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<b>Project description</b>	<b>Plant type</b>	<b>End User</b>	<b>City</b>	<b>Country</b>	<b>Controls Platforms</b>	<b>Year</b>
Design, engineering, supply, commissioning and startup of compressor antisurge and performance control systems for three new, different-make centrifugal (heat pump, reactor effluent and refrigeration) compressors	Chemical Plant	Borealis	PDH Plant, Kallo	Belgium	CC Compressor ACA Antisurge Control Applications and PCA Performance Control Applications on redundant Honeywell PKS Experion DCS C300-20 controllers	2020 2021
Control system upgrade for steam turbine driven air blower including steam turbine speed control, overspeed protection and retrofit of turbine valve actuation	Phosporic Acid Production Plant	OCP Morocco	Jorf Lasfar	Morocco	CC STCA Steam Turbine Control Application on Siemens S7-400 Woodward overspeed protection Rexa actuators and more	2020 2021
Design, engineering, supply, commissioning and startup of compressor antisurge and performance control systems for two existing 2-stage centrifugal compressors	Chemical Plant	BASF Antwerpen NV	Antwerpen	Belgium	CC Compressor ACA Antisurge Control Application and CC PCA Performance Control Applications on Siemens S7-400 redundant Siemens WinCC HMI	2020
Design, engineering, supply, commissioning and startup of control and protection system upgrade for a steam/extraction turbine driving a generator	Refinery	Shell Nederland Raffinaderij BV	Pernis	Netherlands	CC STCA Steam Turbine Control Application including CC ECA extraction control application on Honeywell PKS Experion C300-20 (redundant) Woodward Protech GII Overspeed Protection Device	2020
Commissioning and startup assistance for steam turbine generator set after overhaul	Biomass Power Plant	Bioenergy Suceava Srl	Suceava	Romania	Turbolog Turbine Controller Braun Overspeed Protection Device Woodward Automatic Voltage Regulator SPM-D10B Siemens Digureg Digital Excitation Control System Siemens Siprotec 7UM62 Generator Protection Siemens S7-400 and -300F for Auxiliary Controls Siemens TP1500 Comfort HMI	2020
Supply of new HMI PC with fast trending and archiving features for electrical motor driven 6-stage propane compressor	Chemical Plant	Q-chem - Qatar Chemical Co. Ltd.	Mesaieed	Qatar	Schneider Electric Citect HMI	2020
Control system upgrade for steam turbine driven air blower including steam turbine speed control, overspeed protection and retrofit of turbine valve actuation	Phosporic Acid Production Plant	OCP Morocco	Jorf Lasfar	Morocco	CC STCA Steam Turbine Control Application on Siemens S7-400 Woodward overspeed protection Rexa actuators and more	2019 2020

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Commissioning and startup assistance for steam turbine generator set after major overhaul	Biomass Power Plant	Triera Power Srl	Porto Maghera, Venice	Italy	Turbolog Turbine Controller Braun Overspeed Protection Device Woodward Automatic Voltage Regulator SPM-D10B Basler DECS-250 Digital Excitation Control System Siemens Siprotec 7UM62 Generator Protection Siemens S7-300 and -300F for Auxiliary Controls Siemens MP-277 HMI	2020
Commissioning support for three MAN variable speed motor driven compressors	Gas Compression Station	Sonatrach	Hassi Messaoud	Algeria	Siemens PCS7	2019 2020
Engineering study for integration on expander controls into Plant's DCS		BioMCN	Delfzijl	Netherlands	Honeywell PKS Experion C300-20	2019 2020
Unit control panel (UCP) system check and field IO check for three motor driven variable speed 2-stage compressor trains with parallel loadsharing for ADCO's Gas Compression Station CS-4	Gas Compression Station	ADCO	Bab, Habshan, Abu Dhabi	United Arab Emirates	CCC Series 5 Vanguard for antisurge, performance and loadsharing control Siemens PCS7 for compressor auxiliary control GE Bently Nevada 3500 vibration monitoring system	2020
Commissioning support for a MAN back pressure steam turbine driven barrel-type centrifugal compressor (RETPAC = Refinery Train Package)	Refinery	KNPC Kuwait National Petroleum Company	Mina Al-Ahmadi	Kuwait	CCC for compressor antisurge control CCC for steam turbine speed control Braun Overspeed Protection Schneider Electric DCS and IPS	2019 2020
Design, engineering, supply, testing (FAT, SAT), commissioning and start up of speed and extraction control systems for Baker Hughes (GE) 2-stage back pressure steam turbine for generator drive at Yara Sluiskil's utility plant	Ammonia (NH3) Plant	Yara Sluiskil BV	Sluiskil	Netherlands	CC STCA Steam Turbine Control Applications, including CC ECA Extraction Control Application plus auxiliary sequencing on redundant Rockwell Allen-Bradley ControlLogix PLC (replacing GE Fanuc speed controllers, Versamax IO controllers interface to RA hardware)	2019
Installation supervision for one SGT700 gas turbine driven compressor train	Gas Compression Station	Pluspetrol Peru Corporation SA	Malvinas	Peru	Siemens PCS7	2019 2020
Control system upgrade for four centrifugal compressors from GE-Fanuc 90-70 PLC's into ABB 800xA DCS	FPSO	Suncor	Terra Nova FPSO	Canada	CC Compressor ACA Antisurge Control Application, PCA Performance Control Application and compressor auxiliary controls on ABB AC800M	2019 2020
Design, engineering and supply of compressor antisurge and performance control application for a new electric motor driven variable speed depletion compressor	Gas Plant	OMV	Pohokura Production Station, Taranaki	New Zealand	CC Compressor ACA Antisurge Control Application and PCA Performance Control Application on Emerson DeltaV DCS, compressor surge protection on Emerson DeltaV SIS safety system	2019 2020

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Installation and commissioning of new HMI PC with fast trending and archiving features for electrical motor driven 6-stage propane compressor	Chemical Plant	Q-chem - Qatar Chemical Co. Ltd.	Mesaieed	Qatar	Schneider Electric Citect HMI	2019
Commissioning and startup assistance, including surgeline verification, for new motor driven 8-stage bullgear-type nitrogen compressor	Air Separation Plant	Linde Gas Benelux BV	IJmuiden	Netherlands	MAN Reverse Flow Protection (RFP) implemented on Siemens TIA portal Lindegas Antisurge Controller implemented in Siemens PCS7	2019
Design, engineering, programming and site implementation of dry gas seal control system upgrade for a gas turbine driven 2-stage natural gas booster compressor	Offshore platform	Total E&P	L4A Platform, North Seaa	Netherlands	Rockwell Allen-Bradley PLC5 MS-DOS based Solar HMI	2019
Commissioning support for a steam turbine driving a generator after overhaul	Power plant	Norske Skog	Skogn	Norway	Siemens S7-300/400 for steam turbine control Siemens Multipanel MP377	2019
Commissioning support for one steam turbine driven MAN axial compressor after overhaul	Chemical plant	Shell Nederland Chemie BV	Moerdijk (MSPO2)	Netherlands	CCC Series 3++ for compressor antisurge and performance control CCC Series 3++ for steam turbine speed control	2019
Commissioning support for three electric motor driven MAN compressors after overhaul (one 3-stage gear air compressor, one single stage booster compressor, one 5-stage barrel-type propylene/propane compressor)	Chemical plant	LyondellBasell	Maasvlakte Rotterdam	Netherlands	CCC Prodigy for compressor controls ABB TZIDC-200 Digital Positioners Parker Pneumatic Positioner Cylinders	2019
Design, engineering, procurement, construction and management and training services for replacement and upgrading of vibration and surge protection systems for two electric motor driven synthesis gas recycle compressors and one expander driving a generator, including field transmitter shared tapping point separation for control and trip purposes for MPS Rejuvenation Project Phase 2	Synthesis Plant (Heavy Paraffin)	Shell MDS (Malaysia) Sdn Bhd	Bintulu	Malaysia	Bently Nevada 3500 and System 1 vibration monitoring (replacing and upgrading Bently Nevada 3300) ABB Protronic PS to Protrenic 700 migration Yokogawa Centum DCS (updating for new protection systems monitoring and A&E recording) Honeywell IPS (updating for new protection systems integration (BN 2004))	2019
Control system commissioning support for three electric motor driven compressors	FPSO	Maersk	Inspirer FPSO	Norway	Siemens S7-400, Win CC 7.4 Bently Nevada 3500 vibration monitoring	2019
Design, engineering and supply of a unit control panel for a new CO2 compressor	Chemical Plant	TCE Tata Chemicals Europe	Lostock, Northwich	United Kingdom	CC Compressor ACA Antisurge Control Application and PCA Performance Control Application on Siemens S7-300 PLC GE Bently Nevada 3500 vibration monitoring	2018 2019

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Control system commissioning for two electric motor driven variable speed radial (barrel type) compressors	Offshore platform	Lukoil Nizhnevolzhskneft	Korchagin Platform	Russia	Siemens S7 PLC for compressor controls GE Bently Nevada 3500 vibration monitoring system	2019
Annual maintenance and re-commissioning of steam turbine generator control and protection systems after (major) overhauls	Waste Incineration Plant	Indaver	Antwerp	Belgium	Siemens S7-300 Woodward 2301D steam turbine speed control Jacquet overspeed protection switches	2016 2017 2018 2019
Control system commissioning and startup for two electric motor driven 2-stage compressors and two gas turbine driven 1-stage compressors	Offshore platform	Total	Culzean Platform, North Sea	United Kingdom	Siemens PCS7 Bently Nevada 3500 vibration monitoring	2019
Project management, design, engineering, supply, commissioning and startup of control system for one motor driven one-stage reinjection compressor and one motor driven three-stage re-compressor	Offshore platform	Equinor (Statoil)	Gina Krog Platform	Norway	CC Compressor ACA Antisurge Control Application on Rockwell Allen-Bradley ControlLogix, HMI for antisurge control on Emerson DeltaV DCS	2015 2016 2017 2018 2019
Consultancy, design, engineering, procurement support during define and execute phases and site supervision, commissioning and startup during plant turnaround for replacement of various control and protection systems and instrumentation for five steam turbine compressor trains	Olefins Plant	Shell Nederland Chemie BV	Moerdijk (MLO)	Netherlands	Woodward 5009 FT steam turbine speed control Woodward Protech GII overspeed protection Voith 2oo3 trip block and I/H actuators	2017 2018 2019
Commissioning support for a Mitsubishi steam turbine driving a generator after overhaul	Power plant	Fjernvarme Fyn Affaldsenergi Power Station	Odense	Denmark	Mitsubishi Q series PLC for steam turbine control and protection Windows based HMI	2019
Commissioning of (antisurge) control and protection systems for 2 hydrogen recycle compressors after mechanical overhaul	Refinery	ENI	Sannazzaro, Ferrera Erbognone (PV)	Italy	Schneider Modicon Quantum PLC GE Bently Nevada 3500 vibration monitoring	2018 2019
Long term service agreement (LTSA) support for control and protection systems on critical rotating equipment, including multiple flash gas compressors, sales gas compressors, expander compressor trains, combustion air compressors, and steam turbines	Oil and Gas Treatment Plant	NCOC North Caspian Operating Company	Karabatan (Atyrau)	Kazakhstan	CCC Series 3+ compressor antisurge controllers CCC Series 5 compressor antisurge and loadsharing control CCC Traintools GE Fanuc 90-70 PLC Proficy and Cimplicity HMI GE Bently Nevada vibration monitoring systems	2018 2019
Control system commissioning and startup for three SGT400 gas turbine driven compressor trains	Gas Compression Station	ENI Ghana Exploration & Production Ltd	Sanzule, OCTP Onshore Receiving Facility	Ghana	Siemens PCS7 Bently Nevada 3500 vibration monitoring	2018 2019

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Design, engineering, supply, commissioning and startup of control and protection system upgrade for a 3MW steam turbine driving a generator	PTA Plant	BP Chembel NV	PTA2 Plant, Geel	Belgium	CC STCA Steam Turbine Control Applications on redundant Honeywell PKS Experion DCS C300-20 controllers (replacing Tri-Sen 310, Siemens S5 Honeywell HPM)	2019
Long term service agreement (LTSA) support for control and protection systems on critical rotating equipment, including multiple flash gas compressors, and raw gas injection compressors	Offshore platform	NCOC North Caspian Operating Company	D-Island	Kazakhstan	CCC Series 5 compressor antisurge and loadsharing control CCC Traintools GE Bently Nevada vibration monitoring systems	2018
Design, engineering, supply, FAT, commissioning and startup for control and protection system and steam valve actuation system upgrade for three steam turbine multistage compressor trains (one air compressor, one synthesis gas compressor and one ammonia compressor)	Ammonia (NH3) Plant	Yara Tertre SA/NV	Tertre	Belgium	CC Compressor ACA Antisurge Control Applications, PCA Performance Control Applications, STCA Steam Turbine Control Applications, ECA Extraction Control Application on redundant Honeywell PKS Experion DCS C300-20 controllers (replacing CCC Series 3+ speed controllers, CCS RA antisurge controllers, basic DCS antisurge control and Woodward PGPL mechanical speed governors) Voith steam valve actuation systems	2018
Control system commissioning and startup for three SGT400 gas turbine driven 2-stage compressor trains	Gas Compression Station	BANAGAS Bahrain National Gas Company	CGP3 Central Gas Plant 3, Awali	Bahrain	Siemens PCS7 Bently Nevada 3500 vibration monitoring	2018
FEED study (Front End Engineering Design) for replacement of control and protection systems for one steam turbine cracked gas compressor train, one motor driven ethylene compressor, one motor driven propylene compressor and one expander of different brands, and for 7 reciprocating compressors	Ethylene Plant	Noretyl AS (part of Ineos Group)	Stathelle	Norway	Woodward Micronet for steam turbine control and compressor (antisurge) control Siemens Protronic for compressor antisurge control Bently Nevada 3500 vibration monitoring Hoerbiger RecipCom for compressor monitoring	2018
Troubleshooting and tuning of antisurge control system and antisurge valve for 2 electrical motor driven (MP and HP) recompressor trains and 2 injection compressors	FPSO	Tullow Oil (Modec)	Prof. John Evans Atta Mills FPSO	Ghana	Rockwell Allen-Bradley ControlLogix	2018
Installation, commissioning and startup of instrumentation, electrical and control systems of 20 MW steam turbine (generator drive) after (major) overhauls	Paper Mill	DS Smith De Hoop	Eerbeek	Netherlands	ABB	2016 2017 2018

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Commissioning and startup of one 32MW steam turbine generator set. Operator training. SAT procedures.	Power Plant	NCOC North Caspian Operating Company	Karabatan (Atyrau)	Kazakhstan	GE Fanuc 90-70 PLC Proficy and Cimplicity HMI	2017 2018
Control system upgrade for steam turbine driven air blower including steam turbine speed control, overspeed protection and retrofit of turbine valve actuation	Phosporic Acid Production Plant	OCP Morocco	Jorf Lasfar	Morocco	CC STCA Steam Turbine Control Application on Siemens S7-400 Woodward overspeed protection Rexa actuators and more	2017 2018
Troubleshooting and maintenance activities on steam turbine control and protection systems in power generation application	Power Plant	Energia de la Loma	Villanueva del Arzobispo	Spain	Rockwell Allen-Bradley PLC5 Woodward 505 steam turbine speed control	2015 2016 2018
Troubleshooting and maintenance activities on steam turbine control and protection systems in power generation application	Power Plant	Energia de la Mancha	Vallarta de San Juan	Spain	Rockwell Allen-Bradley PLC5 Woodward 505 steam turbine speed control	2013 2014 2015 2016 2017 2018
Control system commissioning for 2 electrical motor driven flash gas compressor trains	Offshore platform	BP Exploration (Shah Deniz) Ltd.	SD Platform	Azerbaijan	CCC Series 5 Vanguard for antisurge, performance and loadsharing control Siemens PCS7 for compressor auxiliary control Bently Nevada 3500 vibration monitoring system	2018
Basic Design and Engineering Package (BDEP) for replacement and upgrading of control and protection systems for two electric motor driven synthesis gas recycle compressors and one expander driving a generator for MPS Rejuvenation Project Phase 2	Synthesis Plant (Heavy Paraffin)	Shell MDS (Malaysia) Sdn Bhd	Bintulu	Malaysia	Bently Nevada 3500 and system 1 vibration monitoring (replacing Bently Nevada 3300) Shell CASC Compressor AntiSurge Control on Yokogawa Centum DCS Shell CASC Compressor Anti Surge Control trip in ABB Protronic PS and Honeywell IPS	2017 2018
Performance and surge testing for three compressor stations, each with three motor driven variable speed 2-stage compressors with parallel loadsharing	Gas Compression Station	ADCO	Bab, Habshan, Abu Dhabi	United Arab Emirates	CCC Series 5 Vanguard for antisurge, performance and loadsharing control Siemens PCS7 for compressor auxiliary control GE Bently Nevada 3500 vibration monitoring system	2017 2018
Control system commissioning for 2 electrical motor driven flash gas compressor trains	Onshore facility	BP Exploration (Shah Deniz) Ltd.	Baku	Azerbaijan	CCC Series 5 Vanguard for antisurge, performance and loadsharing control Siemens PCS7 for compressor auxiliary control Bently Nevada 3500 vibration monitoring system	2017 2018

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Study (site survey and report) to determine the requirements to successfully complete commissioning and startup of 5 off new 1.85MW Opra Gas Turbine Generator sets, type 1A-OP-16-3A	Offshore platform	PT. Pertamina EP	X-Ray Platform, North-Java	Indonesia	Siemens S7 Wonderware HMI	2017 2018
BDEP basic design engineering package (select and define study) for replacement of control and protection systems for multiple steam turbines, expanders and compressors	PTA Plant	BP Chembel NV	PTA3 Plant, Geel	Belgium	CCC Series 4 Honeywell GUS and more	2018
BDEP basic design engineering package (select and define study), incl project budget, for replacement of control and protection systems for a 3MW steam turbine driving a generator	PTA Plant	BP Chembel NV	PTA2 Plant, Geel	Belgium	Tri-Sen 310 Siemens S5 Honeywell HPM Bently Nevada vibration monitoring	2018
Desig, engineering, supply, commissioning and startup of control and protection system upgrade for a steam turbine driving a generator	Refinery	Shell Nederland Raffinaderij BV	Pernis	Netherlands	CC STCA Steam Turbine Control Application on Honeywell PKS Experion C300-20 (redundant) Woodward Overspeed Protection Device	2017 2018
Control system solution for two instrument air compressors including air driers	Olefins Plant	Adgas (Adnoc)	DAS Island	United Arab Emirates	CC Compressor ACA Antisurge Control Application and PCA Performance Control Application including air dryer logic application on Honeywell C300 DCS platform	2017 2018
Design, engineering, supply and testing (IAT and FAT) of control system for two parallel expander re-compressor trains, including compressor antisurge control, performance control, expander control and loadsharing control	C2 Recovery and Fractionation Plant	Kangan Petro Refining Co.	Kangan	Iran	CC Compressor ACA Antisurge Control Application, PCA Performance Control Application and SCA Station Control Application SCA, and PCA for expander control on Siemens S7-400H with Proface ProServer EX HMI	2017 2018
Control system commissioning and startup of two motor driven booster compressors and two motor driven export compressors in both Singapore and UK North Sea	FPSO	BW Offshore	Catcher FPSO	United Kingdom	Siemens PCS7 for compressor controls Bently Nevada 3500 vibration monitoring system	2017 2018
Troubleshooting on a fuel metering valve of a Rolls-Royce RB211-24GT gas turbine	Power Plant	PT. Dalle Energy Batam	Batam, Riau Island	Indonesia	NA	2017
Control system commissioning and startup for four SGT600 gas turbine driven compressor trains	Gas Compression Station	Sonatrach	Hassi R'Mel	Algeria	Siemens PCS7	2017
Control and protection system pre-commissioning assistance for one electric motor driven 2-stage tail gas compressor	Refinery	RIL Reliance Industries Ltd	Jamnagar, Gujarat	India	Triconex CCC	2017

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Control and vibration monitoring system troubleshooting for three motor driven variable speed 2-stage compressors with parallel loadsharing for the Habgas Project	Gas Compression Station	ADCO	Habshan, Abu Dhabi	United Arab Emirates	Siemens PCS7 GE Bently Nevada 3500 vibration monitoring system	2017
Control and protection system commissioning and startup of one steam turbine, driving a fan	Refinery	NSRP Nghi Son Refinery and Petrochemical LLC	Nghi Son, Thanh Hoa	Vietnam	Woodward Peak 150 steam turbine control Woodward Protech GII overspeed protection	2017
Control panel design, engineering, supply and testing (IAT and FAT) for four Dresser-Rand steam turbines driving Flowserve boiler feedwater pumps and Boldrocchi fans	Fertilizer Plant	PT. PAU Panca Amara Utama	Banggai Ammonia Plant, Luwuk, Sulawesi	Indonesia	Woodward Peak 150 steam turbine control Woodward Protech TPS overspeed protection	2017
Control and protection system commissioning assistance for one steam turbine driven propylene refrigeration compressor	Refinery	RIL Reliance Industries Ltd	Jamnagar, Gujarat	India	Woodward 5009 FT steam turbine control Woodward Protech TPS overspeed protection Woodward Micronet Triconex CCC	2017
Control and protection system commissioning and startup of one steam turbine, driving a compressor	Copper Smelting Plant	Eti Bakir Samsun AS	Samsun	Turkey	Woodward 505 XT steam turbine control Woodward Protech GII overspeed protection Bently Nevada 3500 vibration monitoring	2017
Commissioning and startup assistance for steam turbine generator set after overhaul	Incinerator Plant	Wien Energy	Vienna	Austria	Turbolog ETS-301/2/4 for overspeed protection and speed control	2017
Site survey for control replacement for Caterpillar gas engine driving a generator	Offshore platform	Chevron Indonesia Company	Attaka Platform, East Borneo	Indonesia	Woodward 828 gas engine controller Woodward 723 gas engine controller	2017
Control and protection system commissioning and startup of six steam turbines, driving water pumps	Refinery	NSRP Nghi Son Refinery and Petrochemical LLC	Nghi Son, Thanh Hoa	Vietnam	Woodward Peak 150 steam turbine control Woodward Protech GII overspeed protection	2016 2017
Control system commissioning and startup of power recovery train (steam turbine, expander) for FCCU	Refinery	RIL Reliance Industries Ltd	Jamnagar, Gujarat	India	Surge detection in Rockwell Allen-Bradley ControlLogix Braun TUR-safe E16E368 TMR overspeed protection system for expander and steam turbine Bently Nevada 3500 vibration monitoring system	2016 2017
Control system commissioning and startup of motor driven booster air compressor for air separation application	Steel Plant	BSL Bhushan Steel Ltd	Meramandali, Orissa	India	Antisurge control in Siemens S7-400 Bently Nevada 3500 vibration monitoring system	2016 2017



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Design, engineering, supply and commissioning and startup of control systems for one air compressor, one NOx compressor, including compressor and expander efficiency calculations, performance deviation and monitoring and transmitter replacement	Nitric Acid Plant	Yara Norge AS	SS1Q Plant, Porsgrunn	Norway	CC Compressor ACA Antisurge Control Applications on redundant Rockwell Allen-Bradley ControlLogix PLC, control cabinet, operator/engineering station with Iconics HMI software, transmitters and galvanic converters	2016 2017
FEED front end engineering design study - incl project budget, RFQ documents and vendor selection - for an instrumentation and controls retrofit - incl turbine inlet valve actuation modernization - of a steam turbine driving a hydrogen recycle gas compressor	Hydrocracker	Zeeland Refinery NV	Vlissingen	Netherlands	Third party buyouts (Woodward, Rexa)	2017
Control system upgrade for three steam turbines driving compressors.	Ammonia (NH3) Plant	Borealis Chimie SAS	Usine de Grandpuits, Mormants	France	Woodward 505 steam turbine control Woodward Protech TPS overspeed protection Voith 2oo3 trip block and convertors	2017
Design, engineering, supply and commissioning and startup of control systems for one air compressor, one NOx compressor, including compressor efficiency calculations, performance deviation and monitoring and back-flow detectors	Nitric Acid Plant	Yara Sluiskil BV	NA6 Plant, Sluiskil	Netherlands	CC Compressor ACA Antisurge Control Applications and STCA Steam Turbine Control Application on redundant Rockwell Allen-Bradley ControlLogix PLC, control cabinet, operator/engineering station with Iconics HMI software and galvanic converters	2017
Compressor control system upgrade for two instrument air compressors in parallel	Power Plant	Veolia Kilpilahti Power Plant	Porvoo	Finland	CC Compressor ACA Antisurge Control Application and SCA Station Control Application (load balancing, load sharing) on Valmet DNA platform	2017
Control system upgrade for one motor driven air compressor (C101), including antisurge control	Ammonia (NH3) Plant	Yara France SA	Le Havre	France	CC Compressor ACA Antisurge Control Application on Emerson DeltaV DCS	2017
Control system ACA software upgrade for 3 process stage ammonia and 4 process stage synthesis gas compressor	Ammonia (NH3) Plant	Yara France SA	Le Havre	France	CC Compressor ACA Antisurge Control Application on Emerson DeltaV DCS. Existing antisurge applications for ammonia and syngas compressors have been upgraded to same revision level as for the Air Compressor	2017
Retrofit of compressor control system including engineering design, programming and installation of new control system, for three compressors operating in parallel.	Gas Compression Station	Sonatrach	Rhourde Nouss	Algeria	CC Compressor ACA Antisurge Control Application, PCA Performance Control Application en SCA Station Control Application on ABB AC800M	2017

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Consultancy services and engineering support during the select phase for the upgrade of control and protection systems for two steam turbines driving generators	Refinery	Shell Nederland Raffinaderij BV	Pernis	Netherlands	Woodward 509 steam turbine speed control Jacquet FT200 overspeed protection	2017
Control system upgrade for four steam turbines and various single and multistage compressors, including compressor antisurge control and steam turbine speed control	Olefins Plant	Borealis Polymers Oy	Porvoo	Finland	CC Compressor ACA Antisurge Control Application and CC STCA Steam Turbine Control Application on Valmet DNA DCS	2016 2017
Control system upgrade for one motor driven propylene heat pump compressor (GB12901), including antisurge control and performance control, for Polypropylene Expansion Project	Olefins Plant	Borealis Polymers Oy	Porvoo	Finland	CC Compressor ACA Antisurge Control Application and two CC Compressor PCA Performance Control Application on Valmet DNA DCS	2017
Compressor control system expansion for compressor temperature (quench) control integrated with antisurge control applications	Olefins Plant	Borealis Polymers Oy	Porvoo	Finland	Five CC Compressor PCA Performance Control Applications on Valmet DNA DCS.	2017
Commissioning of Escher Triethylene Glycol (TEG) Regeneration Package for gas dehydration	Offshore platform	Engie E&P UK Ltd	Cygnus Alpha Platform, North Sea	United Kingdom	Miscellaneous controls and instrumentation	2016
Design, engineering, supply, commissioning and startup of control system with Antisurge Control Application (ACA) for three steam turbine driven 3-stage air compressors. The project also includes expander and compressor efficiency calculation and monitoring, transmitter replacement, and delivery of back-flow detectors.	Nitric Acid Plant	Yara Colombia SA	NAN1, NA2 and NAN3 Plants, Cartagena	Colombia	CC Compressor ACA Antisurge Control Application and expander control on Rockwell Allen-Bradley ControlLogix including control cabinet, redundant Allen Bradley – ControlLogix PLC, back-flow detector, galvanic converters, transmitters, engineering/operator station (Iconics HMI)	2015 2016
Troubleshooting on two Solar Centaur 40 gas turbine driven 2-stage compressor trains and one Solar gas turbine generator set	Offshore platform	Engie E&P Nederland BV	K12B Platform, North Sea	Netherlands	Rockwell Allen-Bradley PLC5 for compressor trains Rockwell Allen-Bradley ControlLogix for generator set Rockwell Allen-Bradley 6180P-12 and Versaview 1200P Integrated Display Computers	2016
Troubleshooting assistance on 4-stage bull gear main air compressor	Air Separation Plant	AGA Gas	Sandsvik	Sweden	Siemens PCS7 Bently Nevada 3500 vibration monitoring system	2016
Stratup support for 2 hydrogen recycle compressors after plant turnaround	Refinery	ENI	Sannazzaro, Ferrera Erbognone (PV)	Italy	Schneider Modicon Quantum PLC GE Bently Nevada 3500 vibration monitoring	2015 2016

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Control system commissioning assistance for motor driven compressors	Offshore platform	Lundin	Edvard Grieg Platform	Norway	Siemens PCS7	2015 2016
Control system commissioning and startup for three SGT600 gas turbine driven pipeline compressors	Gas Compression Station	Botas	Eskisehir	Turkey	Siemens PCS7	2015 2016
Control and protection system commissioning and startup of two (of six) steam turbines, driving pumps and compressors	Chemical Plant	Saudi Elastomers (Kemya)	Al-Jubail	Saudi Arabia	Trisen TS310SV steam turbine control Trisen Turbosentry overspeed protection Siemens S7-200	2015 2016
Control system commissioning and startup of 2 motor driven compressors	FPSO	Total	OML 58	Nigeria	Rockwell Allen-Bradley ControlLogix Hima HiMatrix PLC for trip logic	2015
Commissioning and startup assistance for three motor driven variable speed 2-stage compressors with parallel loadsharing for the Habgas Project	Gas Compression Station	ADCO	Habshan, Abu Dhabi	United Arab Emirates	Siemens PCS7 GE Bently Nevada 3500 vibration monitoring system	2015
Design, engineering, procurement, construction and management for replacement of various control systems, machine monitoring and protection systems and other systems and instrumentation for two steam turbine compressor trains, one steam turbine generator and one steam turbine water pump	Synthesis Plant	Shell MDS (Malaysia) Sdn Bhd	Bintulu	Malaysia	Woodward Micronet Plus (redundant) Yokogawa Centum DCS, Honeywell IPS Bently Nevada System 1 Bently Nevada 3500 Woodward 505E steam turbine speed control Woodward Protech overspeed protection Woodward Protech GII overspeed protection, PGPL Mechanic Actuator, Voith 2oo3 Trip Block	2013 2014 2015
Control system commissioning assistance on three gas turbine driven three-stage gas injection compressors	FPSO	SBM Offshore	N'Goma FPSO (former Xicomba FPSO)	Angola	Siemens PCS7	2014 2015
Control system commissioning and startup of eight motor driven variable speed multistage compressor trains, including antisurge and performance and loadsharing control for QCLNG Project	LNG Plant	QGC Queensland Gas Company	Bellevue -Jordan - Ruby Jo - Woleebee Creek, Queensland	Australia	Rockwell Allen-Bradley ControlLogix with FactoryTalk HMI GE Bently Nevada 3500 vibration monitoring system	2013 2014 2015
Control system commissioning assistance on gas turbine for GLNG Project		Santos		Australia		2015
Troubleshooting of HVAC control system	Offshore Power Conversion Platform for Wind Turbine Farm	TenneT	Helwin B Platform	Germany	Siemens S7-400	2014 2015

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<b>Project description</b>	<b>Plant type</b>	<b>End User</b>	<b>City</b>	<b>Country</b>	<b>Controls Platforms</b>	<b>Year</b>
Control system upgrade for 2 motor driven air compressors, including antisurge control, performance control and loadsharing control	Olefins Plant	Borealis Polymers Oy	Porvoo	Finland	CC Compressor ACA Antisurge Control Application, CC Compressor PCA Performance Control Application, CC Compressor SCA Loadsharing Station Control Application on Valmet DNA DCS	2014 2015
Control system commissioning and startup of 3-stage gas lift compressor	Offshore platform	Taqqa	Tern Platform	United Kingdom	Converteam Gem80 PLC CCC Antisurge Controllers	2015
Installation, commissioning and startup supervision for steam turbine speed control and overspeed protection systems and instrumentation	Fertilizer Plant	Yara Italia SpA	Ferrara	Italy	CCC Vantage GP speed control CCC Guardian overspeed protection	2015
Control system commissioning and startup of compressor train for Luhyclo Project	Chemical Plant	BASF	Ludwigshafen	Germany	Siemens PCS7 Bruehl & Kjaer vibration monitoring system	2015
Upgraded control system commissioning and surgetesting for 2 compressor trains	Gas Plant	Santos	Tirrawarra Gas Satellite	Australia	Rockwell Allen-Bradley ControlLogix Indusoft HMI	2014
Control system logic updates of steam turbine I/H system for conversion from non-redundant to redundant configuration, including engineering, testing and commissioning	Chemical Plant, Methanol	PCML Petronas Chemicals Methanol Labuan Sdn Bhd	Labuan	Malaysia	CCC Series 5 Woodward CPC-II	2014
Control system precommissioning of 2 motor driven gas compressors	FPSO	Teekay Corporation	Petrojarl Knarr FPSO	Norway	Siemens S7, Indusoft HMI	2013 2014
Control system commissioning and startup of an electrical motor driven multistage refrigeration compressor train	Steel Plant	JSPL Jindal Steel and Power Limited	Angul	India	Siemens PCS7 Bently Nevada 3500 vibration monitoring	2013 2014
Commissioning of an Air MAN Train consisting of a steam turbine driving a main air compressor and a booster air compressor for Huinengair project	Air Separation Plant	Air Liquide at Huineng Coal Chemical Industry	Nalin Taohai (Ordos), Inner Mongolia	China	Siemens PCS7 based on S7-400 with ET200 Failsafe module Bently Nevada 3500 vibration monitoring Brown Overspeed Protection Tricon Triconex TMR ITCC System	2014
Control system commissioning and startup of 2 gas turbine driven compressor trains	Offshore platform	Maersk Olie og Gas A/s	Tyra East Platform	United Kingdom	Siemens S7 (SCAUT) Bently Nevada 3500	2013 2014
Control system commissioning and startup of two SGT700 gas turbine driven compressor trains, including process control	Gas Compression Station	Pluspetrol Peru Corporation SA	Malvinas	Peru	Siemens PCS7	2013 2014

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<b>Project description</b>	<b>Plant type</b>	<b>End User</b>	<b>City</b>	<b>Country</b>	<b>Controls Platforms</b>	<b>Year</b>
Control system commissioning assistance for a steam turbine driven main air compressor and a booster air compressor train for Erdosair Project	Air Separation Plant	Air Liquide at ...	Baotau, Inner Mongolia	China	Siemens PCS7 based on S7-400 with ET200 Failsafe module Bentley Nevada 3500 vibration monitoring Brown Overspeed Protection Tricon Triconex TMR ITCC System	2014
Design, engineering, supply, FAT, commissioning and start up of antisurge control and process control system for compressor R4-351	Refinery	PPM Petronas Penapisan Melaka	Melaka	Malaysia	Honeywell C300 controller hardware/software	2014
Upgrade of steam turbine speed control, extraction control and HMI control system for steam turbine (Q-32002)	Nitric Acid Plant	Yara Norge AS	SS3 Plant, Porsgrunn	Norway	CC Steam Turbine Control Application STCA (speed and extraction control) on Rockwell Allen-Bradley ControlLogix	2014
Design, engineering, supply, FAT, commissioning and start up of three Control Systems of GPA units, operating at Booster Compressor Station Khauzak	Booster Compressor station	Lukoil Uzbekistan Operating Company	Khauzak	Uzbekistan	Rockwell Allen-Bradley ControlLogix	2013 2014
Control system commissioning for 4 electrical motor driven (flash gas and export) compressors	Offshore platform	AIOC - Azerbaijan International Operating Company (BP)	Baku	Azerbaijan	Siemens PCS7 Bentley Nevada 3500	2013
Control system commissioning of 2 electrical motor compressor trains	Gas Compression Station	National Grid	St Fergus	United Kingdom	Siemens S7 WinCC	2013
Commissioning of control system for a MOPICO (Motor Pipeline Compressor) train	Gas Compression Station	GRTGaz	Cuvilly	France	Siemens PCS7	2013
Compressor antisurge control system troubleshooting of electrical motor driven booster compressor	Gas Plant	PDO Petroleum Development Oman	Shuaiba	Oman	Siemens S7 (SCAUT) Bentley Nevada 3500 vibration monitoring system	2013
Commissioning of (antisurge) control and protection systems for 2 hydrogen recycle compressors	Refinery	ENI	Sannazzaro, Ferrera Erbognone (PV)	Italy	Schneider Modicon Quantum PLC GE Bentley Nevada 3500 vibration monitoring	2013
Control system commissioning and startup of 2 electrical motor driven refrigeration (hydrochloride and propylene) compressor trains	Chemical Plant	Samsung Fine Chemicals Corporation	Ulsan	South Korea	Siemens PCS7 Bentley Nevada 3500	2013
Commissioning and startup of three LM2500 dual fuel DLE gas turbine generator packages	FPSO	BP	Skarv FPSO	Norway	Woodward Micronet Plus	2013
Commissioning of motor driven gas compressors	FPSO	BP	Skarv FPSO	Norway	Kongsberg Simrad DCS for compressor controls (CCC for compressor antisurge controls)	2013

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Project management, design, engineering, supply, commissioning and startup of control system retrofit for a motor driven 2-stage wet gas compressor	Refinery	Petrotel Lukoil	Ploiesti	Romania	CCS compressor antisurge and performance control (SPC Surge Prevention Control) on Emerson DeltaV DCS	2012 2013
Commissioning of an HOFIM (high speed oil free integrated motor) compressor for the Hole House Gas Storage Project	Underground Gas Storage	EDF Trading Gas Storage Limited	Warrington, Cheshire	United Kingdom	Siemens S7-400 Failsafe WinCC	2012 2013
Site supervision for replacement of steam turbine governor	Fertilizer Plant	Fatima Fertilizer Company Ltd	Sadiqabad	Pakistan	Woodward 505 steam turbine speed control Woodward Protech Overspeed Protection Voith I/H	2013
Troubleshooting of control system communication and interfaces for 3 MOPICO (Motor Pipeline Compressor) trains	Gas Compression Station	GRTGaz	Chazelles (Charente)	France	Siemens PCS7	2013
Commissioning and start-up of 3 LM2500+ gas turbine generator sets	FPSO	BP Angola	PVSM FPSO	Singapore	Woodward Micronet Plus Bently Nevada 3500 Envision HMI	2011 2012 2013
On site implementation and testing of control software sequence changes for LM6000 DLE gas turbine generator set	Power Plant	NeoElectra	Rouen	France	Woodward Micronet	2013
Design, engineering, supply, FAT of antisurge control system for syngas compressor (start up to be scheduled)	Ammonia Plant	LIFECO	Marsa El Brega	Libya	Rockwell Allen-Bradley ControlLogix	2013
Control system design, engineering and delivery for seventeen off 3-axis 25MW ZM DG80L3 gas turbine generator systems	Power Plant	Various	Various	China	Siemens S7-400 WinCC	2010 2011 2012 2013
Design, engineering, supply, FAT, commissioning and start up of the antisurge and process control system for air compressor C1161	Olefins Plant	Karpatnaftochim	Kalush	Ukraine	Yokogawa STARDOM	2013
Project management, design, engineering, supply, commissioning and startup of control system retrofit for steam turbine driven hydrogen compressor, including control oil system and mechanical speed monitoring package	Refinery	Petrom (OMV)	Ploiesti	Romania	Compressor antisurge and performance control and steam turbine speed control on Rockwell Allen-Bradley ControlLogix, Woodward Protech GII overspeed protection	2012
Reliability run for 2 GE LM6000 gas turbine generator sets	Power Plant	Contrada Tamarete snc	Ortona (CH)	Italy	Woodward Micronet Plus	2012

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<b>Project description</b>	<b>Plant type</b>	<b>End User</b>	<b>City</b>	<b>Country</b>	<b>Controls Platforms</b>	<b>Year</b>
Control system troubleshooting of 3 LM2500 gas turbine generator sets	Offshore platform	Gazprom	Prirazlomnaya Platform	Russia	Atlas Fuel Control Siemens PCS7 Sequencer	2012
Troubleshooting and tuning of antisurge control system for electrical motor driven 6-stage propane compressor	Chemical Plant	Q-chem - Qatar Chemical Co. Ltd.	Mesaieed	Qatar	Schneider Modicon Quantum PLC	2012
Troubleshooting of antisurge control system	Offshore platform	Maersk	Dan F Platform	Denmark	GE Fanuc	2012
Commissioning and startup for three different compressor stations, each with three motor driven variable speed 2-stage compressors with parallel loadsharing for the Babgas Compression Project	Gas Compression Station	ADCO	Bab, Habshan, Abu Dhabi	United Arab Emirates	Siemens PCS7 GE Bently Nevada 3500 vibration monitoring system	2012
Commissioning of 2 Solar gas turbine driven Datum D-08 compressors	FPSO	Teekay Petrojarl Production AS	Voyageur Spirit FPSO	United Kingdom	Rockwell Allen-Bradley ControlLogix	2012
Site supervision for commissioning and startup of 2 GE TM2500+ gas turbine generator packages	Power Plant	Sonelgaz	Tindouf	Algeria	Woodward Micronet Plus	2012
Site supervision for commissioning and startup of 2 GE TM2500+ gas turbine generator packages	Power Plant	Sonelgaz	Béni Abbès	Algeria	Woodward Micronet Plus	2012
Site supervision for commissioning and startup of 2 GE TM2500+ gas turbine generator packages	Power Plant	Sonelgaz	Tammanrasset	Algeria	Woodward Micronet Plus	2012
Control system panel design, engineering and installation of 2 PGT16 (LM1600) gas turbines driving compressors	Offshore platform	Centrica Production Nederland BV	J6A Platform	Netherlands	Woodward Micronet Plus	2012
Engineering assistance and site implementation of software changes to antisurge control system for 3-stage compressor	Offshore platform	Hess	South Arne Platform	Denmark	Rockwell Allen-Bradley PLC5	2011
Control system commissioning for 2 parallel trains of 3 combustion air blowers, including antisurge control, parallel loadsharing control and vibration monitoring.	Refinery Sulphur Recovery Plant	Agip KCO	Karabatan (Eskene West)	Kazakhstan	CCC Series 5 Vanguard Bently Nevada 3500 Bently Nevada System 1 Separate Inlet Filter Pulse Cycle Controllers	2011 2012
Precommissioning of a steam turbine driven compressor train with 2 compressors and a motor driven compressor train with 1 compressor	Refinery	Pemex	Coatzacoalcos, Veracruz	Mexico	Triconex Trident Steam Turbine and Compressor Controls	2012

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Commissioning and startup of an antisurge control system for an axial air compressor.	Nitric Acid Plant	Yara Suomi Oy	Uusikaupunki	Finland	Compressor antisurge control on Rockwell Allen-Bradley ControlLogix with Iconics Genesis 32 HMI	2012
Commissioning of 2 LM2500 Gas Compressor Packages.	FPSO	Petrobras - Petroleo Brasileiras	Baleia Azul (Cidade de Anchieta) FPSO, Keppel Shipyard	Singapore	Woodward Micronet Plus	2012
Commissioning of 2 HOFIM (high speed oil free integrated motor) compressors in parallel and serial loadsharing	Underground Gas Storage	Électricité de France, Crystal Gas Plant	Etzel	Germany	Siemens S7-400 Failsafe WinCC	2012
Commissioning and startup of 2 lift gas, 2 export gas and 2 flash gas compressor trains for CWLH Redevelopment Project.	FPSO	Woodside Energy	Okha FPSO, Offshore Karratha	Australia	Siemens S7 400 redundant fail safe, WinCC CCC S3+ antisurge Bently Nevada 3500 vibration Bently Nevada 3500 overspeed Bently Nevada System1	2011 2012
Commissioning and start-up of a steam turbine driven H2 recycle compressor train at Petrobras Refinaria Landulpho Alves (RLAM)	Refinery	Petrobras - Petroleo Brasileiras	Mataripe (Salvador, Bahia)	Brazil	Triconex Trident Steam Turbine and Compressor Controls CCC S5 Reliant Antisurge Control CCC S5 Guardian Overspeed Protection CCC TrainView and Elliott local HMI's Bently Nevada 3500 Vibration Monitoring	2012
Inspection and installation supervision services for gas dehydration and glycol regeneration package.	Offshore platform	AIOC - Azerbaijan International Operating Company (BP)	Baku	Azerbaijan	Various instrumentation	2012
Commissioning of an Air MAN Train consisting of a steam turbine driving a main air compressor and a booster air compressor for Kaiyangair project	Air Separation Plant	Air Liquide at Guizhou Kaiyang Chemical Co Ltd.	Kaiyang (Chuiyang)	China	Siemens PCS7 based on S7-400 with ET200 Failsafe module Brown Overspeed Protection Tricon Triconex TMR ITCC System	2012
Troubleshooting on turbo expander thrust balancing system	Gas Plant	Saudi Aramco	Berri, Jubail	Saudi Arabia		2012
FAT and commissioning supervision of an expander compressor for Saih Nihayada Depletion Compression (SNDC1) Project		PDO Petroleum Development Oman	Saih Nihayada	Oman	Yokogawa DCS S2M E300 Automatic Magnetic Bearings CCC S5 Reliant Redundant Antisurge	2011 2012
Design, engineering, supply, FAT, commissioning and start up of antisurge control systems for two air compressors (C-508 for plant T2 and C-303 for plant T4)	Nitric Acid Plant	Yara Suomi Oy	Uusikaupunki	Finland	Compressor antisurge control on Rockwell Allen-Bradley ControlLogix	2012
Design, engineering, supply, FAT, commissioning and start up of steam turbine (SEK50) speed controller and extraction controller for the SYRA 3 plant	Nitric Acid Plant	Yara AB	SYRA 3 Plant, Köping	Sweden	Steam turbine speed and extraction control on Rockwell Allen-Bradley ControlLogix	2012



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Design, engineering, supply, FAT, commissioning and start up of antisurge control system for one process air compressor (K-201) and two syngas make-up compressors (K-401, K-402)	Ammonia (NH3) Plant	Yara Norge AS	NII Plant, Porsgrunn	Norway	Compressor antisurge control on Rockwell Allen-Bradley ControlLogix	2012
					Siemens PCS7	2011 2012
Local project management for the engineering of a desalination system making use of gas turbine exhaust heat recovery	Power Plant	Various	Various	Iran	Siemens S7-400 WinCC	2011 2012
Field services on instrumentation and controls regarding the commissioning of a turbo expander generator unit.	Polypropylene Plant	EPPC	Port Said	Egypt	Bently Nevada 3500 Woodward Protech	2010 2011
Field service assistance for program modifications to include additional trip functionality and curves due to LP compressor re-bundling and upgrading of master/slave LP/HP HMI systems.	Offshore platform	Hess	South Arne Platform, North Sea	Denmark	Rockwell Allen-Bradley PLC5 Factory Link HMI	2011
Field supervising services for testing of sequencing, logic, C&E, all instrumentation loops and interfacing with 3rd party systems on electric motor driven gas mixing and export compressor.	Anna Paulowna BBL4 gas plant	Gasunie	Anna Paulowna	Netherlands	ABB AC800M CCC S5 Reliant	2010 2011
Operator and maintenance training services on compressor controls for Babgas Compression Project	Gas Compression Station	ADCO	Bab, Habshan, Abu Dhabi	United Arab Emirates	Siemens PCS7 Bently Nevada 3500	2011
Field assistance for re-engineering and start-up of ABB BCC gas turbine generator set	Cement Factory	Saudi Cement Company	Hofuf	Saudi Arabia	Rockwell Allen-Bradley ControlLogix Allen-Bradley XM-220 overspeed device ABB Synchrotact1 ABB AVR	2011
Field engineering services for commissioning of the controls systems on a steam turbine driven H2 recycle compressor system.	Refinery	Pemex	Minatitlan	Mexico	Rockwell Allen-Bradley ControlLogix Factory Link HMI Bently Nevada 3500 vibration Bently Nevada 3550 overspeed	2011
Field engineering services for start-up of expander generator set.	Refinery	TPCC	Kaohsiung	Taiwan	Rockwell Allen-Bradley ControlLogix Cimplicity HMI Advantech Modbus TCP/IP – RTU Bently Nevada 3500	2011

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Field assistance on correct IGV installation and calibration of recycle gas compressor.	Refinery	Exxon Mobil	Jurong Island	Singapore	N/A	2011
Field engineering services for commissioning of gas dehydration and glycol regeneration package.	Gas Transportation Station	Sasol	Temane	Mozambique	Rosemount instrumentation Emerson Delta V DCS HIMA ESD system	2011
Control system commissioning of two LP electric motor driven and two HP gas turbine driven injection compressors	Offshore platform	Lukoil	Korchagin LSP1 Platform	Russia	Rockwell Allen-Bradley ControlLogix Envision HMI	2011
Precommissioning of 2 lift gas, 2 export gas and 2 flash gas compressor trains for CWLH Redevelopment Project.	FPSO	Woodside Energy	Okha FPSO, Keppel Shipyard Singapore	Singapore	Siemens S7 400 redundant fail safe, WinCC CCC S3+ antisurge Bently Nevada 3500 vibration Bently Nevada 3500 overspeed Bently Nevada System1	2010 2011
Field engineering services for control system check-out and commissioning of 2 VRU, 2 OH and 2 LP screw compressors. Consultancy in LO and SO contamination issues. General turbomachinery controls assistance on installed base.	FPSO	Chevron	Agbami FPSO	Nigeria	Yokogawa DCS Bently Nevada 3500 Bently Nevada System1 CCC S5 Vanguard Woodward fuel gas valves	2008 2009 2010 2011
Field engineering services for commissioning of offshore fuel gas skid.	Offshore Platform	Centrica	F3FA Platform	Netherlands	Various instrumentation	2011
Design, engineering, supply, FAT, commissioning and start up of antisurge control systems for ammonia compressor C-304 and syngas compressors C-301 (make-up) & C-302 (recycle)	Ammonia (NH3) Plant	Yara France SA	Le Havre	France	CCS compressor antisurge control (SPC Surge Prevention Control) on Emerson DeltaV	2011
Design, engineering, supply, FAT, commissioning and start up of compressor and gas turbine control systems	Underground Gas Storage (UGS)	UGS Stramberk (now RWE)	Stramberk	Czech Republic	Rockwell Allen-Bradley ControlLogix	2011
Design, engineering, supply, FAT, commissioning and start up of control systems (including antisurge control) for air and NOx compressors	Nitric Acid Plant	Yara France SA	Port de Donge, Montoir	France	Compressor control, incl antisurge control, on Rockwell Allen-Bradley ControlLogix	2011
Periodical maintenance of five compressor station units control systems	Compressor station	EuroPolGaz	Kondratki, Wloclawek, Ciechanów, Szamotuły, Zambrow	Poland	CCC Series 4, ABB AC800M	2011

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Control system commissioning (including F&G) of a variable speed electric motor driven gas export compressor	Gas Plant	BP Statoil Sonatrach	In Sallah	Algeria	Siemens S7-400 redundant GE Bently Nevada 3500 vibration monitoring system CCC S3++	2010 2011
Control system commissioning and startup of three LM2500 SAC 30MW gas turbine driven generator sets	FPSO	SBM Noble Energy	Aseng FPSO	Singapore	Woodward Micronet Plus Bently Nevada 3500 Envision HMI	2011
Engineering consultancy and commissioning of 2 electrical motor driven process air blowers, running in parallel	Platinum Mine	Impala	Rustenburg	South Africa	CCC S3++ Bently Nevada 3500 Rockwell Allen-Bradley ControlLogix	2011
Commissioning and startup of electric motor driven gas injection compressor.	Gas Storage Facility	Fluxys	Loenhout	Belgium	Siemens S7-400 WinCC Bently Nevada 3500 Simocode	2011
Field engineering services for control system commissioning of an electric motor driven deethanizer compressor.	Refinery	CNPC	Ningxia	China	Siemens S7-400 Bently Nevada 3500	2011
Supervision of instrumentation and control system implementation for a steam turbine driven hydrogen recycle compressor.	Refinery	SAMIR	Mohammedia	Morocco	Woodward 5009 steam turbine control Yokogawa DCS Woodward Protech overspeed protection	2009 2010
Field engineering services for commissioning of an electric motor driver deethanizer compressor.	Duolun polypropylene plant	Datang		China	Siemens S7-400 Bently Nevada 3500	2010
Field engineering services for assistance on correct vibration system implementation of recycle compressor.	Polypropylene Plant	Datang	Duolun	China	Bently Nevada 3500	2010
Design and engineering of event recorder and first-out functionality for steam turbine	Incinerator Plant	AVR	Duiven	Netherlands	Siemens S7-300 fail-safe	2010
Field engineering services for Power Recovery Train (PRT) speed control and WetGas Compressor (WGC) Speed & antisurge control	Refinery	CHEVRON	Pembroke	United Kingdom	Triconex TMR	2010
Design, engineering, supply, FAT, commissioning and start up of antisurge control system for NH3 refrigeration compressors 3 J 105	Ammonia (NH3) Plant	Yara Tertre SA/NV	Tertre	Belgium	Compressor antisurge control on Rockwell Allen-Bradley ControlLogix	2010
Design, engineering, supply, FAT, commissioning and start up of antisurge control system for air separation compressors CP-11, CP-70 and turbines CE-76/77	Air Separation Plant	Yara Praxair AS	Rjukan	Norway	Compressor antisurge control on Rockwell Allen-Bradley ControlLogix	2010

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Design, engineering, supply, FAT, commissioning and start up of antisurge control system for the axial NOx compressor 47K510 at the plant SYRA 2 and axial air compressor 48K801 at the plant SYRA 3	Nitric Acid Plant	Yara AB	SYRA2 and SYRA3 Plants, Köping	Sweden	Compressor antisurge control on Rockwell Allen-Bradley ControlLogix	2010
Design, engineering, supply, FAT, commissioning and start up of antisurge control systems for axial air compressor C201/1, operating at YARA DuPont plant, and axial air Compressor V1001 operating at YARA Uhde plant	Nitric Acid Plant	YARA Tertre SA/NV	Dupont and Uhde Plants, Tertre	Belgium	Compressor antisurge control on Rockwell Allen-Bradley ControlLogix	2010
Field engineering services for antisurge validation and start-up of turbine control system	Ethylene Plant	Ineos	Grangemouth	Scotland	CCC S3 Control system, CCC S4 Control system	2010
DMPC based control systems (station diagnostics and optimization) for 25 MW gas turbines, operating at the main pipeline compressor station	Compressor station	EuroPolGaz	Kondratki, Wloclawek	Poland	ABB AC800M	2010
Retrofit of station control system (engineering design, development and installation of new control system, featuring CCS program solutions)	Compressor station	EuroPolGaz	Kondratki, Wloclawek	Poland	ABB AC800M	2010
Engineering, start-up and troubleshooting assistance for a steam turbine driven heat pump compressor. Remote monitoring and stand-by contract. Customized on-site operation and maintenance training.	PDH plant	NATPET	Yanbu	Saudi Arabia	Siemens S7 400 redundant fail safe CCC Series 3+ Antisurge CCC Vantage CCC Guardian Bently Nevada 3500 Bently Nevada System1	2007 2008 2009 2010
Re-commissioning supervision of three Frame 9e gas turbine generator sets	Power Plant	Vattenfall	Charlottenburg	Germany	Siemens PCS7	2010
Control system consultancy for steam turbine/expander driven process gas compressor	Nitric Acid Plant	DSM	Geleen	Netherlands	Woodward 505 steam turbine control ABB Protonic	2010
Field engineering services for control system commissioning of steam turbine driven CO2 bull gear compressor.	Petrochemical Facility	Grodno Azot	Grodur	Belarus	Turbolog DSP Bently Nevada 3500	2010

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<b>Project description</b>	<b>Plant type</b>	<b>End User</b>	<b>City</b>	<b>Country</b>	<b>Controls Platforms</b>	<b>Year</b>
Field engineering services for a steam turbine driven recycle gas compressor.	VAM plant	SIPCHEM	Jubail	Saudi Arabia	Rockwell Allen-Bradley ControlLogix Woodward Peak 150 steam turbine control Woodward Protech CCC Series 3+ Antisurge Bently Nevada 3500	2010
Control system commissioning of steam turbine driven 5 stage reactor air compressor/expander unit.	PTA Plant	Jialong Petro-chemical Fiber Co.	Sishi	China	Siemens PCS7 Turbolog DSP TMR-S Bently Nevada 3500	2010
Field services for troubleshooting Modbus communications on NG recovery trains 1 and 2 between substations and DCS.	Gas Plant	Gasco	Habshan, Abu Dhabi	United Arab Emirates	Blackbox Fiber optic convertors NW Switches	2010
Field engineering services for control system software changes and troubleshooting of an electric motor driven interlink gas compressor	Refinery	ORC Oman Refinery Company	Mina al Fahal	Oman	Siemens S7-400 failsafe redundant	2010
Field engineering services for control system commissioning of 2 electric motor driven sales gas compressors.	Gas Treatment Plant	Petro Canada	Ebla	Syria	Siemens S7-400 Bruel&Kjaer	2010
Field engineering services for control system commissioning of 2 electric motor driven field gas compressors.	Gas Gathering Facility	Petro Canada	Ebla	Syria	Siemens S7-400 Bruel&Kjaer	2010
Troubleshooting and overspeed testing after mechanical overhaul of 2 steam turbine driven generator sets, incl implementation of "first-out monitor"	Incinerator Plant	AVR	Duiven	Netherlands	Siemens S7-300 fail-safe CCC S5 Reliant CCC S5 Vanguard CCC Guardian OSP	2009
Design, engineering, supply, FAT, commissioning and start up of antisurge control system for Air and NOx compressors K-0801 and K-0802	Nitric Acid Plant	Yara Norge AS	SS1 Plant, Porsgrunn	Norway	Compressor antisurge control on Rockwell Allen-Bradley ControlLogix	2009
Design, engineering, supply, FAT, commissioning and start up of antisurge control system for air compressor K-32001	Nitric Acid Plant	Yara Norge AS	SS3 Plant, Porsgrunn	Norway	Compressor antisurge control on Rockwell Allen-Bradley ControlLogix	2009
Field engineering services for centrifugal compressor antisurge system validation	OSBL Plant	BP Chembel NV	Geel	Belgium	CCC S3+ Control system	2009
Design review and technical evaluation of turbomachinery equipment and existing control system for further retrofit of the plant	Compressor station	EuroPolGaz	Kondratki, Wloclawek	Poland	CCC Series 4	2009

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Commissioning of 2 steam turbine driven H2 recycle gas and wet gas compressors	Refinery	RIL Reliance Industries Ltd	Jamnagar, Gujarat	India	Woodward 505 steam turbine control CCC S3+ Antisurge Braun OSP Bently Nevada 3500 vibration monitoring	2008 2009
Technical advisor controls implementation for commissioning of a steam turbine driven hydrogen process gas compressor.	Refinery	Sonara	Limbé	Cameroon	Woodward PGPL Bently Nevada 3500	2009
Commissioning of on an electric motor driven air compressor	Steel Plant	Dillinger Hütte	Dillingen	Germany	Siemens PCS7 Bruel & Kjaer condition monitoring Converteam variable frequency drives	2009
Field engineering services for re-commissioning of a steam turbine driven recycle gas compressor.	Refinery	KNPC	Shuaiba	Kuwait	Rockwell Allen-Bradley ControlLogix Woodward 5009 steam turbine control Woodward Protech overspeed protection CCC S3+ antisurge controller	2009
Control system commissioning for three LM6000PC gas turbine generator sets	Power Plant	SAFWAN	Doha-West	Kuwait	Woodward Micronet Woodward Atlas GE Fanuc	2009
Field engineering services for controls optimization of a 4-train master/load-sharing system.	Gas Plant	SPC	Deir Al Zour	Syria	CCC S3+ antisurge CCC S3+ master/loadsharing	2009
Supervision of E&I and control system implementation on an electric motor driven process air blower	Refinery	S Oil	Ulsan	South Korea	Honeywell TDC4000 DCS Instrumentation	2009
Technical advisor on site for control system acceptance test to verify logical implementations in DCS, ESD and vibration monitoring system	Refinery	Cepsa	Huelva	Spain	Honeywell TDC4000 Honeywell SIS Bently Nevada 3500	2009
Design, engineering, supply, FAT, commissioning and start up of antisurge control system for modified 7 MW air compressor K-1101	Nitric Acid Plant	Yara Norge AS	SS2 Plant, Porsgrunn	Norway	Compressor antisurge control on Rockwell Allen-Bradley ControlLogix	2008
Design, engineering, supply, FAT, commissioning and start up of control system for the propylene centrifugal compressor, operating at the refrigerating unit	Refinery	MEKTOL, Zakladu Produkcyjnego	Płock	Poland	Rockwell Allen-Bradley ControlLogix	2008

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Commissioning of 3 electric motor driven pipeline compressors in parallel and serial loadsharing	Compressor Station	RWE DEA	Brammer	Germany	Siemens PCS7 Brueel & Kjaer condition monitoring Convertteam variable frequency drives	2008
Engineering, start-up and troubleshooting assistance for a steam turbine driven reactor effluent compressor. Remote monitoring and stand-by contract. Customized on-site operation and maintenance training.	PDH plant	NATPET	Yanbu	Saudi Arabia	Siemens S7 400 redundant fail safe CCC S3+ redundant antisurge CCC S3+ redundant speed CCC S3+ redundant extraction Woodward Protech Bently Nevada 3500 Bently Nevada System1	2008
Commissioning of 2 high voltage gas process heaters.	Offshore platform	Maersk	GP3 Platform	United Kingdom	Dedicated heater controls	2008
Field engineering services for control system commissioning of 2 electric motor/expander air compressor combinations.	PP/PE plant	SABIC	Yanbu	Saudi Arabia	Yokogawa DCS Bently Nevada 3500	2008
Field engineering services for supervision of mechanical troubleshooting activities on bearing temperature measurements and IGV installation.	PP/PE plant	SABIC	Yanbu	Saudi Arabia	Yokogawa DCS Bently Nevada 3500	2008
Field engineering services for logic re-engineering and commissioning of vent recovery screw compressor.	PP/PE plant	SABIC	Yanbu	Saudi Arabia	Yokogawa DCS	2008
Design, engineering, supply, FAT, commissioning and start up of antisurge control system for a 23MW axial air compressor	Nitric Acid Plant	Yara Sluiskil BV	NA7 Plant, Sluiskil	Netherlands	Compressor antisurge control on Rockwell Allen-Bradley ControlLogix	2007
Design, engineering, supply, FAT, commissioning and start up of antisurge control system for a single-stage air compressor	Urea Plant	Yara Sluiskil BV	Sluiskil	Netherlands	Compressor antisurge control on Rockwell Allen-Bradley ControlLogix	2007
Field engineering services for re commissioning of a motor driven hydrogen recycle compressor	Refinery	ORC Oman Refinery Company	Mina al Fahal	Oman	CCC S3+ Antisurge	2007
DMPC based control systems (station diagnostics and optimization) for 25 MW gas turbines, operating at the main pipeline compressor station	Compressor station	EuroPolGaz	Ciechanów, Szamotuły, Zambrow	Poland	ABB AC800M	2006

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Commissioning of power management systems	Gas Processing Plant	SPDC - Shell Petroleum Development Company	Ghbaran Ubie Gas Processing Plant	Nigeria	Siemens PCS7	2006
Supervision of the control system retrofits of 5 gas turbine driven compressor trains	Gas Modification Plants	Gasco	Asab, Bab	United Arab Emirates	CCC S5 Vanguard gas turbine CCC S5 antisurge	2006
Technical advisor for instrumentation and controls of a single stage centrifugal electric motor driven gas compressor.	LLDPE Plant	QATOFIN	Messaieed	Qatar	Triconex DCS Bently Nevada 3500	2006
Technical advisor for instrumentation and controls of a expander re-compressor unit (Pearl project).	NGL Plant	RasGas	Ras Laffan	Qatar	Honeywell TDC4000 Honeywell SIS Bently Nevada 3500	2006
Control system spare hardware supply.	Gas Plant	SPC	Deir Al Zour	Syria	CCC S3+ antisurge CCC S3+ master/loadsharing	2006
Field engineering services on troubleshooting compressor controls issues.	EPG3 Compressor Station	Chevron	Escravos	Nigeria	CCC S3+ antisurge and performance	2006
Field services for troubleshooting, re-engineering and re-commissioning of offshore HVAC installation.	Offshore platform	NAM	K15B platform	Netherlands	Siemens S7-300	2006
In-house engineering services for tender preparation regarding E-works for 5 story production facility.	Biodiesel Plant	Greenmills	Amsterdam	Netherlands	N/A	2006
Software engineering for SCADA modifications.	Waste Water Treatment	Delfluent	Delft	Netherlands	Monitor Pro SCADA Unity pro PLC	2006
Supervision of control system implementation and commissioning of a gas turbine driven high pressure 3-stage export compressor.	MLN Gas Station	Conoco Philips		Algeria	Mark VI	2005
Commissioning, troubleshooting and tuning optimization on numerous turbomachinery applications	Gas Export Offshore Platforms	Various	Offshore Platforms	West-Africa	GE Fanuc Triconex TMR Rockwell Allen-Bradley ControlLogix CCC S3+/S5 antisurge CCC S3+/S5 master/loadsharing Bently Nevada 3500	2005
Control system pre commissioning of an electric motor driven 3-stage compressor	Chemical Plant	OJSC Kazanorgsintez	Kazan	Russia	Rockwell Allen-Bradley ControlLogix	2005
Advanced gas turbine control system training	Offshore platform	Total E&P		Cameroon	HS	2005



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Advanced gas turbine control system training.	Compressor Station	Sonatrach		Algeria	Siemens PCS7	2005
Field engineering services for control system check-out and re-commissioning of electric motor driven process air blower.	Copper Mine	MCM	Mufulira	Zambia	Yokogawa DCS Bently Nevada 3500	2005
Engineering services for calculations on transmitter ranges, anti-surge valve sizing and performance curve settings for a syngas compressor application	Ammonia-Urea Plant	KRIBHCO		India	N/A	2005
Engineering services for compressor flow measuring device anti-surge valve sizing for a wet gas compressor.	Refinery	Nagarjuna Oil Corp.		India	N/A	2005
Field and in-house engineering services for control system retrofit review regarding expander/generator/compressor unit.	Refinery	Hellenic Petroleum	Aspropyrgos	Greece	Turbolog DSP	2005
Field services for commissioning of 3 aircraft loading stations. Remote assistance and monitoring.	Airport	United Arab Emirates	Dubai	United Arab Emirates	Siemens S7-400	2005
Logic implementations and document updating for DCS modification and extension.	Polypropylene Plant	Tasnee	Al-Jubail	Saudi Arabia	Honeywell TDC3000 MS Visio 2007	2005
In-house engineering and commissioning services of offshore HVAC installation.	Offshore platform	NAM	K81 platform	Netherlands	Siemens S7-300	2005
Software engineering for updating existing PLC program according latest drawings. Implementation of adjustments on board. General troubleshooting activities on board.	DP2 special service workboat for underwater cable laying	Various		Netherlands Italy	Horner PLC CScape	2005
Training services for end-user operator and maintenance personnel on compressor and steam turbine controls	Refinery	Hyundai Oil Bank		Germany / South Korea	CCC S5 Vanguard Redundant	2004
Construction supervision and commissioning of a pipe coating plant	Pipe Coating Plant	Gasprom BASFEON	Greifswald	Germany	Siemens S7-300	2004
Software engineering and commissioning of turning lathe welding machine at production facility for heavy tabular structures.	Production Facility	SIF	Roermond	Netherlands	Siemens S7-300 WinCC	2004

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Software engineering and commissioning of mushroom treatment unit.	Handling Facility	Lutece		Netherlands	Siemens S7-300 WinCC	2004