn-key” project. Complete automation project for vacuum regulation. Realized with SIMATIC S7-300 PLC, text based operator panel OP7, SITRANS pressure transmitters and 7 SIKOSTART soft starters of 45 kW.	2001
54	Steel works “COLD MILL” Factory - Skopje	Rolling mill gap measurement. Complete automation project for measurement of a rolling mill for sheet metal. Realized with SIMATIC S7-400 PLC and 10 incremental encoders. Periphery signals captured through DP Network. Parameterization and operator interface realized with Text operator panel OP7.	2000
55	AD ESM, REK Bitola	Reconstruction of excavator SRS 1300. Technical support to REK Bitola and Siemens Greece for the reconstruction of bagger SRS 1300. Supply of the complete electrical equipment from Rittal, Phoenix Contact, Klauke, Lapp Kabel and Eplan to Siemens Greece, which was a general supplier also of Siemens equipment. The bagger was reconstructed with S5 and S7 PLCs, with distributed peripheries. Parameterization and operator interface realized with text and color graphic panels. Motor drives with SIKOSTART soft starters, SIMOREG DC inverters, SIMOVERT AC vector inverters.	2000

Item No.	Client	Project Name and Description of Works	Realization
56	ESM REK Oslomej	Automation of US7 transportation belt track. "Turn-key" project. Complete automation project for transport belt track US7. Realization with SIMATIC S7-300 PLC, distributed periphery ET200M – Profibus DP. Parameterization and operator interface with graphical operator panel OP7 and visualization software ProTOOL. Switchgear for motor driving realized with SIKOSTART soft starters, medium voltage (rotor Soft Starters) and AC vector inverters.	2000
57	Sugar Factory - BITOLA	Level regulation. "Turn-key". System for level regulation of two dependent tanks. Realization with SIMATIC S7-300 PLC, two level SITRANS transmitters and two MIDI Master frequency invertors. Parameterization and operator interface are realized with text operator panel OP7.	1999
58	ESM REK Oslomej	Production measurement of "ES" excavator. "Turn-key" project. System for "ES" excavator production measurement. Realized with SIMATIC S7-200 PLC. Parameterization and operator interface are realized with text operator panel OP7.	1998
59	MHK ZLETOVO - Artificial Fertilizer Factory, Veles	Bag dosing and weighing system. "Turn-key" project. Two scales for bag dosing. Mechanical and electrical design. Realized with SIMATIC S7-300 and SIWAREX M. Parameterization and operator interface realized with text operator panel OP7.	1998
60	FOD AD ESM "Fabrika za oprema i delovi"	Cable car rail "POPOVA SAPKA" – Tetovo. "Turn-key". Complete automation project and its realization for two sections of the cable car transport track Tetovo-Lisec and Lisec-Popova Sapka. Realization with SIKOSTART soft starters and SIMATIC control system.	1997
61	HEK JUGOHROM, Jegunovce	Dosing and batching system. "Turn-key". Two dosing and weighing systems, with eight, two component, weighing scales, fee from sixteen bunkers. Realized with SIMATIC S7-300 PLCs and special weighing modules SIWAREX M. Input of all recipes and operator interface realized with color graphical operator panel OP37, and visualization software ProTOOL.	1997



7.3. ENERGY

Item No.	Client	Project Name and Description of Works	Realization
1	SIEMENS, QATAR	Qatar Substations Projects – Phase 12. Siemens WLL Senior level engineering support for SCS [Substation control system].	2018
2	ALKALOID Skopje, Macedonia	Complete set up of a new transformer substation 10/0,4 kV to include all construction works, delivery and erection of a 10/20 kV transformer unit and relocation of existing energy transformers and cables.	2018
3	EVN Macedonia	Supply of 20 kV distribution system with a system of integrated bus bars and fixed switches.	2018
4	TITAN, Cement Factory Usje, Skopje, Macedonia	Reconstruction of 6KV medium voltage power distribution cubicles for SS3, SS4, SS5 and SS “Rudnik-drobilica 3”, type NXAIR from Siemens.	2017
5	EVN Macedonia	Design, assembling, parameterization, commissioning and putting into operation of 6 protection cabinet for power transformers 110/x/x kV in substations.	2017
6	TITAN, Cement Factory Usje, Skopje Macedonia	SICAM Integrated Substation Automation System. Design, assembly and commissioning of substation’s integrated control system for 5 substations. Integration of 77 Siprotec 4 protection relays in SICAM PAS system through copper and fibre optic Profibus DP and IEC 61850 protocol. Software interlocking done in SICAM PAS with CFC Programming - Automation function. SCADA visualization is done on SICAM SCC.	2016
7	METKA, Greece for Client in Ghana – VR Authority, Takoradi	Design, assembling and commissioning of control and protection system for 161/11,5 kV substation of the Takoradi thermal power plant in Ghana using SIPROTEC 5 relays. The substation has 2 OHTL bays and 5 transformer bays.	2016
8	SIEMENS A.E Greece Substation Bogdanci 20/110 kV – Remote Control Bogdanci Macedonia	Design, assembly and commissioning of substation’s remote control system with full functionality. Communication established through public Internet network. Remote SICAM SCC SCADA in Skopje connected to SICAM PAS system in SS Bogdanci. Remote redundant SCADA databases through VPN. IPSec through VPN is used for secure communication between SICAM PAS and remote SICAM SCC SCADA. Hardware used – Siemens Scalance firewalls and Industrial PCs. SICAM PAS and SCC software	2015
9	VEZE SHARRI – BIO GAS POWER PLANT Trebos, near Tetovo, Macedonia	Low voltage distribution panels with automatic transfer switch controller - The first renewable Bio Gas Power Plant – Elektro Sharri in Macedonia. The project includes design, assembling and putting into operation of all low voltage distribution panels, as well as automatic transfer switch controller, which ensure minimum interruption of the power supply during the failure or manually chosen of the any power sources.	2015

Item No.	Client	Project Name and Description of Works	Realization
10	EVN Macedonia	Design, assembling, parameterization, commissioning and putting into operation of 5 protection cabinets for power transformers 110/x/x kV in substations Tearce, Aerodrom, Skopje-Zapad, Kavadarci and Bitola 3 using SIPROTEC 5 protection relays from SIEMENS.	2014 2015
11	EVN Macedonia	Putting into operation of the 10kV side of transformer 2, 110/35/10kV in SS Štip 1. Redesign of the interlocking, control and measuring circuits and adjusting control and protection parameters in the substation.	2014
12	MEPSO Macedonia	Macedonia – Bulgaria power transmission project. Supply and installation of a new SCADA/EMS System for the National Dispatch Centre, Back-up Dispatch Centre and Market Management System.	2014
13	TITAN, Cement Factory Usje, Skopje	Replacement of existing 6KV medium voltage power distribution cubicle with new NXAIR MV panels from Siemens. A "Turn-key" project including installation of 18 new panels, parameterization of the SIPROTEC protection relays, commissioning and putting into operation.	2014
14	MEPSO	Relocation of 400/110 kV/kV, 300MVA power transformer with manual voltage regulation, from SS Skopje 5 to SS Skopje 4; including inspection, testing and commissioning.	2014
15	FENI Industries, Kavadarci	Installation, parameterization and commissioning of three 6kV NXAIR panels on the line for separation of the nickel ore	2014
16	MEPSO Macedonia	Relays parameterization, commissioning and putting into operation of five 110kV bays in 110/10kV substation Tetovo 2. Design and commissioning of SCADA system for the SS.	2014
17	MEPSO Macedonia	Relays parameterization, commission and putting into operation one protection cabinet in 110/10kV substation Tetovo 1.	2014
18	MEPSO Macedonia	Relays parameterization, commissioning and putting into operation of the control cabinets for two OHTLs to SS Dracevo in 400/110kV substation Skopje 4..	2014
19	FENI Industries, Kavadarci	Installation, parameterization and commissioning of two 6kV NXAIR panels on the air filter station.	2014
20	ELEM, HPP RAVEN Gostivar (through ANDRITZ Hydro GmbH, Vienna-Austria)	Rehabilitation of the 3 Units in Hydro Power Plant Raven. Assembly of the LV voltage sub distribution control cabinets and local control boards for all units. The project was designed in coordination with main contractor and supervisor for design and commissioning for this rehabilitation Andritz Hydro. Among the benefits of these actions, which considerably improve production performances of hydropower plants, is increasing of available energy production capacity of HPP Raven.	2014
21	MEPSO Macedonia	Installation of 400/110 kV/kV, 300MVA power transformer with automatic voltage regulation manufactured and delivered by SIEMENS KONCAR in SS Skopje 5. Works include full inspection, testing and commissioning.	2014

Item No.	Client	Project Name and Description of Works	Realization
22	SIEMENS A.E Greece	Turnkey project for SS Wind Park Bogdanci 20/110kV. Design, assembling, installation of control, protection and AC and DC supply cabinets for the SS; parameterization of the relays, commissioning of the substation with four 110kV and eleven 20kV bays; design of the SICAM PAS and SCC SCADA system, commissioning and FAT.	2013 2014
23	ELEM, TPP REK BITOLA - UNIT 2 (through BABCOCK BORSIG)	Modernization of the boilers in Thermal Power Plant - U2. Contract with the respectful German company "Babcock Borsig" for boilers modernization in thermal power plant "Bitola" for Unit 2 by reduction of NOx emissions. This project includes design, assembling and cabling for all regulators and measurements (temperature, air-flow, pressure measurements, Coal weight measurements, COx, NOx analyzer measurements in the boiler and also in the flue gas stack), tip grate hydraulic station, 24VDC distribution cabinet, junction boxes for signals and design for all cable traces.	2013
24	JSC Macedonian Railways - Infrastructure	Replacing of the old analogue distance protection for the contact line and transformer differential protection with new numerical SIPROTEC protection in SS Miletkovo and SS Dracevo. Calculation of the parameters, parameterization of the relays, testing and putting into operation of the relays.	2013
25	TITAN, Cement Factory Usje, Skopje	Modernization of the low voltage part of 6/0,4 kV SS4 in Usje Cement Factory. Dismantling of the old panels and delivery, installation and putting into operation of new type tested SIVACON low voltage panels.	2013
26	JSC Macedonian Railways - Infrastructure	Replacing of the old analogue distance protection for the contact line with new numerical SIPROTEC protection in SS Miladinovci and SS Zgropolci. Calculation of the line parameters, parameterization of the relays, testing and putting into operation of the relays.	2012
27	ELEM, HPP VRUTOK Gostivar. (through ANDRITZ Hydro GmbH, Vienna - Austria)	Rehabilitation of 4 units in Hydro Power Plant Vrutok. Assembly of LV voltage subdistribution control cabinets and local control boards for all Units. Project designed in coordination with main contractor and supervisor for design and commissioning of rehabilitation Andritz Hydro. Among the benefits of these actions, which considerably improve production performances of hydropower plants, is increasing of available energy production capacity of HPP Vrutok from 168 MVA to 184 MVA.	2013
28	ELEM, TPP REK BITOLA UNIT 3	Modernization of the boilers in TPP "Bitola". Contract with the respectful German company "Babcock Borsig" for modernization of the boilers in thermal power plant "Bitola" for Unit 3 by reduction of NOx emissions. This project includes design, assembling and cabling for all regulators and measurements (temperature, air-flow measurements, pressure measurements, Coal weight measurements, COx, NOx analyzer measurements in the boiler and also in the flue gas stack), tip grate hydraulic station, 24VDC distribution cabinet, junction boxes for signals and design for all cable traces.	2012

Item No.	Client	Project Name and Description of Works	Realization
29	Siemens Croatia ELEM - REK Bitola	Modernization of Block 2; Installation of electrical works, testing and commissioning. SCADA SPPA 3000 screens.	2011
30	EVN Macedonia	Replacement of 35kV cells; and numerical relays.	2011
31	Siemens Croatia ELEM – REK Bitola	Modernization of Block . Installation of electrical works, testing and commissioning SCADA SPPA 3000 screens.	2010
32	Siemens AE, Greece (for MEPSO Skopje)	LOT 4 - Substation automation of SS Petrovec, SS Skopje4, SS Tetovo1, SS Tetovo2. "Turn-key". Design, assembly and commissioning of control and protection cabinets in substations SS Petrovec, SS Skopje4, SS Tetovo1, SS Tetovo2; Parametrization of control and protection devices and local SCADA SICAM PASCC	2010
33	Siemens AE, Greece (for MEPSO Skopje)	Design, Supply and Installation of 400/110 kV S/S Stip; Design, assembly and commissioning of control and protection cabinets, cabinets for AC and DC supply. SAT of 400kV OHTL Stip. Parameterization of control and protection devices SIPROTEC (IEC 61850), localization and putting into operation of local SCADA.	2010
34	Siemens AE, Greece (for EVN Skopje) • LOT 3 •	Substation automation of SS Dracevo & Petrovec. "Turn-key" project. Design, assembly and commissioning of control and protection cabinets. Parameterization of control and protection devices and design and putting into operation of local SCADA.	2009 2010
35	Siemens AE, Greece	Modernization of control, protection and monitoring of substation Tirana1 and Elbasan1. Assembly of 86 control and protection cabinets for SS Tirana1 and Elbasan1.	2008
36	Siemens AE, Greece (for MEPSO Skopje)	Design, supply and installation of OHTL bay in 400/110 kV Dubrovo, Macedonia for MEPSO. "Turn-key". Design and assembly of control and protection cabinets.	2008
37	Makstil - Skopje (Duferco group) • Descallation •	"Turn-key". Revitalization of 3 (three) 6kV cells. Installation of 3 (three) transformers 6/0,4 kV/kV 1600 kVA, with switchboard 0,4kV. Design, parametrization and commissioning of SIPROTEC protection devices.	2008
38	FENI, Kavadarci	Installation and commissioning of protection device. "Turn-key". Realized with 5 (five) SIPROTEC devices.	2006 2007
39	FENI, Kavadarci	Testing of transformer 11/6kV, 7MVA. Turn-key Project. Installation and commissioning of protection device	2005



7.4. DATA CENTRES

Item No.	Client	Project Name and Description of Works	Realization
1	“ELEM” AD Head Office Skopje, Macedonia	Complete integrated system • DATA RECOVERY CENTER • for ELEM Head office (2 units LSR type). Turn-key project completed using RITTAL integral solution, complying with highest security protection standards; to include high resistant shell, redundant air-conditioning system and redundant power supply.	2018
2	HALKBANK Branch office Negotino Macedonia	Complete integrated system • DATA RECOVERY CENTER for HALKBANK-Skopje • Negotino branch office. Turn-key project completed using RITTAL integral solution, complying highest security protection standards; to include high resistant shell, redundant air-conditioning system and redundant power supply, using ABB UPSs.	2016
3	KDS – Kabelnet, Prilep	Modernisation of data/server room. Delivery and erection of 8 RITTAL server cabinets (type TS-IT) including all materials and equipment needed.	2016
4	Macedonian Railway – Infrastructure Trubarevo	Rittal Data Room, first of this kind in Macedonia. Telecommunication centre building. “Turn-Key” project. Design, assembly and commissioning of LER basic security room with an area of 28.4 sqm.	2013



7.5. MOBILITY

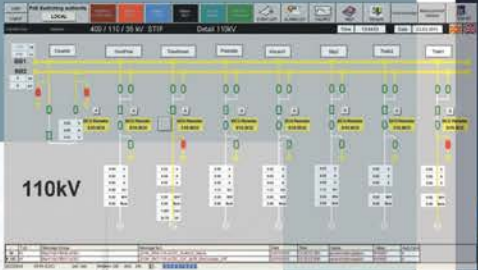
Item No.	Client	Project Name and Description of Works	Realization
1	Siemens Germany (for Ministry of Transport and Traffic, Civil Aviation Division, Macedonia)	Ohrid Airport AGL – Aeronautical Ground Lighting control. “Turn-key” project. Complete automation project design. Construction, FAT, installation, commissioning, SAT, with 4 hours response in guaranty period. Realized with SIMATIC S7-300 PLC, redundant, hot swapping I/Os, Profibus network and three WinCC control and monitoring SCADA stations.	2004

7.6. BUILDING TECHNOLOGIES SERVICES

Item No.	Client	Project Name and Description of Works	Realization
1	SIEMENS A.E Greece (for ELEM, Skopje Wind Park Bogdanci, Macedonia)	Annual maintenance of 16 units WTG's. Scope of works: 1) MV Switchgear Panel 8DJH SIEMENS type – Maintenance and testing of the functionality of SIEMENS numerical protection relay 7SJ45 (Transformer backup protection), Transformer Unit maintenance and testing of the transformers oil samples quality. 2) LV Main Circuit Breaker ABB – Maintenance (complete oiling and greasing of the mechanical parts) and testing of the functionality of LV circuit breaker.	2015 2016
2	NLB Tutunska banka, Skopje	Maintenance and service of the technical protection system.	Annually
3	Alkaloid, Skopje	Maintenance and service of the technical protection system.	Annually
4	VITAMINKA, Prilep	Servicing of visualization system at Cream Production Plant with SIMATIC S5 regulation. Carrying out of all works needed for a completely new system for visualization of cream production process. Communication established with SIMATIC S5 to include complete adjustment of previous parameters running in the system.	2013



INDUSTRY

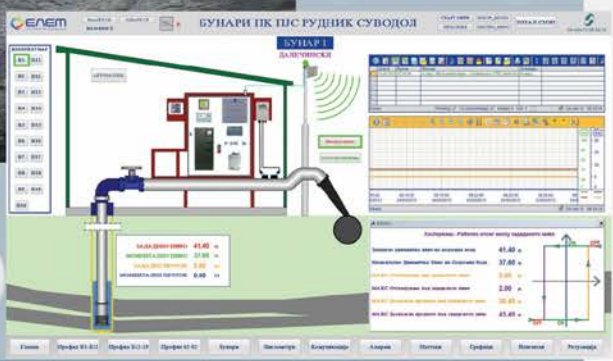


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www.siskon.com.mk
Taškentska, 4^a
1000 SKOPJE
MACEDONIA
+389 2 30 62 423
+389 2 30 61 250