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Magazine di Strumentazione ed Automazione

Year 02 Special Number July 2017

AUTOMATION INSTRUMENTATION SUMMIT

JULY 5/6 2017 CASTELLO DI BELGIOIOSO

Official Catalogue of **Automation Instrumentation Summit**



Come massimizzare le prestazioni delle torri di raffreddamento





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INSTRUMENTATION SUMMIT

AUTOMATION



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Via Aurelio Saffi 9 - 20123 Milano Tel. 02 9578.4238 Fax. 02 7396.0387 info@editorialedelfino.it

mail PEC: editorialedelfino@pecpost.it

Direttore responsabile

Andrea Ferriani **Direttore Tecnico**

Ugo Bassi Comitato di Redazione

Elisa Bellavita, Beatrice Montresor, Claudio Montresor

Responsabile Comunicazione

Claudia Lanfranconi

claudia.lanfranconi.aisisa@gmail.com

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INSTRUMENTATION



What a feeling!

If I only thing that about 2 years ago we were complaining about the performance of our associations, stating that the market was slow, associations and exhibitions and conferences were not anymore on fashion since after the event of internet all is done through the network and probably time was come to close the door of the job done by our predecessors....

I remember very well the frustration coming into our blood and at a certain moment a big reaction, a strong will to find a solution to get out of that trap! Mumble mumble...

Sometime solutions are easier that we could even think, just in front of us and very close to us and YES!!! We got it! Let's share what we can offer! Someone said:- I can put 100 Euro from my pocket, some other more than that, some other offered their time and competence, some other an office, a desk office, some other a training room, some other a conference room, some other a marketing data base....

Well after that night, all have changed, a big enthusiasm started to let us feel the blood flowing into our bodies, we were all teen agers, a great group, following a clear target: let's get both association roll on as at the old time and even better!

We drastically reduce the cost, we incremented the number of training sessions, we built a new web site, we opened the social networks, we built a solid marketing data base and we have been informing about our ideas and intentions through frequent mailings shots. Our monthly meeting started to be frequented by people with good ideas and will to do, not just say.

We created our own magazine where today I have the great honor to write this editorial and at a certain moment we decided to create the Automation Instrumentation Summit! With the ambition to make it happen at the same time of the ISA EMEA 2017, a dream! Well a real fact! More likely you are reading this article at home, after you have been attending the Conference and Exhibition in the prestigious ambience of the Belgioioso Castle so you know is a real fact.

The previous 2 days, 3 and 4 July have been training and certifying student and professional about Cyber Security, the following 2 days 7 and 8 July there will be the District Level Council where all the presidents and delegated will meet to discuss about the results obtained and the future challenge we will face in the next coming year.

A book about 4.0 is available for you at the desk and cross finger also the new English one from Brunelli will be ready, if not you will be anyhow able to book your copy at the front desk 3 prizes for the best students ideas will be assigned for the Ideas 4 Automatic for a total value of 3000 Euro.

The very top manufacturers are presents at



this AIS+ISA EMA 2017, maybe very few could not make it mostly because of complexity to get approval for marcom without one year anticipation but for sure they will make it next year yes because this is the intention to make this event happen every one year!

As you have seen above the Automation Instrumentation Summit is the clue event of several other happening during the week the Technology Week as we wanted to call it and as we are sure will grow in the future.

Now let's thank a lot of actors that have made this dream come true.

First of all without any doubt: Claudio Montresor!!!

Without his experience, his power, his trust, his strength, his undiscussed leadership we could never reach this important target. He have been capable to convince Tecnimont to believe on this project and supporting him so as his fantastic Tecnimont team!

A big list of names now: Michele Bolzoni, Beatrice Montresor, Flavio Gallarati, Liliana Realini, Elisa Bellavita, Silvia Levi, Andrea Ferriani, Stefano Malavasi, Giulio Molteni, Luigi Penati, Antonella Santambrogio, Claudia Lanfranconi, Anna Perego, Diego Bertazzo, Stefano Vannutelli, Carlo Perottoni, Gianluca Florio, Umberto Navarra, Alessandro Brunelli, Carlo Pucci, Laura Marchesi, Patrick Gouhin, Brian Curtis, David Brian, Francisco Palacio. Nilangshu Dey, Pieter Wan Der Kloster, Abdullah Khalifah.... and there are many more than these ones and I apologize not to mention all of them!

A special thanks to my company that has supported and followed me day by day.

A SUPERTHANK to all the Exhibitors and Sponsors and especially the one that started to believe on our project from the real beginning, without them we could not have organized such a cultural event with extremely high level of quality presentations at ZERO COST for all the visitors! Thank you again and enjoy having a pleasant reading of this special issue, with as always great technical contents!

Sincerely Ugo Baggi President ISA Italy Section

AUTOMATION INSTRUMENTATION SUMMIT

PETROLIO E GAS NATURALE: RICERCA DEL POLITECNICO IN PARTENARIATO **CON GAZPROM NEFT**

Attività di Ricerca e Sviluppo congiunte e formazione dei dipendenti di Gazprom Neft a Torino, dove dirigenti della compagnia terranno a loro volta lezioni e incontri.

Sono questi i temi dell'accordo nel quadro della visita del Ministro dello Sviluppo Economico Carlo Calenda in Russia tra Politecnico di Torino e la compagnia petrolifera russa Gazprom Neft, il guarto produttore russo di petrolio.

Nel settore dell'industria del petrolio e del gas naturale le tecnologie di frontiera hanno un ruolo sempre più importante e c'è grande attenzione alla collaborazione con istituzioni universitarie a livello internazionale per attività di ricerca, ma anche di formazione e trasferimento tecnologico.

L'accordo siglato integra infatti attività di formazione avanzata e di ricerca congiunte. Per guanto riguarda la formazione, la convenzione prevede attività didattiche riservata a quadri e addetti della compagnia petrolifera russa al Politecnico, ma anche lezioni e incontri con dirigenti della Gazprom Neft a Torino, per illustrare le attività della compagnia e presentare proposte di collaborazione tra i due enti, allargando il campo al sistema socio-economico del territorio piemontese.

www.polito.it

SERVITECNO ENTRA NEL **NETWORK DI FORNITORI** ACCREDITATI DEL CRIT

Da diversi anni ServiTecno, partner italiano di GE Digital, fornisce soluzioni software per l'industria a diverse aziende associate al CRIT, la realtà emiliana specializzata in attività di innovazione collaborativa" e sviluppo di progetti di ricerca. In virtù delle referenze positive maturate nel corso del tempo. l'azienda milanese è stata inserita ufficialmente dal CRIT nel suo selezionato Network di Fornitori Accreditati (NFA), del quale fanno parte in tutto 42 aziende.

Il Network Fornitori Accreditati CRIT nasce dalla volontà delle 27 imprese associate, tra le quali importanti nomi del manifatturiero italiano, di condividere i propri fornitori di eccellenza. accreditati per l'alta specializzazione (nelle lavorazioni, nella progettazione, ecc.) o per caratteristiche riconducibili al concetto di "high-tech" (sensoristica avanzata, materiali innovativi ecc.). Nel corso degli anni l'NFA si è sviluppato in una vera e propria rete di imprese con lo scopo di favorire la sinergia tra le aziende aderenti e la realizzazione di attività e progett innovativi.

www.servitecno.it

MAIRE TECNIMONT E LA FILIERA **DELL'OIL & GAS AL CENTRO DELLA** PRIMA MISSIONE ITALIANA IN OMAN

Attraverso il piano di sviluppo 2020 volto a diversificare l'industria e sostenere lo sviluppo dell'economia locale grazie alla strategia di "In Country Value", l'Oman si candida a diventare una vera e propria piattaforma "dinamica" tra Medio Oriente e Asia.

Questo, in sintesi, quanto emerso durante il "Business Forum 2017 Oman & Italy" che si è tenuto in Oman, alla presenza di importanti rappresentati delle autorità omanite e italiane e di più di 80 aziende del nostro Paese e di circa 300 società dell'Oman. Si tratta della prima missione economica italiana in Oman, incentrata sul progetto EPC Liwa Plastics Industries Complex (LPIC) di Orpic relativo ad alcune unità di produzione polimeri del valore di USD 895 milioni che Maire Tecnimont sta realizzando nella zona di Suhar. 150 km a nord di Mascate. per Orpic, società di Stato attiva nei settori della raffinazione e del petrolchimico.

www.mairetecnimont.com

ABB PRESENTA LE SOLUZIONI **DIGITALI PER IL SETTORE** OIL & GAS

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lanciata a livello mondiale che permette di aiutare i clienti delle utility, delle industrie, dei trasporti e delle



infrastrutture a sviluppare nuovi processi e a far evolvere quelli esistenti, fornendo analisi e ottimizzando attività di programmazione e controllo delle attività operative in tempo reale.

I risultati possono poi essere inseriti in sistemi di controllo per migliorare parametri chiave come il tempo di funzionamento di una fabbrica. la velocità e la resa.

www.abb.it

COMPLETATO IL PROGETTO DI MODERNIZZAZIONE DELLA **RAFFINERIA LOTOS IN POLONIA**

Mammoet ha terminato l'ultimo sollevamento nell'ambito della commessa legata al grande progetto di modernizzazione della raffineria LOTOS a Danzica, Polonia. LOTOS è una delle più grandi raffinerie del Paese baltico. Il progetto è affidato all'italiana KT Kinetics Technology, parte del Gruppo Maire Tecnimont. Mammoet ha avuto la responsabilità del trasporto e dell'installazione di diverse componenti di grandi dimensioni e peso, come una vacuum column, un fractionator e due coke drum. L'espansione e la modernizzazione della raffineria LO-TOS è nota come EFRA Project e mira ad eliminare i residui pesanti alla fine del processo di raffinazione.

Le nuove componenti necessarie per ammodernare la raffineria avevano un peso compreso tra 60 e 294 t e dovevano essere sollevate fino a 113 m d'altezza. La prima componente è arrivata nel porto di Danzica durante la seconda metà dello scorso gennaio. Mammoet ha trasferito le componenti su di una chiatta e le ha trasportate alla banchina della raffineria. Da lì una per una, utilizzando dei treni di carrelli autopropulsi SPMT, sono state trasferite al cantiere.

www.mammoet.com

RICONOSCIMENTO INTERNAZIONALE **PER RITTAL**

La classe delle unità di raffreddamento Blue e+ di Rittal ha vinto due premi internazionali.

L'efficienza energetica media, il risparmio del 75 % di CO₂ e la

possibilità di utilizzo ir tutto il mondo hanno fatto colpo sulla giuria britannica del RAC Cooling Industry Awards 2016, I giurati hanno assegnato alle unità Blue e+ il riconoscimento "Refri-



geration Product of the Year" (miglior prodotto di refrigerazione dell'anno).

Alla fiera specialistica "World of Technology & Science" tenutasi nei Paesi Bassi, le unità di raffreddamento hanno ricevuto anche il TechAward come "most popular innovation" (innovazione più popolare)".

Sono i primi premi che la gamma Blue e + si aggiudica a livello internazionale.

www.rittal.com

B&R ACQUISITA DA ABB

ABB ha annunciato oggi l'acquisizione di B&R, il più grande fornitore indipendente a livello mondiale specializzato in automazione di macchina e di fabbrica con soluzioni basate su prodotti e software ad architettura aperta. B&R, fondata nel 1979 da Erwin Bernecker e Josef Rainer ha la sua sede principale a Eggelsberg in Austria e impiega più di 3000 persone, compresi circa 1000 ingegneri specializzati in applicazioni e nella ricerca e sviluppo. Opera in 70 Paesi, generando un fatturato di oltre 600 milioni di dollari (2015/16) nel segmento di mercato dell'automazione di macchina e di fabbrica che ha un valore di 20 miliardi di dollari. L'integrazione si tradurrà in un'offerta inequagliabile e completa per i clienti del comparto dell'automazione industriale, abbinando prodotti, software e soluzioni innovativi di B&R per la moderna automazione per macchina e fabbrica con l'offerta all'avanguardia a livello mondiale di ABB nella robotica, nell'automazione di processo, nella digitalizzazione e nell'elettrificazione. Attraverso l'acquisizione, ABB espanderà la propria leadership nel settore dell'automazione industriale e si posizionerà in modo straordinario per cogliere le opportunità di crescita derivanti dalla Quarta Rivoluzione Industriale.

www.abb.com

INDIA: MERCATO POTENZIALE PER LA MECCANICA ANIMA AL 2030

L'Ufficio studi Anima ha fotografato gli scambi commerciali tra l'Italia e l'India dal 2011 al 2016. Le tecnologie della meccanica italiana hanno conosciuto un forte calo passando dai 478 milioni di euro nel 2011 ai 247 milioni di euro nel 2014. Il 2015 ha visto un incremento dell'export italiano verso l'India (314 milioni di euro), ma già l'anno scorso ha segnato una leggera flessione toccando i 277 milioni di euro (-12%). I prodotti italiani più ricercati sono le valvole, che nel 2016 hanno subito un calo a doppia cifra (-49%) perdendo 45 milioni di euro rispetto all'anno precedente. Sono state esportare le pompe italiane per un valore di 55 milioni di euro, pari a un +30% rispetto al 2015. Buono anche il risultato dei macchinari da costruzione che segano un +46%, che equivale a 34 milioni

www.anima.it



UN ANNO RECORD PER INTERROLL

Interroll ha proseguito con successo la propria strategia di crescita e ha raggiunto risultati record nel 2016. I CHF 405,2 milioni



di ordinato nel 2016 hanno superato del 5,2% l'ordinato dell'anno precedente (+4,4% in valuta locale), stabilendo il più alto ordinato nella storia della

società. Questo risultato è stato sostenuto da costanti attività di prodotto e da progetti insieme a system integrator principalmente nelle aree dell'e-commerce e dell'aeroportuale. Il fatturato consolidato, anche questo un risultato record, è aumentato del 11,3% in valuta di bilancio a CHF 401,5 milioni (+10,4% in valuta locale). Tutte le regioni e gruppi di prodotti hanno contribuito a questa crescita, anche se in misura diversa. L'integrazione dei rami d'azienda acquisiti nel dicembre 2016 dalla Ortner GmbH di Kronau, Germania, ha contribuito alla crescita per lo 0,1%.

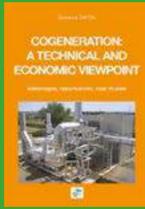
www.interroll.com

NUOVE NOMINE NEL CONSIGLIO DI **AMMINISTRAZIONE DI DANFOSS**

Durante l'assemblea generale degli azionisti di Danfoss A/S Jörg Stratmann e Per Falholt sono stati eletti nel Consiglio di Amministrazione della società. Il presidente del Consiglio di Amministrazione Jørgen M. Clausen ha commentato la nomina dei nuovi consiglieri: "Sono felice di dare il benvenuto nel Consiglio a Jörg Stratmann e Per Falholt. Grazie alla loro grande esperienza, apportano delle competenze molto particolari, che contribuiranno a favorire lo sviluppo di Danfoss come solida azienda globale e a valorizzare ancor di più tutto il suo potenziale." Jörg Stratmann ha una lunga esperienza nella gestione strategica di aziende internazionali. Ha maturato particolari competenze nell'ambito delle vendite internazionali dello sviluppo di nuove attività e di processi produttivi. Stratmann è laureato (MSc) in ingegneria meccanica e ha ottenuto un dottorato di ricerca (PhD) dall'Università Tecnica di Berlino. Per Falholt ha una vasta esperienza nello sviluppo di nuovi prodotti innovativi. Si è laureato (MSc) in Ingegneria chimica all'Università Tecnica della Danimarca di Copenhagen. www.danfoss.it

COGENERATION

This book, which stems from many years'experience in the domain of cogeneration; is addressed to a rather wide rage of potential readers. Consultancies and Energy Service Companies will have the opportunity to get updated about cogeneration legislation, and will be able to assess efficiency of a given cogeneration installation as well as -more important, perhaps- the amount of the incentive. Architects and builders will be able to consider meeting energy demand of buildings by means of a cogeneration plant in addition to, or instead of, conventional techniques. Manufacturers of machinery (gas turbines, steam turbines, internal combustion engines) will find information about potential market developments. Factory managers will be able to consider widening their activity scope by adding electricity production, and to assess the advantages this diversification brings about. Individual parts of the book are as independent of one another as possible, so that readers can focus on single chapters and paragraph. After an ample general introduction, numerous reallife installations are described in case studies, with schemes and calculation examples.



Autore: Giuseppe Dell'Olio



TO BUY

http://www.editorialedelfino.it/cogeneration-a-technical-and-economic-viewpoint-2624.html



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INSTRUMENTATION

AUTOMATION





Sicurezza degli impianti

Fire & Gas solutions from B.a.g.g.i.

Marco Abà - B.a.g.g.i.

B.a.q.q.i. implementation about system integration in the field of fire and gas protection.

ne Generale Grandi Impianti Srl, was created in 1947 by the passion of its founder, Eugenio B.a.g.g.i., for telecommunication . instrumentation and analysis. The know how gained in over 60 years, working closely with customer and business partner made it possible to accumulate experience and gain greater competence in the field of gas analysis in process installation. Thanks to its expanding professionality and team experience, the Company has been able to follow rapid market changes and it is today a well-established reality. Now, considering what the above mentioned and with the aim to grow up in serving the market, we would like to introduce B.a.g.g.i. Srl - Milano Italy as Fire and Gas Specialist and system integrator. It's several years that we are improving our knowledge and upgrade our technicians and commercial people in this field that it's a complementary section to our major activities as analysis system manufacturer and integrator. In quite all analysis and process plants (chemical, petrochemical, steel, food, pharma, industry) the fire and gas detection is becoming more and more important

a.g.g.i. Srl - Base Automazio-



for installation and people protection. We are able to supply products on specific request with our own brand Sensevolution System Integration and we can supply complete cabinets and integrated systems to be connected directly to the PLC or DCS for every type of gas (explosive and toxic) and flame detection (IR, UV/IR, open path, etc), for all kind of field devices inside a complete shelter or cabinet.



We are also working as Tyco GFD official distributor merging our both experiences with group and leadership of five companies in the field of gas and flame detection, Detcon, Simtronics, Gas Measurement Instruments (GMI), Oldham and the gas and flame division of Scott Safety. We can offer fixed and portable gas detection products, flame detection. area monitoring, wired and wireless solutions, controllers, alarm systems, and monitoring

software. In the last ten years, End Customers and EPC Contractors are oriented to qualify and request customized products/solutions and need to have partners that support them in all aspects of the feasibility studies and realization of the system, working strictly together. We can offer customized solutions as per client requirements or following EPC specifications. The last but not the least we also have a dedicated service team for installation, commissioning and start up on site. Our specialists are yearly trained on products working at the state of the art to be able to help and support our clients directly in the field, on requested.

MANUALE DI STRUMENTAZIONE

Questo volume I, Introduzione e Misura, tratta gli aspetti generali relativi alla strumentazione e gli argomenti topici della misura nei processi industriali, quali: - i concetti basilari fondanti della strumentazione di misura e controllo inerenti le alimentazioni, i segnali standardizzati analogici i protocolli di comunicazione digitali; - la simbologia della strumentazione analogica e digitale, degli elementi primari di misura e degli elementi finali di regolazione e di sicurezza, nonché dei collegamenti al processo...

Autori: Alessandro Brunelli

Pagine: 490

40.00 euro





PER L'ACQUISTO http://www.editorialedelfino.it/manuale-di-strumentazione.html







AIS ISA Special Number 2017 AIS ISA Special Number 2017 **AUTOMATION INSTRUMENTATION SUMMIT**

INSTRUMENTATION SUMMIT

AUTOMATION





Company profile

A global leader in Oil & Gas, Polyolefins, Fertilizers large-scale contracting

Tommaso Verani - Tecnimont

Tecnimont S.p.A. is the main EPC contractor of Maire Tecnimont Group, an industrial player listed on the Milan Stock Exchange mainly active in the downstream hydrocarbons value chain, operating in approximately 30 different countries, numbering around 45 operative companies and a workforce of about 8000 professionals.

WELL-ROOTED LEGACY

engineering and development division of the Montedison group following the merger, in

1966, of Edison (active since 1883 in the power production sector) and Montecatini (active since 1888 in the chemical sector, namely one of the historical pillars of Italian chemical industry).

Between 1996 and 2000 Tecnimont entered the share capital of India's Tecnimont Pvt. Ltd (formerly "TICB"), completing the acquisition in January 2008. Tecnimont Pvt. Ltd. is today the main engineering center of the Group outside Italy and employs about 2,000 people. Between 1992 and 1995, in a bid to directly operate on the German market, Tecnimont

mont Planung Industrieanlagenbau Salzgitter Tecnimont was created as the GmbH ("TPI"). TPI is currently the engineering center with leading high-end know-how in the planning of plants to produce low density polyethylene (LDPE).

> Figure - Propane Dehydrogenation Plant, Tobolsk, Western Siberia - Russian Federation.



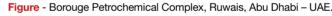
LEADERSHIP IN LARGE-SCALE CONTRACTING

Tecnimont's well-rooted track record in engineering design, along with outstanding references in managing large integrated complex projects in the downstream hydrocarbons value chain, has allowed Tecnimont to maintain a leading position as an international contractor. Thanks to a flexible business model Tecnimont offers advanced skills in engineering services, EP and EPC (Engineering, Procurement, Construction). A strong technology orientation provides access to the best available state-ofthe art processes, guaranteeing a recognized world leadership as a contractor. Through its network of international engineering centres, Tecnimont provides clients with services and know-how ranging from conceptual studies, through technology selection, to process engineering and detailed design.

HISTORICAL TRACK RECORD IN **POLYOLEFINS**

Since 1970, Tecnimont has completed 117 polypropylene plants and 62 polyethylene plants. The company can boast 30% market share in polyolefin plants (#1 worldwide for capacity installed in the last six years), including a 40% share in LDPE (Low Densi-

ty Polyethylene). Tecnimont has access to all first-class polyolefins technologies and has the size and capability to manage and execute several projects simultaneously using different technologies while ensuring confidentiality and preserving Licensors' know-how. Tecnimont is included in the shortlist of preferred engineering contractors for many patented technologies, and can develop the Licensor's process design package - the know-how documentation delivered by the technology provider to the Contractor - for and on behalf of the Licensor itself. The company is able to perform a wide range of functions in the international market for polyolefins plants. These include acting as general contractor for entire petrochemical complexes, providing the complete chain of services, starting from feasibility studies and technology selection, through basic and detailed engineering, supply of equipment and materials, to supervision of erection, construction and commissioning, on an EPC LSTK basis.





INSTRUMENTATION





Focus

Optimization in fluids separation control

Marco Zorzella - B.a.g.g.i.

In Oil&Gas industrial market is very important the optimization of fluid separation control in several upstream and downstream processes.



strated that considerable benefits can be obtained through an improvement in fluid separation control:

- performance process optimization controlling the emulsion growth (layer);
- improvement of the production keeping under control the phase separation directly into the separator:
- quality process control monitoring in real time the fluid phase separation before the product is extracted from separator;
- automatic process setting;
- automatic mud washing;
- reduction of process upsets;
- reduction in hydrocarbon under carry to WWTF;
- environmental compliance;
- inhibition or elimination of Routine Free Oil Undercarry:
- advance warning of Water "Slugging" in the Feed from the Tank Farm;
- odor reduction in open ambient;
- fire hazard reduction;
- safety for the human operator;
- save cost in tanks bottom preservation and

ecent experience has demon- optimization of the total tank's volume for oil:

- save cost in optimization of chemical dosage injection and other operating parameters;
- cost reduction in Waste Water Treatment Fa-

Correct and reliable technology used in each separation process to measure Water in Oil / Emulsion / Oil in Water / Foam and Level is one of the main factors in getting these benefits. B.A.G.G.I. Srl provides solutions to optimize difficult separation process by utilizing patented technology for concentration measurement, analysis and control.

Proven technologies are integrated in systems applied to solve also critical flow measure-

As shown in the Figure 1, typical application can be summarised in this table.

Usually the measurement are made in the pipeline after the separator or farm/storage tank. Sometimes this approach is the best solution in compliance with type of hydrocarbon and the range that has to be measured in the fluid. Other times it is possible to anticipate fluids property measurement directly in tank and vessel getting great benefits as before indica-

UP-STREAM		MID-STREAM		DOWN-STREAM		
Drilling	Mud Flow Meter	Transport Pipeline	Watercut Meter, - Phase Interface	Desalters		
Well Testing	Well Testing Multiphase Flow Meter	Storage Tank	Detector	Dehydrator		
Well Testing Test Separator	Foam Detector, Watercut Meter, Phase Interface Detector			API Separators		
Well Testing 2-Phase Separator		Detector, Watercut Meter, Phase Interface			Slop Oil	
Well Testing 3-Phase Separator					Amine Units	
Free Water Knock Out				Sour Waters Stripper / Tanks		
Heater-Treater	Watercut Meter, Phase Interface Detector			Alkylation / Regenera- tion Tank		
Dehydrator				Caustic Wash / Set- tler / Disulfide Separator		
Tank Farm				Ethylene Quench Tower Separator	Foam	
LACT unit				Coker Units	Detector, Watercut Me Phase Interfa	
				Merox / Caustic Treaters	Detector	
				Dike Catch Basin		
				Defoaming		
				Demulsification		
				Dewatering		
				Tank Farm		
				Roof Tank		
				Oil Skimmer		
				Storage Tanks		

Before proceed it is necessary clarify some common concepts (Figure 2 for vessel-tank and Figure 3 for pipeline).

Consideration 1

The assumption that in a multiphase flow or in

a fluid separation (dynamic process) the layer between each fluid phase (water, oil, foam, gas) is clear cut can't be applicable.

■ Consideration 2

A static process conditions that guarantee a clear layer between each fluid phase will im-

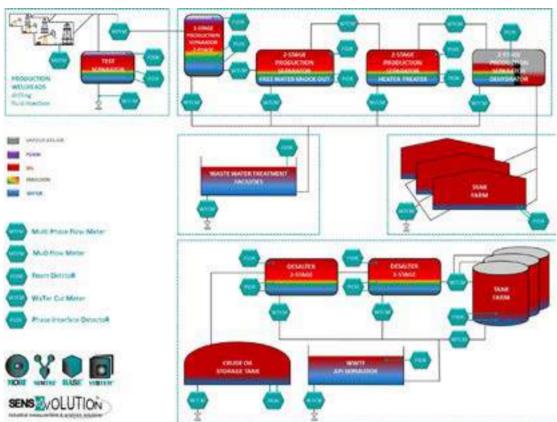




Figure 1

INSTRUMENTATION

AUTOMATION



mediately lose its effect when an external action is made (example: in a storage tank, opening the water drain valve the emulsion layer will be present when oil/water are closed at the outlet).

Consideration 3

The term "level control" indicates the presumption that the interface between oil and water in the tanks exists at a single point (such as that observed between gasoline and water); the level measurement is just a result of the monitoring of the fluid concentration with a clear cut layer and sometimes it is supposed that keeping under control the level of each phase (water, emulsion, oil) is possible to get the concentration of the total fluid; during separation process there is no level, rather the interface consists of a transition zone from oil to water in a continuous change of volume percent; understanding the true nature of the interface leads to the conclusion that efficient control comes from controlling these water/oil percentages and not an imaginary level.

Consideration 4

Emulsion layer is one of the most serious problems in process fluids separation and the emulsion pad is dynamic-growing and shrinking continuously; emulsion build-up is caused by mixing valves, crude properties (surface tension, viscosity, density), contaminants, vessel temperature, and retention time; to avoid trouble in the performance of the separator it is necessary to control emulsions such that they can only build above a control point. In other instances it might be desirable to force the emulsions to build below the control point for the process; for most emulsion the interface is not a clean-cut line, consequently traditional level control techniques have not acknowledged this phenomenon (thus they often gave false information that ultimately released hydrocarbons into wastewater).

Figure 2



The reasons of all these considerations are in the density differences between each phase. By the way, also other parameters can influence the measurement (fluid composition and type of hydrocarbon present, salt concentration, turbidity, sand) while other could limit the compliance with some technologies (temperature, pressure, viscosity and velocity).

The right technology designed in on-demand configuration is the goal of the SENSEVO-LUTION® product line (result of combining the newest technologies with B.A.G.G.I. Srl knowledge).

A turn-key Solution in the concentration monitoring of Water in Oil / Emulsion / Oil in Water / Foam and Level measurement using technology in compliance with the scope of work based on well-proven industrial practice. Combination of patented sensors provides the operator with a wide range of functions that are far beyond the capability of traditional level controllers.

Strictly correlate to the technology applied, the measurements are available in different engineering units [ppb, ppm, %, mm]. Patented technology integrated in the Solutions proposed is evaluate from several factors as the scope of measurement (direct control in the process setting, quality monitoring, alarm ..), measuring point position (in tank, vessel, pipeline ...), process and ambient conditions, type of fluids and range, performance required, norms and regulations. It could be based on spectroscope technique that provides high wavelength resolution (by LFL Luminescence UV fluorescence, NLS Nephelometry Light Scatter), on wave (by WCP dielectric-capacitive, WHF high frequency, WEA energy absorbance) and radioactive source (this last is not used by our Solution but could be available on-demand).

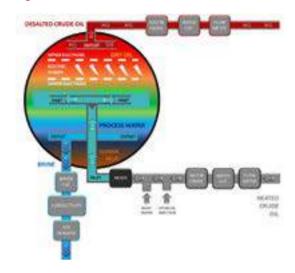
Accordingly, the Solution is proposed for on-

Figure 3



As Article

Figure 4



line measurement with the measuring sensor directly positioned in the process (tank, vessel or pipeline) or for sampling measurement.

The know-how gained in over 60 years, working closely with customers and business partners, made it possible to accumulate experience and gain greater competence. Thanks to its expanding professionality and team experience, B.A.G.G.I. Srl is able to offer very reliable solutions in reasonable time for many demanding applications.

Our products are tailor made according to customer requirement, application needs, ambient conditions, project regulation and norms. The structure of the Company is composed by qualified and flexible personnel in each Department.

For specific Project, a Task Force is created to satisfy the Job's requirement and guarantee the compliance of the Scope of Supply (engineering team for project development, expediter and document controller, inspection and test reference ...).

Continuous research and development towards new technologies and methods of use in specific applications is entrusted to qualified personnel, with proven and long-time experience in analysis and process field.

Experience is gained and shared also in close cooperation with customers during technical verification, engineering evaluation and testing

phase in our warehouse located in Italy.

Some example of measurement for the optimization in fluids separation control are summarised as follow.

Particular application is in desalting process (Figure 4) that is one of the most critical process where our Solution can be used (others parameters could be measured as salt in crude, h2s in crude, h2s in water ...):

- Biphase Flow Measurement
- Emulsion Layer Control
- Foam Detection
- Mud Flow Measurement in drilling operation
- Mud Wash regulation in desalting process
- Multiphase Flow measurement
- Oil Level Control
- Oil concentration in Water
- Phase Fluid Profile Monitoring
- Water concentration in Oil
- Water Level Interface
- Wash tanks



www.keyenergy.it





www.ecomondo.com



A merger of Rimini Fiera and Fiera di Vicenza

TRUMENTATION



ALIMENTATORE INCAPSULATO PER SISTEMI INDUSTRIALI INTEGRATI

Powerbox ha introdotto un AC/DC da 100 W incapsulato, adatto per sistemi industriali integrati. Rivolto ad applicazioni industriali



con spazio limitato. l'ENI100 ha una larghezza ridotta di 31.7 mm e una lunghezza di 140 mm che ali rende facile adattarsi anche al più piccolo degli spazi. La tensione di ingresso va da 90 a 264

VAC e l'uscita fornisce 24 V fissi con 4 A. In base alla topologia flyback di Powerbox e alla modalità di regolazione "Always On". l'alimentatore si auto controlla in modo intelligente per garantire un funzionamento continuo e un rapido ripristino in caso di quasto del carico o alterazione della temperatura. L'ENI100 è certificato CB secondo la direttiva EN60950-1.

www.prbx.com

SOLUZIONI ROBOTIZZATE DA BANCO

Facili da programmare, anche per chi non ha mai avuto a che fare con un braccio robotico, i robot da banco R12 e R17 di ST

Robotics sono in grado di svolgere operazioni molto complesse, tra cui test di prodotti, manipolazione di campioni e di componenti. alimentazione di macchine, saldatura, spruzzatura e misurazione del suono. Entrambi i modelli sono completi di controller, teachpad. cavi. connettori. software RoboForthII e RobWin7 e



manuali completi, pronti per essere utilizzati immediatamente. Grazie agli azionamenti per motori ad alta efficienza, a una robusta struttura in lega lavorata a macchina e all'eccellente qualità, questi dispositivi sono in grado di funzionare 24 ore al giorno, 7 giorni su 7, con la massima precisione e affidabilità. Il modello R12 è disponibile con cinque o sei assi, ha una capacità di movimento di 500 mm e offre un carico utile di 1 kg. Il modello R17, più grande, è un robot a cinque assi con sesto asse opzionale, in grado di offrire un carico utile di 3 kg e movimento di 750 mm. Da RS saranno disponibili in tutto 38 linee standard comprendenti due tipi di bracci robotici, pinze in vari formati, attuatori (pneumatici/elettrici) e numerosi accessori opzionali, tra cui teachpad Android/Bluetooth, pinze a vuoto e convertitori USB e TCP/IP.

www.it.rs-online.com

OMRON AMPLIA LA GAMMA DI FOTOMICROSENSORI SMD

Omron Electronic Components Europe ha ampliato la propria gamma di fotomicrosensori (PMS) per montaggio superficiale con un nuovo modello dotato di slot di 5 mm, allargando così lo spettro applicativo di questa famiglia ai settori delle macchine per ufficio, elettronica consumer, ATM, distributori automatici e sistemi di automazione industriale. Con l'aggiunta del nuovo Omron EE-SX1350, la gamma di PMS trasmissivi per montaggio superficiale di Omron comprende ora cinque modelli. dotati rispettivamente di slot da 2 mm. 3 mm. 4 mm e 5 mm. Il nuovo fotomicrosensore ha un'elevata risoluzione e un'apertura di rilevamento di 0,5 mm. Tutti i dispositivi della gamma possono essere saldati per rifusione e pertanto montati sulla scheda in un unico passaggio insieme agli altri componenti standard. Ciò riduce i costi di fabbricazione e quindi il costo totale di esercizio, TCO (total cost of ownership). Il dispositivo EE-SX1350 per montaggio superficiale è del 65% più piccolo rispetto alla precedente versione dotata di terminali per PCB: misura solo 8.8mm $\times 4$ mm $\times 9$ mm.

www.components.omron.eu

NUOVI MOTORI MGE DI GRUNDFOS

I nuovi motori MGE di Grundfos sono caratterizzati dall'elevato grado di affidabilità, dalla possibilità di adequare le prestazioni per diversi punti di lavoro, grazie alla presenza di un inverter integrato, e dal minor consumo energetico.

I motori Grundfos introdotti nel 2013, erano costruiti in corrispondenza dello standard vigente ed oggi lo hanno superato. L'im-

piego di un inverter integrato sui motori, ha permesso di superare il livello di efficienza IE4. definendo l'IE5 come standard e quindi. il più alto livello di efficienza energetica per i motori elettrici.

I motori MGE sono dotati di componenti "intelligenti" che si adattano al sistema e permettono di ridurre il consumo di energia.

Grazie anche ad altri componenti ideati per il risparmio energetico, come ad esempio il motore sincrono a magneti permanenti con inverter incorporato ad alta efficienza, i motori raggiungono il massimo livello nella loro categoria.

Tutti i motori Grundfos MGE con inverter integrato, compresi nell'intervallo che va da 0,75 kW a 11 kW, sono certificati IE5.

www.grundfos.com

SENSORE REFLEX A ULTRASUONI

Il sensore reflex U1KT001 Wenglor per il tasteggio diretto a ultrasuoni si caratterizza per un ingombro di appena 32 x 16 x 12 mm, ma offre prestazioni eccezionali, tra cui un campo di misura variabile che va da 30 a 400 mm. Il sensore dispone di due uscite di commutazione indipendenti che possono essere configurate tramite IO-Link o mediante la funzione Teach-In per la rilevazione di fluidi, così come di oggetti, che possono essere opachi, trasparenti o riflettenti, in corrispondenza di due punti di commutazione (set-point). Il campo delle possibili applicazioni è vasto e, grazie alla sua semplicità di utilizzo, il sensore U1KT001 può essere facilmente impiegato per automatizzare numerose attività: misurazioni di livello (fluidi e/o merci sfuse), controllo della freccia di flessione per la regolazione dell'alimentazione di materiale, ad esempio in macchine per il packaging o la stampa, rilevamento dell'altezza di impilamento di materiali a magazzino, controllo della presenza. I tasteggi diretti U1KT001 con uscita digitale si caratterizzano per un grado di protezione IP68, che li rende idonei per impieghi in condizioni critiche.

www.wenglor.it

FLIR SYSTEMS A OMC 2017

FLIR Systems ha partecipazione all'Offshore Mediterranean Conference (OMC 2017).

Accreditato e riconosciuto a livello internazionale come punto di riferimento nel mondo dell'Oil & Gas, ha presentato la nuova termocamera certificata a "Sicurezza Intrinseca" FLIR GFx320.



capace di rilevare rapidamente le emissioni fuggitive delle più piccole concentrazioni di metano, idrocarburi e composti organici volatili.

Inoltre. le termocamere proposte dall'a-

zienda sono un valido supporto per il continuo monitoraggio della combustione di gas (gas flaring) da torri o piattaforme petrolifere, oppure per analizzare e visualizzare la distribuzione delle temperature di intere superfici di macchinari e apparecchiature elettriche, in modo rapido e accurato.

www.flir.com

BOBINE COMPATTE PER APPLICAZIONI DI AZIONAMENTO

SMP Sintermetalle Prometheus GmbH & Co KG (SMP) presenta le sue bobine per convertitori di freguenza e altre applicazioni di azionamento. I componenti compatti e con perdite molto ridotte presentano un'ottima compatibilità elettromagnetica e un elevato grado di efficienza. Nei convertitori di freguenza, le bobine vengono montate sia all'ingresso (immissione di energia nella rete elettrica), sia in uscita, dove vengono impiegate come bobine di filtraggio. In virtù delle loro caratteristiche di compattezza e di

silenziosità, le bobine di SMP vengono impiegate anche nei circuiti intermedi dei convertitori di freguenza sia come bobine singole sia nella configurazione "Common mode". II



materiale del nucleo è composto da materiali compositi in polvere poco magnetorestrittivi appositamente sviluppati e prodotti da SMP per ogni applicazione. I materiali presentano perdite per correnti parassite e perdite per isteresi magnetica ridotte e ciò garantisce un grado di efficienza molto elevato.

www.sisram.it

VERTIV AMPLIA LA GAMMA LIEBERT® PCW

Vertiv, in precedenza Emerson Network Power, ha annunciato oggi l'ampliamento della famiglia di prodotti Liebert® PCW per offrire la massima efficienza energetica e una migliore capacità di raffreddamento ai data center di dimensioni mediograndi. Disponibile in Europa, Medio Oriente, Africa (EMEA), regione Asia Pacifico e Sud America, la serie delta T ad acqua refrigerata Liebert PCW è stata progettata per massimizzare le operazioni di raffreddamento a temperature più elevate, in modo da supportare tutte le infrastrutture critiche, offrendo una Power Usage Effectiveness parziale (pPUE) inferiore a 1,1. La gamma Liebert PCW è disponibile da 25 a 220 kW ed è dotata della più avanzata tecnologia del settore, progettata per massimizzare l'efficienza e garantire la necessaria fornitura di aria ai server. L'ampia capacità di raffreddamento della gamma Liebert PCW delta T ad acqua refrigerata è stata ottimizzata per regimi di acqua a 20-32 °C e temperature dell'aria entro i limiti degli standard ASHRAE più attuali.

www.vertivCo.com



Products

ADDRESSABLE FIRE DETECTION AND **EXTINGUISHING CONTROL SYSTEM**

The concept of fire detection and gas extinguishing application has been improved by SAFCO Engineering introducing a new open solution of system.

The Safco Engineering SM SY-STEM, integral part of third party PLC platform (via proprietary or open communication protocol) has been designed and certified according to EN54-2/4, 12094-1 for fire detection and extinguishing control



system and SIL2 according to IEC61508.

The System is unique in the market and its features improve the safety and availability of a fire alarm control system. The advantages of SAFCO Engineering SM SYSTEM are:

- Common programming platform:
- Open architecture via Ethernet networking;
- Modbus or SIL certified communication interface protocol with
- Online programming;
- Hot swop cards replacement;
- Single or redundant hot swop configuration for all cards;
- System Sensor or Apollo (SIL2) communication Protocols.

www.safcoengineering.com

LE NUOVE TERMOCAMERE TESTO **DISPONIBILI DA RS COMPONENTS**

RS Components ha presentato una nuova gamma di termocamere a marchio Testo. Questi nuovi dispositivi offrono la più alta qualità delle immagini termiche della loro categoria e sono stati



migliorati a livello di precisione e facilità d'uso. Flessibili e dotate di un'ampia gamma di funzioni utili e innovative, queste telecamere sono adatte a molte applicazioni e rappresentano la soluzione ideale per facility manager,

tecnici della manutenzione e installatori elettrici. I quattro nuovi modelli (Testo 865, 868, 871 e 872) offrono diverse risoluzioni (fino a 320 x 240 pixel nella 872) che, grazie alla tecnologia Testo SuperResolution integrata, possono arrivare a 640 x 480 pixel, confermandosi come l'unico dispositivo sul mercato che offre una qualità delle immagini così elevata. Oltre al modello base Testo 865, tutte le nuove termocamere possono essere collegate alla app Thermography, disponibile per iOS e Android. Questa applicazione consente di utilizzare il telefono come telecomando della termocamera, dando la possibilità di creare rapporti in loco, salvarli online e trasmetterli via e-mail.

www.rs-components.com

NUOVI UTENSILI BAHCO PER MIGLIAIA **DI APPLICAZIONI**

RS Components ha inserito nel suo catalogo più di 800 prodotti a marchio Bahco. Questi nuovi utensili sono destinati a progettisti e tecnici della manutenzione dei settori petrolifero e gas, energia e



utility, alimentare, aerospaziale e trasporti e sono perfetti per numerose applicazioni, tra cui lavori in altezza, ambienti a rischio di esplosione e lavori generici. Gli utensi-

li sono utilizzabili per lavori che richiedono l'uso di impalcature, scale a pioli o siti che comportino lavori in altezza, dove la caduta di un utensile può provocare incidenti con conseguenze sia per la salute che sulla produttività. Grazie a una gamma così ampia di utensili pensati per le applicazioni più disparate, i prodotti Bahco rafforzano l'attuale offerta per la progettazione e la manutenzione, soddisfacendo le esigenze di numerosi settori, tra cui manutenzione impianti, ATEX, energia e utility.

www.rs-components.com

IL BOOSTER DI VOLUME PER LE APPLICAZIONI DI CONTROLLO E ON/OFF

Caratteristiche uniche che offrono una maggiore affidabilità e facilitano la manutenzione e la messa in servizio. Emerson ha

introdotto il booster serie 330 ASCO per permettere maggiori velocità di apertura e chiusura delle valvole di processo. Il booster può essere utilizzato nelle applicazioni on/off e di controllo e dove è richiesto il partial stroke test. (PST). Particolarmente adatto per l'utilizzo nel mercato oil



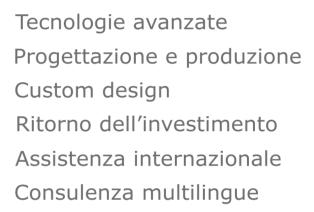
and gas upstream e downstream, la valvola è flessibile, robusta e altamente affidabile. Disponibile in acciaio inossidabile e alluminio, il booster completa la gamma di prodotti per il controllo di attuatori Emerson, che include switch box, elettrovalvole, filtri regolatori e posizionatori. Introdotto inizialmente nelle taglie da 1/2" e 1", il booster di volume 3/3 è stato progettato per semplificare le operazioni di installazione e manutenzione. Il montaggio su base NAMUR della elettrovalvola rende il gruppo compatto e aumenta la velocità di risposta.

www.emerson.com





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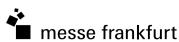


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CHI SIAMO

AlS - associazione italiana strumentisti è un'associazione senza fini di lucro e si propone la diffusione e il perfezionamento di nozioni relative alla teoria, progetto, costruzione ed impiego degli strumenti di misura e di controllo in uso nella scienza e nella tecnica in Italia.

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Ci si iscrive come Socio Individuale (Persona) o come Socio Collettivo (Società) L'iscrizione si effettua versando la quota associativa e compilando ed inviando il Modulo

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Socio Collettivo (capitale fino a € 51.000) € 200,00 iscrive 3 persone Socio Collettivo (capitale oltre € 51.000) € 400,00 iscrive 5 persone

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- oppure presso la segreteria delle Delegazioni Zonali.

Si aggiunge l'opportunità per i soci collettivi di far partecipare alle iniziative dell'Associazione qualsiasi dipendente con la sola aggiunta di 100,00 Euro/anno (senza il pagamento della quota associativa individuale per il dipendente non compreso nei tre/cinque nomi indicati all'inizio dell'anno in caso di partecipazione alle nostre iniziative).

L'associazione si rinnova annualmente e ha validità per l'anno solare in corso (V.Statuto)

Con l'associazione il socio ottiene inoltre l'invio delle riviste "AIS ISA Italy Section Magazine" e "Automazione e Strumentazione" (mensile). Il Socio viene anche informato delle iniziative svolte dalle associazioni aderenti ad A.I.S.



CHI SIAMO

ISA è un'associazione non-profit di professionisti che operano nel campo della strumentazione, del controllo di processo e dell'automazione.

La Sezione Italiana offre un continuo aggiornamento professionale tramite Convegni, giornate di studio e accesso agli Standards ISA, riferimento mondiale del settore.

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- Organizzazione a livello nazionale ed internazionale di simposi e conferenze.
- Accesso on line a "Directory of Instrumentation", la più completa fonte di riferimento per la strumentazione industriale e alla consultazione di tutti gli Standard ISA online.

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INSTRUMENTATION

AUTOMATION





AUTOMATION INSTRUMENTATION SUMMIT JULY 5/6



WHY ITALY???

Castello Belgioioso is an historic venue that will let visitors reflect on the great efforts of our predecessors.

Italy is the cradle of creativity, from Leonardo da Vinci to Galileo Galilei, Enrico Fermi and Giulio Natta.

Italy is also the place where industry leaders like Tecnimont, Saipern, Technip, Technint and Foster Wheeler are located with many Oil and Gas, Petrochemical, Power and Steel plants from all over

Many local suppliers have been supporting this international success and they are proud to share their experience and case history of successful projects worldwide with other international suppliers within the market.

These two days conference will provide an excellent opportunity for all to participate in discussions on automation, instrumentation, analyzers, communication, control systems, SCADA, safety, fire and gas, integration and cybersecurity.

THE SUMMIT

The Automation Instrumentation Summit® will take place in Castello Belgioioso near Milano, Italy, on July 5-and 6, 2017.

The worldwide recession can become an opportunity for us to look at what we have done so far, and identify the best strategies for future improvements.

The manufacturing companies will have the opportunity to showcase their products and solutions at the stands of the exhibition area whereas the speakers will present their papers based on case histories and share common experience with all the other expertise during the AIS- ISA Italy conference.

Editoriale Delfino, pur assicurando la massima diligenza nella compilazione del catalogo del Summit, declina ogni responsabilità per even-

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STRUMENTATION

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Aggiornato al 15 giugno 2017





(A) (L) Conference programme

Conference programme (s)





Wednesday, July 5, 2017 | Room: SALA STUCCHI

10.00 am - OPENING CEREMONY

Welcome speeches: Claudio Montresor, President AIS

Ugo Baggi, President ISA Italy

Pierroberto Folgiero, CEO Tecnimont, Milano

Workshop sessions: Chairman: Ezio Pasqualon, Tecnimont

10.30 am - INDUSTRIAL IOT AND PERVASIVE SENSING - THE PAPER MILL EXAMPLE

Maurizio De Francesco, Emerson Process Management

11.00 am - SECURING DATA QUALITY IN DIGITAL PLANTS AND CONNECTED ENTERPRISE THEME 3

Brito Cardier. Rockwell Automation

11.30 am - IEC 61508 AND 61511 FOR VALVES - CORRECT VALVE SELECTION

Ville Kähkönen, Metso

THEME 4

THEME 3

12.00 am - SMART MANUFACTURING ENTERPRISE - THE PLANT OF THE FUTURE

Marco Gamba, Schneider Electric Systems Italia

THEME 3

12.30 am - RECENT INNOVATIONS IN CONTROL SYSTEMS TECHNOLOGIES FOR AGILE PROJECT

EXECUTION

STRUMENTATION

Massimiliano Veronesi, Yokogawa Italy

THEME 2

1.00 pm - BUFFET LUNCH

Workshop sessions

Chairman: Diego Bertazzo, Tecnimont

2.00 pm - THE EVOLUTION OF THE MEASUREMENT INSTRUMENTATION FOR THE SAFETY

AND EFFICIENCY OF THE PROCESS

Mario Ragno, Endress+Hauser **THEME 4**

2.30 pm - FIRE & GAS SAFETY MANAGEMENT SYSTEM

Giovanni Mario Bardoni, SES Asa Enginnering

THEME 4

3.00 pm - FOXBORO BY SCHNEIDER-ELECTRIC RENEWED VIEW ON HIGH QUALITY AND

INNOVATIVE INSTRUMENTATION

Stefano Cupaiolo, Schneider Electric Systems Italia THEME 4

3.30 pm - BENEFITS OF CONTROLLING AMMONIA (NH3) SLIP IN COMBUSTION PROCESSES

Rhys Jenkins, Servomex

4.00 pm - QUALITY AND FOOD SAFETY THROUGH CONTROL SYSTEMS

Francisco Jose Alferez Canales, Tetrapack (ISA SPAIN)

THEME 5

THEME 3

THEME 4

4.30 pm - A TRIPARTITE ANALYSIS FRAMEWORK OF CYBERSECURITY THREATS FOR THE

INDUSTRIAL INTERNET OF THINGS

Luigi Rucco, Alascom Services

Aggiornato al 15 giugno 2017

Wednesday, July 5, 2017 | Room: SALA DA BALLO

Workshop sessions Chairman: Matteo Finardi, Tecnimont

10.30 am - EVOLUTION OF RADAR LEVEL MEASUREMENT: SAFETY, RELIABILITY, SAVING, MAINTENANCE AND ENGINEERING SIMPLIFICATION

Daniele Romano, Vega Italia

THEME 4

11.00 am - THE BENEFITS OF SAMPLE SYSTEM DESIGN RELATED TO THE INTEGRITY AND

RELIABILITY OF ON LINE PROCESS ANALYZERS

Fabio Cavina, Fores Engineering THEME 4

11.30 am - SIGAS. A SPANISH PROJECT TO OPTIMIZE MEASUREMENT IN THE TRANSPORT NETWORKS OF PRECIOUS FLUIDS, NATURAL GAS

Armando Gonzales Lefler, Aplein Ingenieros (ISA SPAIN)

THEME 4

12.00 am - WHEN BOUNDARIES DISAPPEAR: HOW INDUSTRY 4.0 IS CAUSING INSTRUMEN-TATION AND PROCESS AUTOMATION TO BLUR INTO ONE ANOTHER

Nunzio Bonavita, ABB

THEME 4

12.30 am - MONITORING AND CONTROL FOR EFFICIENT, SAFE AND SECURE PLANTS: BE-NEFITS FROM THE MULTI-SOURCE INFORMATION SYNTHESIS

Filippo Silvestri, Page Europa

THEME 2

1.00 pm - BUFFET LUNCH

Workshop sessions

Chairman: Fabrizia Miotto, Tecnimont

2.00 pm - CONTROL VALVE FROM CONTROL LOOP THEORY PERSPECTIVE: A GENERAL

OVERVIEW

Anna Veneroni, Simeco

THEME 1

2.30 pm - GUIDELINES TO SELECT THE FINAL ELEMENTS FOR HIPPS

Enrico Sanguineti, ATV HIPPS

THEME 1

3.00 pm - CUSTODY TRANSFER METERING SYSTEM FOR NATURAL GAS REFINERY APPLI-CATION

Flavio Cavalca, ATEC

THEME 4

THEME 4

3.30 pm - A REVOLUTIONARY DIGITAL CONTROLLER THEME 1 Leonardo Ongetta, Rotork

4.00 pm - HYDROGEN SULPHIDE IN WATER DETERMINATION BY ONLINE ANALYZERS THEME 4 Maurizio Castellano, Baggi

4.30 pm - SMART GAS DETECTION

Thomas Reschke, Honeywell

Aggiornato al 15 giugno 2017

TRUMENTATION

(A) (L) Conference programme

Conference programme (sA)





Thursday, July 6, 2017 | Room: SALA STUCCHI

Workshop Sessions

Chairman: Diego Bertazzo, Tecnimont

10.00 am - INDUSTRIAL SECURITY - PREREQUISITE FOR DIGITALIZATION

Cristian Sartori, Siemens

THEME 3

10.30 am - THE DARK SIDE OF INDUSTRIAL INTERNET OF THINGS (IOT)

Francesco Zucca, Yokogawa

THEME 3

11.00 am - START UP/SHUT DOWN METHODOLOGY FOR COMBINED CYCLE POWER PLANT

Ezio Pasqualon, Tecnimont THEME 1

11.30 am - RISING STEM BALL VALVE (RSBV)

Andrea Zilio. Flowserve

THEME 1.4

12.00 am - PERVASIVE SENSOR - THE NEW HOLY GRAIL?!

Danny Vandeput, Emerson Process Management

THEME 4

1.00 pm - BUFFET LUNCH

Workshop sessions

Chairman: Stefano Malavasi, Politecnico di Milano

2.00 pm - ADVANCED FLOW MEASUREMENT SOLUTIONS FOR CRITICAL APPLICATIONS AI-

MED TO EPC AND END-USER

Gianantonio Favalessa. Ital Control Meters

THEME 4

2.30 pm - HILTI INTEGRATED FLOATING FLOORS: IMPROVING THE DESIGN AND CONSTRUC-

TION MANAGEMENT OF CONTROL ROOMS

Stefano Curti. Hilti

THEME 5

3.00 pm - SAFCO ENGINEERING SM MODULES SERIES

Gianbattista Zago, Safco

THEME 1

3.30 pm - INSTRUMENTATION AND CONTROL FOR AN ACID GAS REMOVAL PILOT PLANT

Fabio Brignoli, Tecnimont

THEME 4

4.00 pm - INDUSTRY 4.0: NEWS AND TRENDS IN COLLABORATIVE ROBOTICS

Jose Ignacio Armesto, Universidad de Vigo (ISA Spain)

THEME 3

Aggiornato al 15 giugno 2017

Thursday, July 6, 2017 | Room: SALA DA BALLO

Workshop sessions

Chairman: Matteo Finardi. Tecnimont

10.00 am - STRUCTURED APPROACH TO SAFETY AND SECURITY FOR INDUSTRIAL APPLICATIONS

Heinz Gall, TUV

THEME 3

10.30 am - OIL IN WATER, TURBIDITY AND COLOR MEASUREMENT UPSTREAM & DOWNSTREAM THEME 4

Hans Rudolf Rechsteiner, Sigrist-Photometer Ag

11.00 am - INDUSTRIAL NETWORK RESILIENCE Davide Crispino, Phoenix Contact

THEME 3

11.30 am - EVOLUTION OF RUPTURE DISC MANUFACTURING TECHNOLOGY AND PERFORMANCE THEME 4

Mario Modena, Donadon

12.00 am - JUST HOW VULNERABLE IS YOUR SAFETY SYSTEM Colin Easton, Prosalus (UK)

THEME 3

12.30 am - INDUSTRIAL WIRELESS ENABLING SAFETY Diederik Mols, I.S.A 100 Wireless Compliance Institute

THEME 2

1.00 pm - BUFFET LUNCH

Workshop sessions

Chairman: Ugo Baggi, Baggi

2.00 pm - ICS CYBER SECURITY IMPLEMENTATION TO INDUSTRY - THE NEXT GREAT THING

OR A REAL NIGHTMARE FOR I&C ENGINEERS

Jonni Talsi, Poyri

2.30 pm - WIRELESS GAS DETECTION INFRACTUSTURE AND PLATFORM Sergio Bellardo / Giovanni Silvestri, Eurocontrolli

THEME 3

THEME 3

3.00 pm - WIN-WIN: HELP SALES FOLK MEET THEIR TARGETS AND IMPLEMENT YOUR COR-

PORATE SOCIAL MARKETING STRATEGY Nick Taylor, Emerson Process Management

THEME 5

3.30 pm - WORKSHOP HIPPS AND INTERLOCKING SOLUTIONS Stef Hamelynck, Precision Fluid

THEMES 1, 4

THEME 4

4.00 pm - REMOTE SENSING FOR PROCESS ANALYSIS AND OPTIMIZATION Gregory Shahnovsky, Amir Or - Modcon Systems

4.30 pm - AWARD CEREMONY: IDEAS 4 AUTOMATIC AWARD

Stefano Malavasi, Politecnico di Milano, Claudio Montresor, President AIS, Ugo Baggi, President ISA Italy

5.30 pm - MEETING WITH THE EXHIBITORS - Closing Report Claudio Montresor, President AIS and Ugo Baggi, President ISA Italy

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Welcome message

WELCOME to the Automation Instrumentation Summit!

There is no future without the past, for this reason we decided to have the summit in a historic place like Castello di Belgioioso, hoping that the conjunction with historical place and the "innovative" technology will be a great incentive for the future.

The first international edition of AUTOMATION INSTRUMENTATION SUMMIT, key event for the world of instrumentation, measurement systems and related activities, is scheduled for 5 and 6 July at the historic location of Castello di Belgioioso in the province of Pavia.

> Claudio Montresor AIS President

Ugo Baggi ISA Italy President

THEMES AND TOPICS

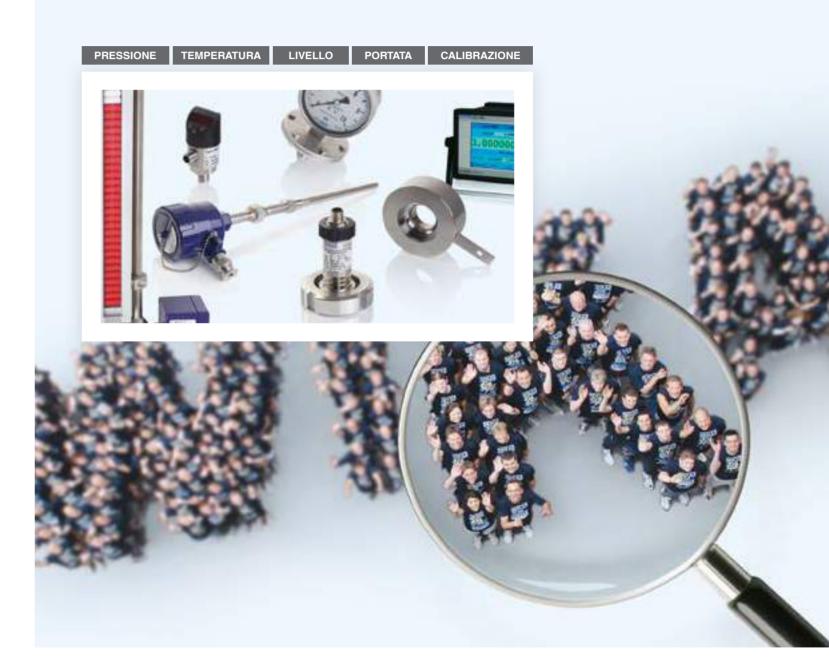
THEME 1 ADVANCES IN CONTROL SYSTEMS

THEME 2 CONTROL AND PLANT COMMUNICATION

THEME 3 THE INDUSTRIAL INTERNET OF THING, 4.0, CYBERSECURITY THEME 4 INSTRUMENTATION AND ANALYZERS TECHNOLOGY EVOLUTION

THEME 5 BUSINESS AND MANAGEMENT

INSIEME PERIL VOSTRO SUCCESSO



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Siamo presenti come un forte gruppo di aziende in oltre 75 paesi nel mondo. Scopri i vantaggi del know-how dei nostri 8.500 impiegati altamente qualificati, dei nostri eccellenti servizi e della completa gamma di prodotti. Che si tratti di prodotti standard o di esecuzioni speciali, lavoriamo con voi alla ricerca delle giuste soluzioni adatte alle vostre esigenze. www.wika.it



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Aggiornato al 15 giugno 2017

THE NEW IR TECHNOLOGY **BY SENSITRON**

Developed to ensure a safe gas detection in harsh environments, SMART S Series IR detectors with IR technology have been designed to meet the toughest industrial requirements of applications in the Oil & Gas, chemical and petrochemical industries and wherever the concept of Safety Integrity Level is an essential prerogative.

This product has been developed to have fast response time and high immunity to humidity

Some features (standard or optional according to model):

- 4-20mA outputs, RS485 and relays
- Non-intrusive one-man calibration
- Hart Modem
- . SIL 2 HW and SIL 3 SW
- Very fast response time (ten seconds)

Please note that in order to achieve a complete SIL2 or 3 certified gas detection system, the detectors have to be combined with control panels with the same certification level such as Galileo Series control panels, capable of supervising from 8 to 256 detectors.

More details on detectors and control panels are available on the website www.sensitron.it







XgardIQ

The Crowcon XgardIQ is a versatile gas detector and transmitter designed to minimise the time operators spend in hazardous areas.

Sensor modules can be simply and quickly "hot-swapped" or bump-tested in-situ. The bright OLED display and unique +ve Safety feature enables **status checking at a glance**.

XgardIQ - intelligent safety.

Saving Lives

www.crowcon.com

Detecting Gas CROWCON

XgardIQ - intelligent safety.



Crowcon Detection Instruments, experts in gas detection technology, have developed XgardIQ, their most intelligent fixed point gas detector, to further increase safety in environments where operators may be exposed to gas hazards. This versatile transmitter and gas detector has a range of features designed to protect engineers and support facilities managers of oil, gas, chemical and petrochemical plants.

Flexibility

Modern day plant environments can be varied, requiring careful management and can sometimes present detection challenges. The XgardIQ is fitted with a variety of flammable, toxic or oxygen gas sensors, offering a wide field of application with one single product.

Enhanced Communication

Reliable communication of safety critical data is a key deliverable. The XgardIQ provides 4-20mA and RS-485 Modbus signals as standard and is also available with alarm and fault relays. This latest product development ensures compatibility with virtually any control system. With a comprehensive set of output interfaces, the XgardIQ can easily communicate with gas detection panels, PLC's DCS's and SCADA systems. Intelligent information and data exchange is offered through the HART feature which facilitates diagnostic checking and maintenance locally, or remotely using industry standard communication tools. Using the HART feature also enables data transmitted from XgardIQ to be automatically logged and monitored on asset management systems.

Smart Design

Reducing the amount of time spent working in a hazardous environment is always a priority. The XgardIQ allows operators to minimise the time spent performing routine maintenance as the sensor modules can be 'hot swapped' without the need for a hot-work permit. The integrity of the sensor function is still maintained with the option to swap out the existing module for a new pre-calibrated module or, remove it temporarily for testing and calibration in a safe environment.

Increased safety

In new builds, the XgardIQ aids commissioning, as it can be installed with a sealed dummy module which protects the device until commissioning takes place. The XgardIQ transmitter automatically configures to the correct gas type, scale and alarm levels when a functioning sensor module is installed. Easy to maintain, the XgardIQ is quick to test with fast and simple 'Speedy Bump' or 'Smart 'Bump' options. These features protect engineers and promote safer working by allowing quick interim safety checks and overall, less exposure to hazardous gas.

Constant assurance

Crowcon's unique Positive Safety™ feature, a constant bright blue LED light and OLED display, reassures operators that the XgardIQ is operating safely. Should the ambient temperature or gas concentration exceed sensor limits, the LED will flash and a warning message is displayed. This first class safety feature puts the Crowcon XgardIQ ahead of other detectors that may be incapacitated by sensor exposure to extreme conditions.

XgardIQ has been developed to address the challenges and objectives of operators in safety critical applications and to deliver real user benefits and keep their people and plant safe from gas hazards.

Find out more about XgardIQ and other Crowcon products at www.crowcon.com

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BENEFITS OF CONTROLLING AMMONIA (NH₃) SLIP

IN NOx REDUCTION EMISSION STRATEGIES

Burning coal and other fossil fuels is widely used in the power industry for electrical generation, but because of the combustion process, particulate matter (or smoke) and nitrogen oxides (NOx) are released into the atmosphere.

NOx and dust are the leading cause of human respiratory issues and government agencies worldwide are releasing stronger regulatory measures designed to reduce air pollution. Some countries such as the United States go even further, offering credits which can be traded for any excess NOx reduction that occurs, making it more valuable than fuel savings to a plant owner.

Even if NOx credits are not available, prolonging the lifetime of the NOx reduction equipment also makes economic sense as it greatly reduces operating costs.

The main NOx control strategies that have been successfully deployed in the power industry are Selective Catalytic Reduction (SCR) and Selective Non-Catalytic Reduction (SNCR), which both rely on accurate ammonia (NH₃) or urea dosing to reduce NOx formation.

These NOx reduction strategies have also been successful in other combustion and chemical processes, including co-generation and pulp and paper boilers; cement kilns and

smelting furnaces; gas turbines; stationary engines; and catalytic cracker furnaces to name just a few.

NH₃ overdosing (called NH₃ slip) causes the formation of ammonium bisulfate (ABS). The ABS deposits on and eventually plugs the NOx reduction catalyst, but it can also cause fouling or corrosion of boilers or, for those power plants that sell their fly ash to the cement industry, it results in sub-standard product which is no longer fit for use. Rapid and accurate monitoring of the NH₃ slip saves the power industry millions by providing a feedback process loop that reduces ABS formation and catalyst aging effects.



MONITORING THE NH₃ SLIP

Traditional NH₃ slip process monitoring methods have in the past used extractive sampling techniques with an infrared (IR) based analyzer. A sample of the gas must be transported to the analyzer, which results in a delay of up to 30 seconds in the reported NH₃ value.

The sample gas during the extraction process must be kept very hot (>290°C) to keep ABS as well as sulfuric acid (H₂SO₄) from forming and damaging the sampling and analytic equipment.

Even if the sample transport issues can be solved, the high flow rate and particulate loadings of a coal-fired combustion process makes a single point extractive sampling system unreliable as a process control trigger.

A carefully controlled NH₃ slip of <2ppm is needed to optimize the process and, without a direct gas measurement, it will be difficult as many parameters influence the process including the inlet NOx concentration, fuel composition and catalyst performance.

Extractive sampling systems using IRbased analyzers must also be concerned with signal interferences from a range of gases including SO₂ or H₂O formed by the process, as well as high levels of dust.

All of these issues lead to an uncertainty over the NH₃ measurement which, combined with a growing demand for ultra-low NOx emissions (which translates to even lower levels of NH₃), means that the monitoring analyzers must have higher sensitivity and a faster response than the traditional extractive systems which are unable to meet the demands of the process.

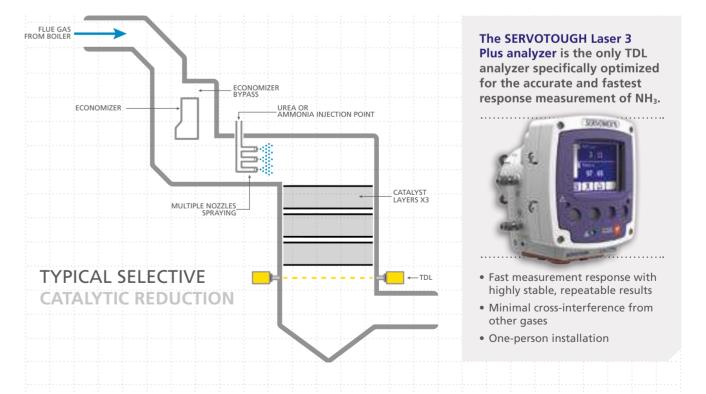
Tunable Diode Laser (TDL) based analyzers have been successfully installed directly into the process stacks, providing an instantaneous signal that is averaged across the duct, providing greater accuracy in the NH₃ reading even if the flow through the stack is uneven. As there is no physical or mechanical interaction with the process, TDL lasers offer a highly stable and fast

measurement response, even in hot, wet, corrosive and dusty process conditions. TDL analyzers have taken over as the industry standard for monitoring the NH₃ slip and feeding the results back to the control process.

The SERVOTOUGH Laser 3 Plus analyzer includes a new and unique signal processing routine that provides highly stable, repeatable results with minimal cross-interference from other gases compared to any other TDL or IR analyzer on the market.

Packaged in a small and light unit, the Laser 3 Plus occupies only a fraction (one-tenth) of the footprint of its competitors. And while other TDL analyzers require two to three people to install and align the analyzer, the Laser 3 Plus only requires one person to install in just a few hours.

It offers the longest intervals between calibrations or cleaning on the market today, making it an ideal system where analyzer downtime is critical.



Find out more about the SERVOTOUGH Laser 3 Plus analyzer range at: servomex.com/l3plus

FOR CHEMICAL OPERATORS: 3 **REASONS TO USE 80 GHZ** RADAR FOR LIQUID LEVEL MEASUREME

Chemical processors have an array of technologies to choose from for liquid level measurement. Through-air radar solutions are common, as are guided wave, pressure, and radiation-based level solutions, just to name a few. The options are plentiful and each measurement technology has a solid track record in the chemical processing industry. Given the volume of available instruments. users in chemical plants often stick with the level measurement they know instead of the



Yet the choice may be getting a little clearer for end-users in chemical plants. The recent introduction of liquid level radar sensors with 80 GHz transmission frequency offers certain advantages users in the chemical industry may find especially beneficial. This paper highlights three of them and gives a brief of overview of the limitations of 80 GHz radar sensors so users in chemical plants can make an informed decision for their liquid level applications.

1, 80 GHz radar sensors deliver clear signals when mounted on ball valves and tall nozzles

In applications measuring harsh, caustic chemicals, many operators separate their level detectors from the process via a ball valve. This is a common practice and frankly, a smart move. External access allows the user to keep the process moving during maintenance work or when replacing a faulty sensor. You can also look at the wisdom of mounting a level instrument on a ball valve this way: If a problem arises with an instrument inside of a tank, that particular tank—or worse, an entire line—might have to be shut down, potentially leading to thousands of dollars in lost production. That's a bad day at work, Many plants choose to play it safe and mount sensors on a ball valve. Pairing a ball valve with a 26 GHz radar sensor has a history of difficulty because the interior surfaces of the valve reflect radar signals back to the sensor, creating an excess of signal noise



at the top of the measurement. Similar noise is created when mounting a 26 GHz radar instrument on a tall nozzle, as reflections from the nozzle's narrow walls reflect back to the sensor antenna. 80 GHz radar technology presents chemical-industry users new option for liquid level measurement, even when a sensor is mounted on a ball valve or a nozzle. These higher-frequency sensors emit a radar beam as narrow as 3°, so a smaller portion of the signals contact the valve or nozzle walls, minimizing noise and creating an easier experience for users who now have a clear picture of the level inside a tank, 80 GHz radar sensors have been installed successfully on a broad range of 3-in, and 4-in, ball valves and on nozzles as tall as 5 feet.

2. 80 GHz radar sensors are compatible with unreflective liquids

I'd guess that everyone who works in chemical processing has struggled to accurately measure a liquid with low dielectric constant (dK). These unreflective products demand a highly-sensitive measurement device to detect the weak signals they return to the antenna. In the past, if a liquid's dielectric constant was too low, radar might not be sensitive enough to measure it. That's changed due to advancements in dynamic range.

Measured in decibels (dB), dynamic range is an indicator of sensitivity. The larger the dynamic range of a radar sensor, the smaller the signals it can measure. VEGA's 80 GHz radar for liquid level, the VEGAPULS 64, has a dynamic range of 120 dB, large enough to measure any liquid chemical regardless of dK value—dielectric constant isn't even part of the conversation anymore, and 80 GHz radar is compatible with any liquid chemical

3. 80 GHz radar sensors make it easier to measure through glass and plastic

Portal windows on process vessels are familiar sights in the chemical industry. Historically, users have installed these portholes to visually check the level, ensure mixes are reacting properly, and confirm everything looks as it should.

Vessels with windows permit users to measure liquid level in a unique way; by mounting a radar sensor above the glass. Radar

microwaves penetrate the glass, reach the product inside, and reflect through the glass back to the sensor. This eliminates two major expenses because users are spared from retrofitting a tank to accommodate a sensor and can continue running a process during installation. Functionally, nothing changes as users can simply move the sensor for a moment to look through the glass and see what's happening in-



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As a matter of disclosure, you should know that this isn't new. Any radar sensor can measure liquid level

through glass, but the ease and clarity of this measurement is new and is made possible by 80 GHz transmission frequency. Windows are often welded, bolted, or clamped directly onto a tank wall or roof with a circular flange, while others are mounted on a nozzle. As is the case with ball valves and nozzles, the sides of the flange reflect signals to the antenna and create noise. The interference forces operators to leave empty space inside a tank to make a clear distinction between the signal received from the vessel and the signal received from the product.

Further complicating the use of last-generation, 26 GHz sensors above such vessels is the fact that most windows are installed at a natural slope in the tank. This angle narrows the path to the liquid, increasing the degree of difficulty in setting up a sensor so the beam is perpendicular to the product. Perpendicularity is important because it's in direct relationship to the strength of the signal the sensor receives. In order to minimize the small signals that bounce from the angled window back to the sensor, it's recommended that users pair a 26 GHz radar sensor with a window installed at least a 30° angle. This forces users to choose between a strong signal from the product accompanied by reflections from the glass or a weak signal from the product and no reflections from the glass. Call that the curse of bad choices. 80 GHz radar sensors solve the problems signal noise and narrow paths create because of signal focusing. Installed above any window installed at a 5-10° angle, the narrow radar beam misses the sides of the flange and travels a tight path to the product without sacrificing signal strength.

There's no magic bullet for level measurement of liquid chemicals; even 80 GHz radar sensors aren't the optimal choice under certain conditions. Heavy foam traps microwave signals and prevents them from returning to a radar antenna, so in such applications it is recommended users turn to guided wave radar, Radiation-based technology may be better suited for measuring level of highly toxic, chemically-aggressive liquids, and electronic differential pressure is a popular choice for measuring liquid gas level. Operators should contact their instrumentation manufacturer for advice about selecting the right measurement technology for their needs.

Each chemical process has its own demands and idiosyncrasies and it would be dishonest to say that one technology is the best fit for every liquid level application. But with 80 GHz radar available, we're nearer to that point than we were just two years ago. Given its focus, which allows it to deliver clear measurements when mounted on valves and nozzles, its large dynamic

range, which allows it to measure low-dK liquid, and its ability to measure through portal windows and plastic tanks. end-users and engineers in chemical plants should consider 80 GHz radar as the first choice in all liquid level applications

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"HOOK-UP" RATHER THAN A **MODULAR SYSTEM**

Combination of pressure measuring instruments with instrumentation valves and accessories as a complete solution.

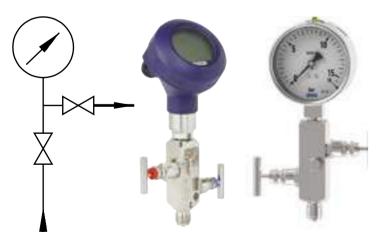
Critical situations in the process are often looked after with pressure gauges and process transmitters in combination with valves and protective devices. Plant operators can install such arrangements themselves. Economic and safety-related reasons, however, suggest that such measuring points should be designed by a qualified manufacturer as a complete solution – a

Pressure continues to be one of the most important measured variables in industry. The requirements on measurement technology to monitor it are constantly increasing: Due to stricter obligations and greater demand to be cost-effective, processes are subject to tighter control. Adjustments are carried out within narrower time limits and, in parallel, the maintenance and repair cycles must be optimised.

Against this background, plant operators must think beyond standard solutions in measurement instrumentation. An assembly of measuring instruments and suitable accessories, such as valves and protective devices, increases the performance spectrum of pressure gauges and transmitters, while extending their service life. In some applications, a measuring arrangement with instrumentation valves is required so that the process can effectively be monitored at all, for example in the zero-point control for filter monitoring via differential pressure measurement. In this case, a combination of differential pressure gauge and multiway valve manifold is required.

The design and construction of any measuring point with instrumentation valves and accessories must be based on the specific process conditions. This is not only concerning the desired performance, the functionality or the corresponding materials. Depending on the installation situation, mounting accessories such as instrument mounting brackets, connection adapters and seals must also be considered. Only in this way can the maximum benefit for the application be realised. Combining all the components means a considerable effort, especially since generally several suppliers must be involved. Then comes the assembly.

Figure 1 - Process transmitter and pressure gauge with block-and-bleed needle valve.



A: Pressure measuring instruments with valves

Hook-ups can be divided into two main

categories.

Valves enable the separation of a measuring instrument from the process. If the pressure gauge or transmitter needs to be exchanged or removed for calibration, the process remains sealed. These instrumentation valves are primarily needle valves, valve manifolds and monoflanges.

Some shut-off devices offer additional functions that can be used to bleed the process or to calibrate the measuring instrument in-situ (see graphic).

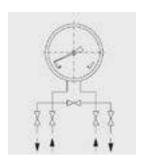
The one-way valve manifold for differential pressure gauges only serves for

the pressure compensation between the two pressure inlet

Figure 2 - Process transmitter with five-way valve manifold. ports. This design is used for zero point checking or adjustment of the measuring instrument. With three-way valve manifolds, each process line can also be shut off separately. Five-way valve manifolds offer two additional outlets in order that both pressure connections can be isolated from each other for venting (see graphic).

B: Pressure measuring instruments with protective devi-

Temporary overpressure, pressure spikes, dynamic load cycles and high temperatures in pipelines attack the measuring instruments used. They compromise their reliability and can lead to premature wear or even the destruction of the instrument.





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... against overpressure

An overpressure protector prevents the possible consequences of any temporary overpressure. For this, the pressure range

Figure 3 - Pressure gauge with overpressure protector.



Figure 4 - Pressure gauge with external snubber.

is adjusted as required via a screw: If the process pressure in the pipeline rises above the set threshold value (spring force), the protective device independently closes the pressure port and thus protects the mounted pressure measuring instrument. If the pressure falls back below the defined level, the device opens, and the pressure gauge then indicates the current pressure in the pipeline again.

... against pressure spikes and dynamic

The negative effects of pulsations, on the other hand, can be kept within tolerable limits through a snubber. This can either already be incorporated in the pressure inlet port during production or later con-

nected as an instrument accessory. The external solution offers the major advantage of a variable adjustment of the volume flow of the medium. The pressure port is narrowed using an adjustment screw and any pressure surge is damped optimally, thus avoiding an unnecessarily high load on the pressure element. Through this mechanism, any change in the viscosity of the medium can be conveniently "compensated for".

igure 5 - Pressure gauge with restrictor, compact syphon and monoflange.

... against hot media

However, such syphons serve primarily to shield a measuring instrument from excessive medium temperatures. These degrade the indication accuracy and can lead to irreversible damage if the maximum value is exceeded. For most pressure gauges, additional protection is already recommended for process temperatures from approx. 100 °C. Syphons, which are usually installed as primary process-side accessories, extend the "cooling element" and provide an effective temperature reduction at the measuring instrument through heat convection. Their basic function is the formation of condensate, which protects the connected measuring equipment from direct contact with the hot medium. Before the first use, therefore, they should always be filled with a liquid protection medium.



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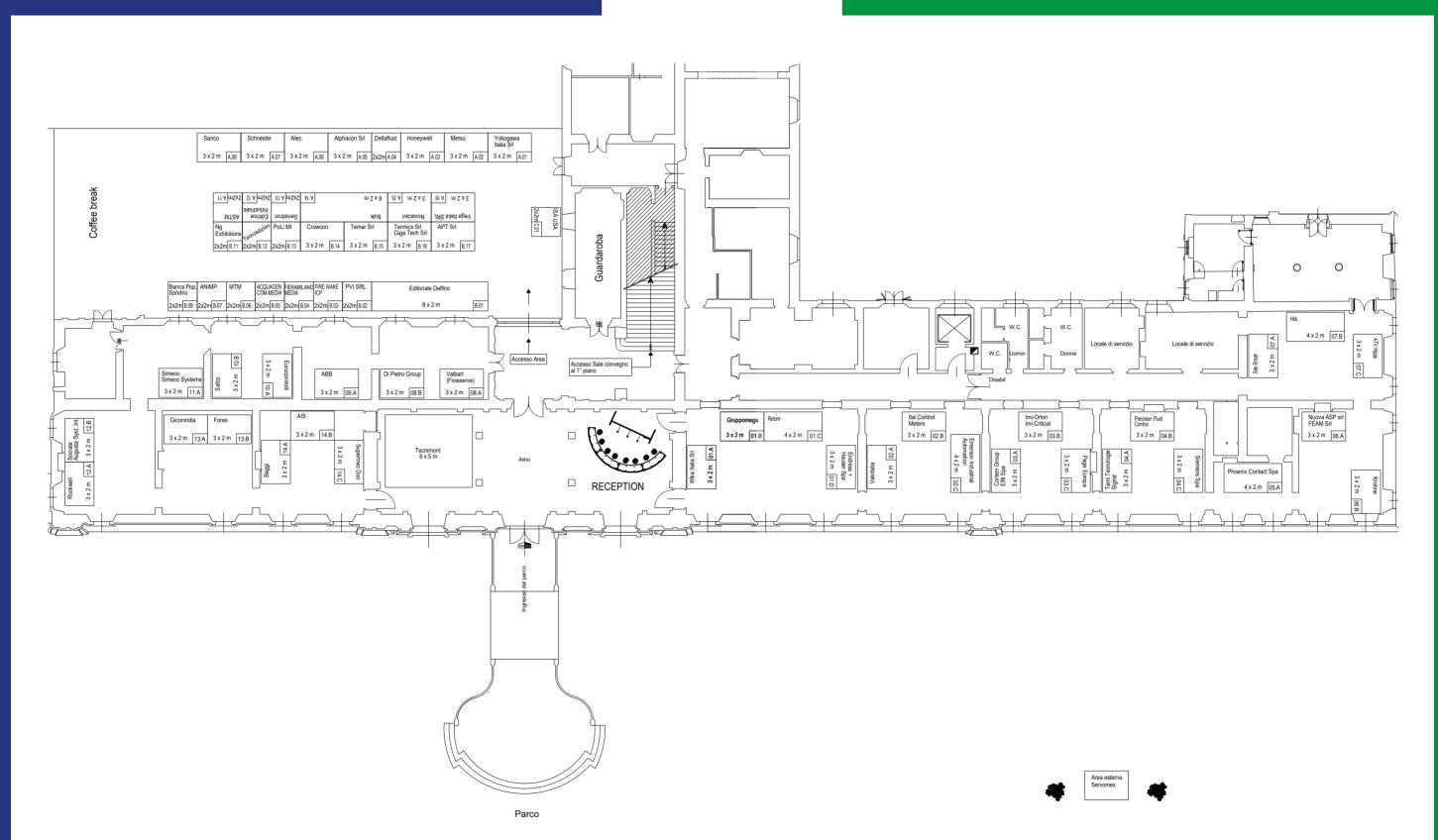
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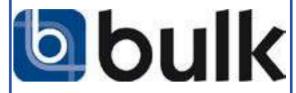
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Via Capuana 11 - Melilli, Fraz, Città Giardino - 96010 Siracusa (SR) Tel. +39 0931 766044 - www.dipietrogroup.it



DELTAFLUID

Deltafluid is a French company specialized in flow and temperature measurements. Founded in the 1970s, under the name DAR, it has developed around the Lacq gas deposit in the South West of France, working mainly for ELF Aguitaine (TOTAL). It is developing rapidly in fluid measurement and control, designing and manufacturing the following devices:- Flow Sensors, with primary elements called pressure-based meters, manufactured following the ISO 5167, ASME MFC-3M, DIN, BS 1042, API 2530 standards. - Temperature sensors thermometers, thermocouples, probes and other specific sensors.

- Restriction orifices also called pressure and/or flow limiters.
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RD 817 - Chemin Les Augas 64170 Lacg (F) - Tel. +33 5 59308520 www.deltafluid.fr



EDITORIALE DELFINO

Editoriale Delfino is a publishing house with a very long experience (since 1947) in the publication of technical works (books and magazines) in the fields of electrical systems, automation, instrumentation, energy, conditioning, renewable sources, lighting, machine safety, bio architecture and well-being

For this event Editoriale Delfino is the main editorial sponsor and is going to present the new publications as "Manuale di strumentazione" and "Industria 4.0: i vantaggi concreti!" the new application guide to take advantage of the amortization of 250%.

The Editorial Company publishes the official magazine of AIS ISA Italy

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IndustryChemistry.com is the media of Chemical Industry's field, edit by Editrice Industriale that has been working on B2B information for more than 50 years.

Surfing IndustryChemistry it's possible to find information about italian and international chemical companies, fairs, exhibitions, forum and workshops, innovations and news on this market and partner for your business like producers or distributors.

You'll find all these contents about different fields: Petrolchemical. Oil&Gas, Chemical, Pharmaceutical, Environment and Energy.

Our Readers are chemists, accademics, private industry, government agencies and qualified personnel like Engineers, R&D, Purchasing Managers, Management, Consulents, Designers, Production Managers, Quality Control, Logistic, Safety and Maintenance Managers, Plant Managers.

Centro Direzionale Milanofiori - Strada 4 Palazzo 08 - 20089 Rozzano (MI) - Tel. +39 02 303218280 - www.industrychemistry.com



"CM chimica magazine" is the leading technical magazine of chemical industry, including all segments of the sector.

Each issue provides precise information about chemical-pharmaceutical industry, automation and the sectors of engineering, plant engineering, petrochemical and Oil&Gas. Furthermore, thematic rubrics analyse topics related to key sectors such as environment, energy and maintenance techniques. The magazine also contains contributions on economic and market scenarios

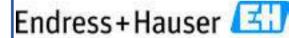
Via Medardo Rosso 11 - 20159 Milano (MI) - Tel. +39 02 60852300 www.edizionipvi.com - www.chimicamagazine.com



Emerson's Operational Certainty program aims to help industrial companies achieve Top Quartile performance. The Industrial Internet of Things (IIoT) plays a big role in Operational Certainty. Distributing data and information seamlessly via the internet makes IIoT the new frontier of manufacturing. IIoT is pivotal to Operational Certainty because Emerson can leverage the benefits of IloT to help companies improve their operational performance. IIoT makes it possible to either empower company's experts with the additional information they need for decisions and action that can facilitate operational

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Endress+Hauser provides sensors, instruments, systems and services for level, flow, pressure and temperature measurement, analytics and data acquisition. The company supports customers with automation engineering, logistics and IT services and solutions.

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Via Fratelli Di Dio 7 - 20063 Cernusco sul Naviglio (MI) Tel. +39 02 921921 - www.it.endress.com

INSTRUMENTATION







FUROCONTROLLI

Eurocontrolli was established in 1994, and is based in Milan, Italy. Eurocontrolli has accumulated 23 years of experience in the Italian and International markets, engineering and supplying integrated telecom, security and safety solutions.

In 2012, Eurocontrolli ME was established in Dubai to serve our Middle Fastern and Gulf clients.

All of Eurocontrolli's production, engineering services and activities are developed and executed in Italy by specialized Italian personnel.

Thanks to its highly-specialized team of engineers. Eurocontrolli offers after-sales assistance, maintenance and professional consulting

Eurocontrolli's first concern is customer satisfaction. In fact, it establishes an open and collaborative dialogue since the beginning of the tender in order to ensure a successful and long lasting cooperation.

Via Giacomo Matteotti 66 - 20092 Cinisello Balsamo (MI) Tel. +39 02 61833 - www.eurocontrolli.com



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Fiera Milano Media, a Fiera Milano Group's society, aims to develop reporting business systems solutions using information solutions, training, B2B communication, market analysis and marketing services, through a multimedia system that enhances over time the relationship with its customers and with Fiera Milano Group's customers.

Fiera Milano Media, through a specialized products portfolio that ranges from publishing, Internet services, updating and management training, is able to offer its customers and stakeholders services and multi-channel integrated communication projects.

> Strada Statale del Sempione 28 - 20017 Rho (MI) Tel. +39 02 49971 - www.fieramilanomedia.it

BARTEC FEAM

FEAM- F.E.A.M.

Since 1961 FEAM is your partner for safety as leader manufacturer of customized explosion proof electrical equipment for Oil & Gas industry for use in hazardous area, both gas and dust.

A global partner with sales in more than 50 countries and a strong team to support technically and commercially for on-shore and offshore projects.

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Range of products: Explosion and flame proof distribution boards, control station, switchracks, lighting fixtures and floodlights, obstruction lighting systems, cable glands and fittings, junction boxes, push button, sockets and plugs, earthing systems.

Via Mario Pagano 3 - 20090 Trezzano sul Naviglio (MI) Tel. +39 02 484741 - www.feam-ex.com



FIRE WAKE ICP

ICP - Rivista dell'Industria Chimica is the reference magazine for the decision makers of in the chemical, pharmaceutical industry and process engineering in Italy. Readers include plant managers, procurement and maintenance managers and plant engineers engaged in the process industry. Founded in 1973, ICP is the authoritative B2B magazine that puts in contact customers and suppliers, reporting all aspects of an industry that is experiencing a steady technological progress, i.e. process industry. ICP has reached its leadership thanks to the broad range of topics it deals with and the exhaustive information it provides to its readers in its technical and market articles. The magazine is the Official Body of AIDIC (Italian Association of Chemical Engineering).

Via Maspero 30 - 20137 Milano (MI) - Tel. +39 02 86896013 www.icpmag.it



FORES ENGINEERING

Based in Forlì (Italy) and fully owned by Rosetti Marino, Fores Engineering is specialized in the multidisciplinary engineering, integration, construction and installation of systems for the O&G, petrochemical. chemical and power plant fields.

Since its establishment in 1992, Fores has reached 25 years of relevant experience in the supply of Skid Mounted Package Units, WHCP, Process Analyzers Systems, Control, Safety, Security and Telecommunication Systems, Shelters, F&G and Fire Fighting Systems,

Moreover, it provides technical supervision and after-sale assistance services

All activities are performed according to the Company Quality System, in compliance with ISO 9001 standard requirements, to guarantee the correspondence to technical specifications and international quality standards.

Via Secondo Casadei 12 - 47122 Forlì (FC) - Tel. +39 0543 813811 www.fores.it



General Instruments Consortium is the leader in Indian industry for more than 4 decades in the field of designing, manufacturing and exports of Primary Process Control Instruments covering engineer parameters such as Pressure, Temperature, Flow, level, etc. General is a group of 3 manufacturing plants with world-class manufacturing facilities and over 250 peoples working with us with a goal of continuous development, innovation and customer satisfaction.

With a great emphasis on quality, our products are CE certified in accordance with Pressure Equipment Directives and Regulations of U. K. . ATEX Certified , EAC Certified,. All our manufacturing plants are ISO 9001: 2000 certified.

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GIGA TECH

GIGA TECH s.r.l., certified ISO9001, is the Italian agent and distributor of foreign well known manufacturers of sensors and components for industry and laboratory research in the electrical and industrial plant. The company can supply the customer with concrete solutions and technical support, making use of skilled technicians and a network of qualified partners and agents, that is to say a unique supplier able to satisfy any request in the industrial field.

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> Via Maestri del Lavoro 324 - 21040 Cislago (VA) Tel. +39 02 96489130 - www.giga-tech.it



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MAIN SECTORS: Oi I& Gas, Energy Plant, Campus University, Hospital Center, Hotel, Airport, Public: Infrastructures.

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INSTRUMENTATION





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Via Philips 12 - 20900 Monza (MB) - Tel. +39 039 2100881 www.honeywellanalytics.com



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Orton established in 1963 is located in Piacenza with 250 employees is part of IMI group since 2006. Key leader in manufacturing butterfly valves with both eccentric design with metal seat and concentric design with soft seat, IMI Orton has a massive worldwide installed base in several Oil & Gas, Petrochemical, Refining, Power, Water Treatment and Renewable plants.

Top performance of IMI Orton comes from supportive consolidated expertise and engineering excellence. Critical applications in Isolation and Control environment are technically evaluated at IMI Orton with specific tailored solutions. Customized trims for fast acting ESDV, Cryogenic or High temp.. ESDV as well as Anti-Cavitation/Low Noise design trim for solid particles are available to meet the extremely demanding applications

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I.S.A. ITALY SECTION

I.S.A. Italy Section è la Sezione Italiana dell'ISA-The Instrumentation. Systems and Automation Society che conta circa 40.000 soci, professionisti che operano nel settore della strumentazione e del controllo

Scopo dell'Associazione è offrire agli iscritti un continuo aggiornamento professionale tramite la rivista INTECH, organizzando corsi, convegni e giornate di studio ed assicurando l'accesso agli Standard ISA, riferimento mondiale del settore

I.S.A. Italy Section is the Italian Secion of ISA- The Instrumentation. Systems and Automation Society, an international Association of about 40.000 professionals all over the world, involved in the automation and process control instrumentation

Mission of the Association is to provide to its Members continuous education services through the magazine INTECH, the organization of training courses, conferences and workshops and providing access to ISA Standard and Practices, known worldwide as a reference for the subject.

Viale Campania 31 - 20133 Milano (MI) - Tel. +39 02 54123816 www.aisisa.it



I.S.A. USA

The International Society of Automation (www.isa.org) is a nonprofit professional association that sets the standard for those who apply engineering and technology to improve the management, safety, and cybersecurity of modern automation and control systems used across industry and critical infrastructure. Founded in 1945, ISA develops widely used global standards; certifies industry professionals; provides education and training; publishes books and technical articles; hosts conferences and exhibits: and provides networking and career development programs for its 40,000 members and 400,000 customers around the world

ISA owns Automation.com, a leading online publisher of automationrelated content, and is the founding sponsor of The Automation Federation (www.automationfederation.org), an association of non-profit organizations serving as "The Voice of Automation". Through a wholly owned subsidiary, ISA bridges the gap between standards and their implementation with the ISA Security Compliance Institute (www.isasecure.org) and the ISA Wireless Compliance Institute (www.isa100wci.org).

67 TW Alexander Dr - Research Triangle Park NC 27709 (USA) Tel. +1 919-549-8411 - www.isa.org



ITAL CONTROL METERS

Ital Control Meters is one of the leading companies in the national survey of instrumentation for industrial automation. Its more than twentyfive year experience grants competence, quality and reliability, ICM aims to select the best flow technologies worldwide and bring them to Italy to make them available for customers, both end users and EPC.

The core business of the company is: flow and level meters, analysers and dust concentration meters.

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Via Laboratori Olivetti 113 - 20010 Pregnana Milanese (MI) Tel. +39 02 4300661 - www.krohne.com



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Donatelli-Pascal is an historical scientific high school in Milano, pointed at valorization of excellence and attention to the students besides the rigor of teaching.

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Page Europa, a fully integrated business unit of General Dynamics Mission Systems located in Rome, offers InfrastructureSHIELD, a robust and secure communications network that takes its inputs from different types of security and surveillance sensors data and fuses them together to give a higher level of situational awareness across multiple onerations areas

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PHŒNIX

PHOFNIX CONTACT

Phoenix Contact is a world leader in electronic components, systems and solutions for electrical, electronics and industrial automation. The company is based in Blomberg, Germany, employing 14,500 people worldwide, with a turnover of 1.91 billion euros in 2015. In Italy, the company is in in Cusano Milanino (MI) and a total of 110 people are employed to offer customers excellent know-how and comprehensive, timely assistance.

Phoenix Contact can offer different solutions that can be successfully applied at different level of the plant network to protect against threats to Operational Continuity, which originate both from the "outside world" and from within the Industrial network: Router/Firewall for network segmentation, monitoring and integrity check for Industrial PCs. encrypted communication among sub-systems and anomaly

Via Bellini 39/41 - 20095 Cusano Milanino (MI) - Tel. +39 02 660591 www.phoenixcontact.it



DIPARTIMENTO DI INGEGNERIA CIVILE E AMBIENTALE

POLITECNICO DI MILANO - DICA

G. Fantoli (L.I.F.) is the hydraulic laboratory of Politecnico di Milano

The LIF activities concern the research, the model and testing of phenomena connected with Hydraulic and Fluid Mechanics processes. The main activities of lab include: fluid structure-interaction; fluiddynamics of single, multi-phase and granular flows; analysis of hydraulic devices (such as control valves, pumps, turbines, multi-holes plates), river hydraulics (solid transportation, structural monitoring, models), flow meters calibration (LAT104 Accredia), optical fiber sensors for structural and environmental monitoring (LAFOS), hydrological flow at lab scale and on-site, analysis and monitoring of disinfection processes in reactors (DrinkAble Project), design and realization of didactic models.

Piazza Leonardo da Vinci 32 - 20133 Milano (MI) - Tel. +39 02 23996261 www.lif.polimi.it



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Since 1998, we have been offering the most effective measuring instruments for fluid control.

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Precision Fluid Controls exclusively represents several brands including the following in Italy: Astava, Barksdale, Bifold, Bronkhorst, Clark Reliance, Fluid Component Intl, Habonim, Ham-let, Mankenberg, Rota Yokogawa, Tescom Emerson, etc.

Via Watt 37 - 20143 Milano (MI) - Tel. +39 02 89159270 www.precisionfluid.it





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Via Gallarate 215 - 20151 Milano (MI) - Tel. +39 02 3344771 www.rockwellautomation.it



ROTORK INSTRUMENTS ITALY

When you turn on a tap or switch on a light, turn on a kettle or put fuel in your car, a flow control product is being used somewhere in the process of delivering that service.

For nearly sixty years, engineers have relied upon Rotork for innovative, dependable solutions to manage the flow of liquids, gases and powders. Rotork products and services are helping companies in the oil & gas, water, power, marine, food, pharmaceutical and chemical industries around the world to improve efficiency, assure safety and protect the environment.

Rotork Instruments are specialist manufacturers of products for control and measurement. Our solutions are trusted wherever there is a need for high precision and reliability, including pharmaceutical, biomedical, oil & gas and manufacturing industries.

Via Portico 17 - 24050 Orio al Serio (BG) - Tel. +39 035 451161 www.rotork.com



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SAFCO Engineering thanks to its integrated engineering knowledge, it's able to adapt any system to match perfectly all customers' needs. We can provide real support to major contracting project teams during various phases

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SAFCO Engineering core business is focused on innovative products range and system solutions as follows:

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- Clean Agent/Inert Gas Fire Fighting Systems

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Via Caduti del Lavoro 10/A - 20096 Pioltello (MI) Tel. +39 02 95327396 - www.safcoengineering.com

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SANCO

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SANCO has been certified by Lloyd's Register according to ISO9001.14001 & OHSAS18001 and it is member of NFPA, giving value to Research & Development of special new technologies.

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Life Is On



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Schneider Electric is the global specialist in energy management and automation. With revenues of ~€25 billion in FY2016, our 144,000 employees serve customers in over 100 countries, helping them to manage their energy and process in ways that are safe, reliable, efficient and sustainable. From the simplest of switches to complex operational systems, our technology, software and services improve the way our customers manage and automate their operations. Our connected technologies reshape industries, transform cities and enrich lives. At Schneider Electric, we call this Life Is On. Schneider Electric è lo specialista globale nella gestione dell'energia e dell'automazione. Con un fatturato di circa 25 miliardi di Euro nel FY2016, i nostri 144 000 dipendenti servono clienti in più di 100 Paesi, aiutandoli a gestire la loro energia e i loro processi in modo sicuro, affidabile, efficiente e sostenibile. Dal più semplice interruttore al più complesso sistema di gestione, la nostra tecnologia, i nostri software e servizi migliorano il modo in cui i nostri clienti gestiscono ed automatizzano le proprie attività. Le nostre tecnologie connesse stanno ridisegnando le industrie, trasformando le città ed arricchendo le nostre vite. In Schneider Electric tutto questo lo chiamiamo Life is On.

> Via Carducci 125 - 20099 Sesto San Giovanni (MI) Tel. +39 02 262971 - www.schneider-electric.it



Sensitron was founded in 1988 by Dr Frigo, with the mission to becoming the Italian reference point in gas detection. Within a decade the mission was fully accomplished and the following decade was totally dedicated to give Sensitron an international visibility.

In the first decade Sensitron designed and developed a range of fixed gas detectors unrivalled in Italy. The choice of using catalytic sensors or electrochemical cells instead of the semiconductor sensors still largely employed in the 90's by the Italian manufacturers made of Sensitron the first Italian Company that could compete against well reputed European manufacturers.

As soon as the new millennium turned in. Sensitron was ready to step in the European market with a wide choice of fully ATEX certified de-

We had always believed that the ATEX directive would have been our "bridge" to Europe and we consecrated a lot of efforts in developing detectors that could guarantee reliability and performance as high as most of our European competitors could do. Sensitron gas detectors got ATEX certifications since December 2001.

> Viale della Repubblica 48 - 20010 Cornaredo (MI) Tel. +39 02 93548155 - www.sensitron.it



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SERVOMEX /GB

Servomex is the global leader in gas analysis: the expert provider of reliable, accurate and stable gas measurements to industries worldwide. Combining innovative sensing technologies with extensive applications knowledge developed over 60 years of market leadership, its gas analysis solutions deliver measurable performance advantages and a lower cost of ownership for customers.

Servomex provides measurements for quality, safety, process control and emissions monitoring, with ranges from percentage levels down to ultra-low parts-per-trillion.

The expertise and range of technologies available means Servomex is likely to be best placed to offer a single-supplier solution for applications in markets including power generation, hydrocarbon processing, and industrial gases.

> Crowborough - East Sussex - TN6 3FB (UK) Tel. +44 1892 603330 - www.servomex.com



SES-ASA ENGINEERING

Since 35 years SES-ASA Engineering is international technological reference of excellence for the design, manufacture and supply of integrated Fire & Gas and Notification solutions; SES-ASA Engineering is part of International business units worldwide, as part of IMX Holding

At AIS-ISA Summit 2017 is exhibited the top product, the only actual patent gas detector for combustible and toxic gases, mod. Smart S 500MT, that offers maximum reliability with best market price.

New concept patent dual-channel transmitter (SIL2: SIL3 in redundant sensor) with hot sensor plug-in replacement and hot filter replacement to assure constant response time, and with remote calibration and advanced diagnostics.

It represent the most innovative product of its type, with 40% saving over market price of two detectors; 45% in offer 'till end of the year.

Via Galileo Galilei 5 - 20091 Bresso (MI) - Tel. +39 02 610371 www.sesasa.it

AIS ISA Special Number 2017

SUMMIT

INSTRUMENTATION

OMATION



SIEMENS

Ingegno per la vita

SIFMENS

Siemens believes that high-quality data are crucial in the process plants to deploy all the benefits of the Industry 4.0 revolution. Siemens Process Instrumentation, Analytical Systems a Process Control System can play a crucial role for quality-critical industries like 0&G , Power and F&B: they measure, analyze, regulate and control industrial parameters and thus contribute to increase the efficiency. the products quality and the production flexibility while minimizing plant downtime thanks to the advanced diagnostics functions enabling predictive maintenance and continuous process optimization. Furthermore the holistic digitalization approach from Siemens provides a comprehensive solution for the instrumentation of the smart

Viale Piero e Alberto Pirelli 10 - 20126 Milano (MI) - Tel.+39 02 2431 www.siemens.it



SIMECO

SIMECO was founded in 1984 and provides multidisciplinary engineering and project management services for Italian and International customers. Our headquarters are located in Milan (northern Italy). We have vast experience in Refining Plants, Tank Farms, Pipelines, Petrochemical Plants and Power Plants.Our services include Multidisciplinary Engineering (Feasibility, Basic, FEED and Detail Design), Project Management Services, Field Services, Procurement Services and EPC Contracting.

Our workforce is approximately 300,000 manhours/year developed through approx.

In the I&C area we can provide 60,000 - 80.000 manhours/year, with a staff of more than 35 highly qualified engineers and consultants. In the Process Technology area we can provide 50,000 manhours/year, with a staff of more than 30 highly qualified engineers and consultants. (SIMECO.SISTEMS/Bosnia: Gradacacka 29B - 71000 Sarajevo Bosnia and Herzegovina Tel: +387 33 942144 - www.simecosystems.com)

Via Romilli 22 - 20139 Milano (MI) - Tel. +39 02 992981 www.simecomilano.it



SIGRIST-PHOTOMETER

Since 1946, when the construction of photometers began, our company has focused to develop and produce top quality process on-line

The whole design and construction process is done in our factory in Switzerland, in order to ensure the control of each relevant step. Our range of analyzers includes scattered light, absorption and UV fluorescence instruments dedicated to measure turbidity, colour, concentration, DOC, oil in water, smoke and dust.

The main applications are in the fields of oil and gas, chemical industry, beverages & food, traffic & environment for the most demanding conditions and when high reliability is requested.

Our Know How and flexibility allows us to satisfy the customer requirements with standard and also with customized solutions.

Hofurlistrasse 1 - CH-6373 Ennetbuergen - Switzerland Tel. +41 6245461 - www.photometer.com



SOCRATE

In all its business units (process analyser, fiscal metering and fire and gas) SOCRATE offers a complete support, from the application study to the validated information to DCS, ordinary and extraordinary maintenance, consultancies and training.

From 1 of January 2017 SOCRATE is the only channel partner for General Monitors MSA fixed gas and flames detectors for the oil and gas in Italy and Greece.

Our distributed products as well as our engineered turnkey solutions are based on deep knowledge of the process. We provide a complete support also for law and directive requirements as well as process

SOCRATE actual markets are the Italian, the Spanish, the Greek, the Mediterranean and the Russian area.

> Via Papa Giovanni XXIII 5 - 20090 Rodano (MI) Tel. +39 02 95321142 - www.socrate.it



SUPFRMFC

Supermec Group is a "GLOCAL" company, with footprints across Asia Pacific, Middle East, and Europe.

The company has been delivering more than 40 years of extensive international experience in the Asia Pacific & Middle East regions. We offer complete integrated Engineering, Procurement, Construction and Maintenance (EPCM) services to the Oil & Gas. Petrochemical. Chemical & Pharmaceutical industries.

Supermec is now manufacturing a complete range of explosion proof electrical equipment.

Being the industrial leader in Electrical & Instrumentation works for decades which is our core business. Supermec has grown leaps and bounds and continues to extend our services such: Electrical Heat Tracing, Analyzer House Integration, Distributed Control Systems, Automation, Extra Low Voltage and HVAC.

Velika Pot 14 - 5250 Solkan (Slovenia) - Tel. +386 40 200155 www.supermec.com



Well-rooted legacy in engineering design, along with a sound track record in managing large integrated complex projects in Oil&Gas, petrochemicals and fertilizers, has allowed Tecnimont, part of Maire Tecnimont Group, to maintain a leading position as an international contractor. Thanks to a flexible business model Tecnimont offers advanced skills in engineering services, EP and EPC (Engineering, Procurement, Construction). A strong technology orientation provides access to the best available state-of-the art processes, guaranteeing us a recognized world leadership as a contractor. Through our network of international engineering centres, we provide clients with services and know-how ranging from conceptual studies, through technology selection, to process engineering and detailed design.

Via Gaetano De Castillia 6/A - 20124 Milano (MI) - Tel. +39 02 63131 www.mairetecnimont.com/it



TECNOEDIZIONI

Chimica Ambiente è l'unica rivista italiana che pone in stretta relazione industria chimica ed eco-sostenibilità, mettendo in risalto le soluzioni tecnologiche innovative che permettono di concepire processi chimici sempre più rispettosi dell'ambiente

CA da voce a coloro lavorano ogni giorno per realizzare il progetto di un'economia verde in cui non può venir meno la forza trainante dell'in-

Chimica Ambiente is the only all Italian magazine that inseparably links the chemical industry with eco-sustainability, highlighting the innovative technological solutions that enable to conceive increasingly environmentally-friendly chemical processes.

CA gives voice to those who work every day to develop the project of a green economy in which the driving force of the chemical industry cannot be missing.

Via Modigliani 27 - 20090 Segrate (MI) - Tel. +39 02 92865345 www.tecnoedizioni.com



RISCALDAMENTO ELETTRICO E SICUREZZA

We have been designing, sizing and manufacturing electric heating systems for over 50 years, with all types of heating cables (self-limiting. constant wattage, mineral insulated) and relative accessories. We always provide the best and most affordable technical solutions thanks to our full range of products. Our goal is to meet customer requirements while ensuring high-quality service and products - all made in Western Europe or in USA according to the highest standards imposed by certifying bodies.

We have also added safety solutions to our portfolio with fluid leak detection cables and heat sensing cables. Quality, reliability and transparency have made us a reference for major companies in the Oil & Gas, Petrochemical, Energy and Engineering industries.

Via dell'Olmo 66 - 20853 Biassono (MB) - Tel. +39 039 2494256 www.temarsrl.it

AIS ISA Special Number 2017 AIS ISA Special Number 2017 SUMMIT

INSTRUMENTATION





TEMI TECNOLOGIE

Temi Tecnologie Srl is a company specialized in process and IT high quality instrumentation.

The Founder and CEO has a very long time experience and is supported by a qualifed team that allow us to support our customers with the best solutions for each application.

We are focused in the field of oil and gas, chemical and pharmaceutical industry, power plants, etc.

Temi Tecnologie srl is also the exclusive agent for all the Italian ter-

- Sigrist Photometer AG, a leading company in turbidity, colour, concentration, oil in water measurements realized with top quality photometers also suited for hazardous area.
- Hopf GmbH, the oldest European manufacturer of time synchronization devices with GPS reference specially developed for PLC and DCS applications.

Via Pazzano 112 - 00118 Roma (RM) - Tel. +39 06 7919720



TFRMICS

Temperature Sensor Solutions from a Leading Manufacturer of temperature sensor assemblies. Established more than 4 decades ago, Termics is a multi-national company specialized in the design and manufacture of temperature measurement solutions. Engineering expertise and Manufacturing excellence are the heart of our business model. We are committed to building top quality products and experts for tailor made solutions, industrial measurement and sensor technology. In our 40-years history, the medium-sized family-owned company has established itself as a well-known company through precision products, innovative engineering and tailored solutions.

We manufacture our products using high-quality raw materials at the requested delivery date and with stringent quality control phases. We tune latest technological equipment to the individual requirements of our valuable Customers. Through our flexible approach to specific requirements and our problem solving capabilities in the process and OEM applications, our Customers obtain tailor-made sensor solutions. The overall quality control ensures extended products lifetime and lower capital expenditure for our valuable Customers.

> Via San Predengo 27/29 - 26022 Castelverde (CR) Tel. +39 0372 471488 - www.termics.it



VALBART (FLOWSERVE)

Flowserve Valbart is a heritage brand of Flowserve Corporation, one of the world's leading providers of fluid motion and control products and services. Founded in 2003 and headquartered in Mezzago, Italy, Flowserve Valbart operates a state-of-the-art manufacturing facility that produces the Valbart range of ball valves tailored to the most demanding customer specifications. The facility is equipped with the latest automation technology, machining centers and testing facilities for hydraulic, gas and cryogenic testing.

About Flowserve: Flowserve Corporation is one of the world's leading providers of fluid motion and control products and services. Operating in more than 55 countries, the company produces engineered and industrial pumps, seals and valves as well as a range of related flow management services. More information about Flowserve can be obtained by visiting the company's website at www.flowserve.com

> Via Delle Industrie 9/5 - 20883 Mezzago (MB) Tel. +39 039 624111 - www.flowserve.com



VALVITALIA - INSTRUMENTATION DIVISION

Valvitalia is a global leading designer, manufacturer and supplier of any kind of valves, actuators, fittings, flanges, monolithic isolation joints, systems for the Oil&Gas as well as fire fighting systems intended for the energy, marine and civil industries.

The 2015 Group's turnover has been of € 444 million thanks to 1400 employees spread over 11 manufacturing plants, 8 of which in Italy, and 7 representative offices all around the world.

Valvitalia Instrumentation Division consists of Automation Division, Control Valves Division and Broady Flow Control, and has plenty of impressive references with a huge manufacturing capability.

It's fully approved by the major contractors and end users worldwide. Valvitalia's products are today installed in 108 Countries.

> Via Tortona 69 - 27055 Rivanazzano Terme (PV) Tel. +39 0383 945911 - www.valvitalia.com



VFGA ITAI IA

VEGA Grieshaber KG is a global manufacturer of process instrumentation.lts product portfolio includes level measurement sensors, point level switches, pressure transmitters, and equipment and software for integration into process control systems

The use of radar has revolutionized level measurement technology. For almost 25 years now. VEGA has been setting milestones over and over again in this field. Today, over 550,000 radar sensors from VEGA are working reliably in diverse level applications worldwide

In 2014, a new radar sensor for continuous measurement of bulk solids, VEGAPULS 69, was introduced with great success. The higher transmitting frequency of 80 GHz allows considerably better focusing of the emitted signal. In containers and silos with many internal installations, the good focusing helps reduce the influence of microwave noise. VEGAPULS 64, the world's first 80-GHz radar level sensor for liquids. has ushered in a radically new era in radar measurement technology

Via Enrico Fermi 8 - 20090 Assago (MI) - Tel. +39 02 8914081 www.vega.com/it



WIKA ITAI IA

WIKA is a global market leader in pressure, temperature and level measurement technology. Working together with our customers, we develop comprehensive solutions based on our high-quality measurement technology components, with the solutions ultimately being integrated in their business processes.

Through the integration of KSR-Kuebler, Euromisure and Scandura into the WIKA group of companies, we have further strengthened ourselves in the fields of level measurement and components for the measurement of flow and calibration. In the meantime, we are active in over 75 countries and in the majority with our own local subsidiaries – thus we can ensure we are close to our customers.

With their knowledge and commitment, more than 9,000 highly qualified employees contribute every day to the success of our customers. This is one reason why about 600 million of our measuring instruments are in use worldwide

Via Guglielmo Marconi 8 - 20020 Arese (MI) - Tel. +39 02 9386151 www.wika.it



Co-innovating tomorrow

YOKOGAWA ITALIA

Yokogawa's global network of 92 companies and service centers spans 59 countries. Founded in 1915, the US\$3.7 billion company engages in cutting-edge research and innovation. Yokogawa celebrated 100 years in the industrial automation and control (IA), test and measurement, and aviation as well as in other businesses segments. The IA segment plays a vital role in a wide range of industries including oil, chemicals, natural gas, power, iron and steel, pulp and paper, pharmaceuticals and food

Yokogawa Italia, based in the outskirts of Milan, is the local subsidiary of the Yokogawa network and develops large scale projects/supplies with final destination worldwide.

Via Assunta 61 - 20834 Nova Milanese (MB) - Tel. +39 0362 1802000 www.yokogawa.it

EMERSON AUTOMATION SOLUTIONS PRECISION FLUID CONTROLS ROTORK INSTRUMENTS ITALY SIMECO SYSTEMS ROCKWELL AUTOMATION L CONTROL METER KROHNE ITALIA SES ASA ENGINEERING SCHNEIDER ELECTRIC ASTM INTERNATIONAL ENDRESS + HAUSER FORES ENGINEERING PHOENIX CONTACT TEMI TECNOLOGIE EUROCONTROLLI GRUPPOMEGA HILTI ITALIA CORTEM GROUP PAGE EUROPA SENSITRON DELTAFLUID GICONINDIA METSO ITALY NUOVA ASP DI PIETRO GIGA TECH NOVA CAVI TECNIMONT VALVITALIA AUGUSTA BAGGI TERMICS VALBART SAFCO TEMAR VEGA WIKA FEAM APT SIMECO -Ā **ACTUATORS** Air Springs Χ Digital Actuators Electric Actuators Х Х Χ **Electric Linear Actuators** Х χ Electro- Hydraulic Actuators Х Χ Linear Actuators Manual Valve Actuators Χ Χ Χ Piezo- Ceramic Actuators Rodless Cylinders Χ Χ **Rotary Actuators** Х Valve Actuators | x | AIR COMPRESSOR Compressed Air Dryers Compressed Air Filters ANALYTICAL INSTRUMENTATION Achromats Х Acousto- Optic Modulators Χ Χ ХХ Analyzer & Monitors Х Atomic / Optical Emission Spectrometers Х Atomic Absorbition Spectrometers ХХ BTU Analyzer / Wobbe Χ Х Χ X X Χ Calorimeters / Thermal Analyzer Χ Х Χ Chromatographs Χ Condition Monitoring Х Χ Χ Х Х Χ Х Densitometers Х ХХ Χ Х Density / Specific Gravity Measurement Х Depth Gauges Environmental & Analytical System Χ X Χ Χ Χ Χ Χ Х X X Χ Gas / Air Instruments ХХ Gas Analyzer Χ X X Χ X X Х Χ Gas Chromatographs хх Х Х Χ Χ Х Χ Gas Detection Instrumentation χΙ ΧХ Χ Х Х Χ Х Χ Gas Sensors Χ Х High Performance Liquid Chromatographs / HPLC Χ Х Χ $X \mid X$ Χ Infrared Spectrometers Χ ΧХ Instrumentation Χ X Ion Specific Electrode Meters Х хх χ X X Y χ Liquid Analyzers Х χ Mass Spectrometers X X Х Х Moisture Meters Oil Sensors / Analyzers Χ Х Х X Χ Χ ХХ X X Χ Χ χ Oxygen Analyzers Residual Gas Analyzer ΧΧ Χ ХХ Sampling Systems Χ Χ Χ <u>X</u> Х Х Х Χ Χ Specialty Chromatographs Х Х Х Х Х Spectrometers Spectrum Analyzers / Signal Analyzers Х Х Χ Χ Χ X | X Χ Tunable Dopde Laser Analyzers Х | x | x | X-Ray Fluorescence Spectrometers CALIBRATION χ Calibration Instruments Х χ Х Calibration Management Software Χ Calibration Standards & Reference Sources Χ Χ Calibrators Χ Χ Decade Boxes / Dividers Χ Χ Χ Laboratory / Calibration Gases Χ Test Benches Capacitors χ Circuit Breakers

AUTOMATION INSTRUMENTATION SUMMIT

EMERSON AUTOMATION SOLUTIONS ROTORK INSTRUMENTS ITALY PRECISION FLUID CONTROLS SIMECO SYSTEMS IMI ORTON ITAL CONTROL METER KROHNE ITALIA ROCKWELL AUTOMATION SIGRIST PHOTOMETER ASTM INTERNATIONAL SCHNEIDER ELECTRIC ENDRESS + HAUSER ORES ENGINEERING PHOENIX CONTACT TEMI TECNOLOGIE EUROCONTROLLI совтем своир GRUPPOMEGA HILTI ITALIA PAGE EUROPA DELTAFLUID GICONINDIA SENSITRON NUOVA ASP DI PIETRO GIGA TECH SES ASA ENGINEE VALVITALIA ATV HIPPS AUGUSTA BAGGI TERMICS VALBART VEGA SAFCO FEAM SIMECO - (Electronic Cooling Fans Χ PCB Terminal Blocks Χ Potentiometers / Rheostats Terminal Blocks Х Computer Appliances Х Computer Boards Х Computer Motherboards Х Computer Mouse / Pointing Devices Х Computer Power Supplies Χ Computer Workstations Χ Χ Computers Desktop Personal Computers χ Handheld / Portable Computers Х Industrial Computer Monitors X Χ Industrial Computers Χ Χ Χ Industrial Keyboards Χ Industrial Printers & Plotters Χ Х Ink Jet Printers Single Board Computers / SBC Х Χ Standard Keypads **Building Automation Systems** Х CNC Controllers Χ **Condition Monitoring Systems** Χ Χ Х Х Χ Х Х ХХ Υ χ Υ Control Panels Х Х Χ Х Controllers Χ Distributed & Supervisory Control Systems Х Χ Χ Χ Χ DCS & SCADA Electrical Control Panels Χ Χ χ Χ Heat Exchangers Χ Χ Industrial Workbenches / Workstations Χ Χ Χ Х χ Χ Х χ Integrated Control Systems Х Х Machine Controllers & Monitors Machine Networking Χ Motion Control Systems X Χ l x Motion Controllers X Χ l x Process Controllers Χ Χ Х Χ Χ Χ | X | Process Equipment / Systems Х X Programmable Automation Controllers / PACs Χ Χ Y Programmable Logic Controllers / PLCs Х Χ Χ X Χ SCADA Χ Х Χ Χ Χ | X | Specialty Industrial Controllers Х Χ | X | Χ Stand Alone Controllers Χ Χ Temperature Control Χ Web Controllers Analog Panel Meters Х Annunciators Χ Χ Χ **CRT Monitors** X Custom Control Panels X Χ Digital Panel Meters Χ Digital Readouts Χ Х Χ Flat Panel Displays Human Machine Interfaces / Operator Interface χ Terminals LED Displays Χ Χ Liquid Crystal Display / LCD Modules Χ Χ Operator Interface Equipment Χ Χ Χ Specialty Displays / Visual Indicators Х Χ | X | Touch Screen Displays Х Х Х **ENCLOSURES**

AUTOMATION INSTRUMENTATION SUMMIT

INSTRUMENTATION SUMMIT AUTOMATION

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AUTOMATION INSTRUMENTATION SUMMIT

AUTOMATION INSTRUMENTATION SUMMIT

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SUMMIT

INSTRUMENTATION

AUTOMATION

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AUTOMATION INSTRUMENTATION SUMMIT

	ABB	AGAR	ALPHACON	APT	ASTM INTERNATIONAL	ATEC	ATV HIPPS		BULK	CORTEM GROUP	CROWCON	DELTAFLUID	EMERSON AUTOMATION SOLUTIONS	ENDRESS + HAUSER	EUROCONTROLLI	FORES ENGINEERING	GICONINDIA	GIGA ТЕСН	GRUPPOMEGA	HILII II ALIA	111111111111111111111111111111111111111		IMI ORTON	ITAL CONTROL METER	KROHNE ITALIA	METSO ITALY NOVA CAVI	NUOVAASP	PAGE EUROPA	\perp	PRECISION FL	ROTORK INSTRUMENTS ITALY	SAFCO	SANCO	SENSITRON	SERVOMEX	SES ASA ENGINEERING	SIEMENS	SIGRIST PHOTOMETER	SIMECO - SIMECO SYSTEMS	SOCRATE	TECNIMONT	TEMAR	TEMI TECNOLOGIE	TERMICS	VALVITALIA			YOKOGAWA
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Aggiornato al 15 giugno 2017

AUTOMATION INSTRUMENTATION SUMMIT

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MANUALE DI STRUMENTAZIONE I



Misura e controllo dei processi industriali

Questo volume I, Introduzione e Misura, tratta gli aspetti generali relativi alla strumentazione e gli argomenti topici della misura nei processi industriali, quali

- i concetti basilari fondanti della strumentazione di misura e controllo inerenti le alimentazioni. segnali standardizzati analogici i protocolli di comunicazione digitali;
- la simbologia della strumentazione analogica e digitale, degli elementi primari di misura e degli elementi finali di regolazione e di sicurezza, nonché dei collegamenti al processo:
- la terminologia inerente le caratteristiche statiche e dinamiche della strumentazione, nonché sulla taratura iniziale e verifica periodica della strumentazione:
- le condizioni di funzionamento della strumentazione in condizioni normali ed estreme di funzionamento in atmosfere di processo con pericolo di esplosione e incendio;
- gli strumenti ed i sistemi di misura delle principali grandezze fisiche e chimiche relative ai diversi processi industriali con criteri di scelta e selezione nelle varie applicazioni.

MANUALE DI STRUMENTAZIONE II



Questo volume tratta gli aspetti relativi all'attuazione, regolazione, supervisione e sicurezza degli impianti industriali.

Il Volume II, Controllo e Sicurezza dei processi industriali, è la continuazione sequenziale degli argomenti introduttivi sulla strumentazione e automazione degli impianti, e sulle metodologie di rilevamento delle misure fisiche e chimiche industriali, trattati nel Volume I. Introduzione e Misura. Questo volume tratta gli aspetti relativi all'attuazione, regolazione, supervisione e sicurezza degli impianti industriali, quali: gli elementi finali di attuazione come le valvole di controllo o regolazione, gli attuatori ed i relativi posizionatori, accompagnati da criteri pratici di scelta nelle varie applicazioni; i diversi dispositivi impiegati nella sicurezza di funzionamento dei processi industriali, quali: valvole di sicurezza e di blocco, sistemi controllati, dischi di rottura, dispositivi di sfogo; la regolazione in retroazione con regolatori PID (Proporzionali + Integrali + Derivativi) con criteri di sintonizzazione e selezione in relazione ai diversi processi da controllare: le tecniche di regolazione principali e più comuni e per ottimizzare il controllo processo, quali, feedforward, rapporto, cascata, override, splitrange, gapcontrol, disaccoppiamento variabili; i Sistemi di Controllo Distribuito (DCS), i Controllori Logici Programmabili (PLC) ed i Protocolli di Comunicazione (BUS); i sistemi di sicurezza, dagli Allarmi operatori, ai sistemi Fire&Gas, ai sistemi di fermata ESD e infine ai Sistemi Strumentati di Sicurezza (SIS) con determinazioni, grafiche e analitiche, dei Livelli di Integrità di Sicurezza (SIL) con alcune esemplificazione pratiche (case study).

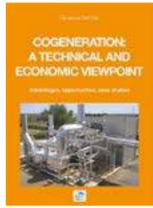
A SYMPHONY FOR ENERGY



CO₂ in goods

"The answer doesn't lie in the ideological debate characterizing these topics, between realists and environmentalists; maybe the answer is much more simple, like the parable of the talents: we have the instruments, renewables, energy efficiency, the interest and the economic power; should we ignore the fact that we have the chance to make fossil fuels last longer by disintensifying their use and consequently lowering the emissions' pressure, or should we allow these talents to be buried somewhere while we wait, hoping that somebody in the future will take care of the problem? But, in the future, we may have already allowed the monster to grow way too much, to the point where it will become invincible, and we might leave our children with an unresolvable problem, an enemy that they will not be able to defeat".

COGENERATION: A TECHNICAL AND ECONOMIC VIEWPOINT



This book, which stems from many years'experience in the domain of cogeneration; is addressed to a rather wide rage of potential readers.

This book, which stems from many years'experience in the domain of cogeneration; is addressed to a rather wide rage of potential readers. Consultancies and Energy Service Companies will have the opportunity to get updated about cogeneration legislation, and will be able to assess efficiency of a given cogeneration installation as well as - more important, perhaps - the amount of the incentive. Architects and builders will be able to consider meeting energy demand of buildings by means of a cogeneration plant in addition to, or instead of, conventional techniques. Manufacturers of machinery (gas turbines, steam turbines, internal combustion engines) will find information about potential market developments. Factory managers will be able to consider widening their activity scope by adding electricity production, and to assess the advantages this diversification brings about. Individual parts of the book are as independent of one another as possible, so that readers can focus on single chapters and paragraph. After an ample general introduction, numerous real-life installations are described in case studies, with schemes and calculation examples.

INDUSTRIA 4.0: I VANTAGGI CONCRETI

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Guida applicativa per usufruire dell'ammortamento del 250%

4.0, IoT, IloT, Fabbrica del futuro, Superammortamento, Sgravio fi scale del 250%...Tutti termini che troviamo citati sulla maggior parte delle riviste di settore. Non facile capire quanto c'è effettivamente di nuovo, come effettuare le migliori scelte sia dal punto di vista del potenziale utilizzatore che del fornitore di prodotti e servizi.

MES Manufacturing Execution System è invece un termine che coniato negli anni '80, non così di moda in questi giorni, ha cominciato ad affrontare l'argomento della Fabbrica del futuro, di come monitorare, analizzare e ottimizzarne le prestazioni.

Le nostre associazione AIS dal 1976 e ISA dal 1945 è un po' che parlano di questo argomento avendo nel tempo utilizzando diversi acronimi e prodotto numerosi standard ISA appunto. Oggi più che mai dobbiamo considerare il concetto di sostenibilità, senza dimenticarci che ogni sistema dovrebbe essere concepito per migliorare la qualità della vita di ogni essere umano, preservando il futuro del nostro unico e preziosissimo pianeta.

AIS-ISA Italy in collaborazione con Editoriale Delfi no ha creato un gruppo di lavoro composto da esperti multidisciplinari per approfondire l'argomento e ha prodotto un libro di facile lettura, comprensibile per i non specialisti, con dati concreti evidenziando pro e contro e come procedere

Noterete un fi lo conduttore coerente ma interpretazioni leggermente differenti, temi simili ma trattati con uno stile differente. Abbiamo preferito lasciare le versioni originali, indicando per ogni capitolo il nome e il riferimento dell'autore e delle associazioni in modo da invitare ad un dialogo



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5 - 6 Luglio 2017

AUTOMATION INSTRUMENTATION SUM-

Castello di Belgioioso (PV) Il primo evento promosso da AIS-ISA Italy www.automationinstrumentationsummit.com

19 - 21 Settembre 2017 **POWER GEN ASIA**

Bangkok Thainlandia

The Int'l Power Generation and Renewable energy Exhibition

www.asiapowerweek.com/en/index.html

20 - 22 Settembre 2017 SMART GRID EXPO

Tokyo Japan

Japan's Largest Show for Smart Grid www.smartgridexpo.jp/en

27 - 28 settembre 2017

18 - 19 Ottobre 2017

www.exposave.com

21 Settembre 2017

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www.aisisa.it

Milano

Mostra Convegno Soluzioni e Applicazioni Verti-

Giornata di studio organizzata dall'Associazione

cali di Automazione, Strumentazione

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Send to fiere@editorialedelfino.it the event that you organize: it will be included in this page!



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ETICHETTATRICI PROFESSIONALI





Fotografa con il tuo Smartphone e guarda

Art.07/08705-00 (Kit)

Sistema di etichettatura rivoluzionario progettato per semplificare l'etichettatura di cavi, fili e molto altro ancora. ANTEPRIMA DI STAMPA REALE II display a colori visualizza esattamente come sarà l'etichetta quando verrà applicata su cavi, tubi, pannelli e molto altro.



Etichettatrice con paracolpi in gomma per protezione totale agli urti. Menù semplice grazie ai tasti "one touch". Il display LCD retroilluminato extra large ne permette un utilizzo in ambienti poco visibili. Personalizza e memorizza più di 100 etichette, e possiede più di 100 simboli industriali pre programmati. Stampa fino a 5 linee e 2 tipi di codice a barre: 39 e 128.









Identificazione attrezzature











