

Our Service Portfolio

		Feasibility study	Pre-Basic	Basic-Engineering	Detail-Engineering	Facility commissioning	Facility optimisation	Facility support			
		E n d - t o - e n d e n g i n e e r i n g - h o r i z o n t a l									
ERP	MES	Measurement and control technology	Process automation SPS/PLS	Machinery & plant automation	Automation IT	Building services engineering	Electrical engineering	Health - Safety - Environment	Steel mills, foundries & bulk goods technology	PRE-VENT® control valves	fiwa)Training. Consulting.Coaching.
PLS	SPS	Project execution in all project phases	Project ITTs & remodelling concepts	Process Data Acquisition	Process analysis & process optimization	Lighting engineering PC & network engineering	Switchgear technology (0,4kV to 110 kV) Transformer stations	Functional safety, including SIL-certification compliant with EN 61508/ EN 61511	Weighing systems engineering (KWA) Generating studies	Continuous regulation of gases, vapours and liquids Nominal diameters DN15 to DN300	Engineering expertise ► Functional safety ► ATEX, Explosion protection ► GMP, Quality management ► Energy management & system consulting ► Industrial control valves ► Automation engineering Communication & leadership e.g. social skills for executives & employees
		Cost estimation Pre-Basic-,Basic-,Detail-Engineering	Layout network engineering & bus technology	Trend identification/evaluation Reporting	Vertical & horizontal integration - from the production level to ERP, from goods receiving to shipping	Safety lighting Earthings- & lightning protection systems	Design & planning of electric distribution networks Main design analysis for load current, short circuits & multiple faults	Safeguarding of industrial process plants by means of process control engineering (VDI VDE 2180)	Weighing of production furnaces Filling, transfer, packaging, identification, marking	Rated pressures from PN10 to PN420 Variety of options for combining valve bodies with a very wide variety of electrical and pneumatic actuators	► GMP, Quality management ► Energy management & system consulting ► Industrial control valves ► Automation engineering Communication & leadership e.g. social skills for executives & employees
Instrumentation	end-to-end	Dimensioning of sensors & actuators	Generating specification documents with PLS DOC & Comos	Runtime analysis Visualization	Production management system iMES CC	Earthings- & lightning protection systems Presentation & media technology	Remote systems Control voltage supplies & backup power sources	Risk analysis compliant with: HAZOP, PAAG, LOPA	Bulk goods equipment (stirring, grinding) metering systems for filling	Also suitable for use with aggressive or hazardous media	► HR-Management: e.g. Strategic training & personnel management ► Project management: e.g. foundations, conflict resolution & systematic team pools ► Health management: e.g. stress & burn-out ► Comos training for admins, support & customizing ► Measurement & control technology e.g. physic. measurement technology (aperture, control valves)
		Device specification & other services	Configuration of controller & control systems	Hard- & Software-design (SPC)	Detailed production planning & control	Video surveillance Access control & security centres	Signal & alarm system Meter readings	Hazard analysis compliant with EN ISO 12100	Weighing of high loads in harsh conditions at production furnaces, pans and crucibles	Wireless temperature measurement technology	
		Hook-ups & Typical	Process simulation using WinMOD	Motion Control Interfaces to DCS	Formula management	Telephone & wireless systems Fire detection systems & preventive fire protection	Power factor correction	Preparation of Conformity declaration (CE-mark)	RFID-identification in harsh & hot surroundings (transport ladles & aluminium crucibles)		
		Assembly invitation, machine tender	System commissioning, loop check & facility ramp-up	Material flow control, production logistics	Quality management	Conferencing equipment & public adress systems Building system EIB/KNX	Distribution system remodelling	Safety of fuel plants EN 50156/ EN 746	Gas mixing & dosing systems: melting pool gas injection (GDS)		
		Requests/ Tender evaluation/ purchase	Profibus measurement	Operational & machine data acquisition	Maintenance management	Escape & rescue plans	Electrical trace heating	Explosions protection (ATEX directive 2014/34/EU), explosions protection document (BetrSichV §§ 2 + 6)			
		Assembly coordination & surveillance	TÜV approvals	Simulation, optimization of processes	Inventory management			Workstation assessment			
		Commissioning & start-up	Training of operators & support staff	RFID solutions	Batch Tracing			Check biohazard and safety cabinets			
		Electrical explosion protection (ATEX Directive 2014/34/EU)		Alarm monitoring							
		Documentation									

