



INTERNATIONAL SOCIETY OF AUTOMATION

ISA DELHI SECTION

ISSUE DATE:30.06.2021

YEAR 2021-2022 | ISSUE NO. 1

ISA(D) NEWSLETTER

- Administration
- High Resonance
- Event
- Directory
- Directs
- Marketing
- Website
- Newsletters
- Members
- Publicity
- Financials
- Regulations
- Publications
- Others





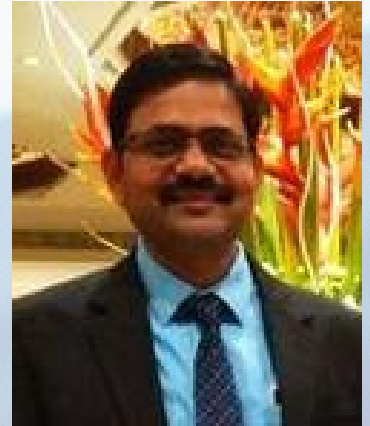
From the Desk of President:-

The automotive industry is in the midst of a great transformation as the progress of CASE (connected, automated, shared and electrified) technologies and the trend toward digitisation transform the industry environment at a tremendous speed. In these circumstances, the impact of COVID-19 is spreading worldwide, causing enormous damage to the economy, and economic recovery to the pre-COVID-19 level is expected to take considerable time.

We at ISA-D hope everyone is healthy during this difficult times and various steps have been taken by ISA-D team to provide best possible support to the affected society members during last few months.

Further, even during these times, ISA-D trying to spread the technical knowledge among masses and specially the young engineers and making them future Industry ready with special focus on our Student Members.

We believe that Automation is just not for Industry but for each and everyone to make their life easy and better. With new innovations and technology coming up and changing at a very fast pace, we hope for improvements in quality of life and productivity.



A handwritten signature in blue ink that reads 'Sushil Kumar'.

SUSHIL KUMAR
(Hon President - ISA Delhi Section)

From the Desk of Secretary:-

We hope that you and your family members are keeping safe during present tough times. In responding to COVID-19, our priority is to safeguard the health and safety of our members, the communities where we operate, and all other. We are planning for various Virtual events over the coming year. We recognize that we need to be ready for post-COVID-19 economic recovery and renewed development.

We are committed to imparting automation knowledge and providing members with information about latest technological changes. With the collective expertise and energy of the ISA-D member, we will make all-out efforts to survive and prevail in this time.

I would like to thank all the dignitaries, participants, Committee members, executive committee members and all others who supported & contributed in making ISA Delhi Section a successful automation society. We hope to carry the same momentum as we move forward.



A handwritten signature in blue ink that reads 'Sarvesh'.

Sarvesh Kumar Sharma
(Hon Secretary - ISA Delhi Section)



INTERNATIONAL SOCIETY OF AUTOMATION

ISA DELHI SECTION

ANNUAL GENERAL MEETING 2020-2021

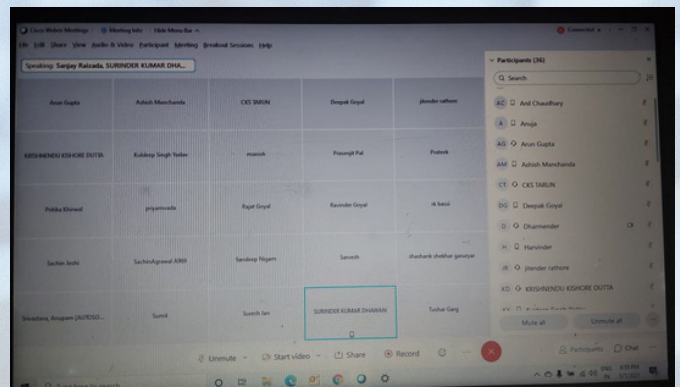
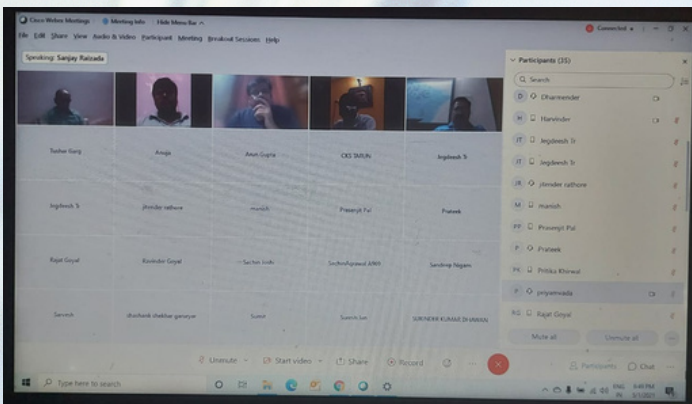
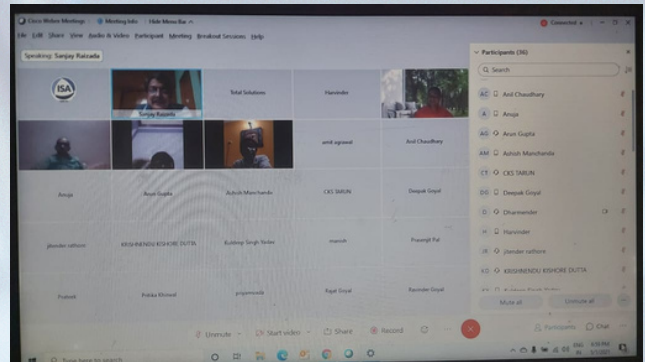
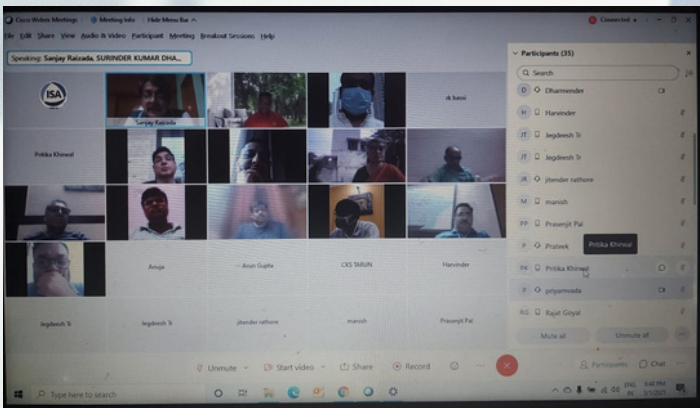
After a successful year 2020-2021, Annual General Body meeting was held virtually on 1st May 2021 wherein new ISA(D) Executive Committee members were elected.

The meeting initiated with welcome address by Mr Dharmender Singhal (Convener AGM) & provided a snapshot of all the activities/webinars/technical talks held during the year 2020-2021 with all achievement and accomplishment by ISA-D. Mr Arun Gupta (Treasurer) presented the financial statement for the year.

Mr Sanjay Raizada (President,ISA(D)) 2020-21, thanked all ISA-D member for their support. He congratulated and handed over the charge to the new executive committee led by new President Mr. Sushil Kumar, President Elect Mr. Rajiv Gupta, Secretary Mr. Sarvesh Kumar Sharma and Treasurer Mr. Ashish Manchanda

Vote of thanks was given by Mr Rajiv Gupta(President Elect).

SNAPSHOTS OF AGM HELD ONLINE DURING COVID -19 PANDEMIC





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ISA-D EXECUTIVE TEAM

President (3130)	Sushil Kumar
President-elect (3150)	Rajiv Gupta
Vice President (3390)	Mainak Nandi
Secretary (3250)	Sarvesh Kumar Sharma
Treasurer (3350)	Ashish Manchanda
Delegate (1370)	Sachin Joshi
Alt. Delegate (0030)	Raja Sekhar Gudipaty
Program Chair (0950)	Prateek Singh
Program Chair (0950)	Some nath Kundu
Education Chair (1350)	Anil Chaudhary
Membership Chair (0790)	Anupam Shrivastava
Membership Chair (0790)	Sachin Agarwal
Membership Chair (0790)	Sanjay Kumar
Newsletter Editor (2970)	T R Jegdeesh
Newsletter Editor (2970)	Rajat Goyal
WebMaster (3420)	Amit Kumar Singh
Exhibit Chair (0430)	Harvinder Singh Kalsi
Marketing Chair (1010)	Sandeep Gupta
Marketing Chair (1010)	Arun Gupta
Marketing Chair (1010)	Kaladhar Narayan
Publications Chair (0970)	Pritika Khirwal
Publications Chair (0970)	Amit Singh
Honors & Awards (0510)	S Mahesh Kumar
Historian (1990)	Aman Sagar
Student Section Liaison (2870)	Gaurav Jain
Student Section Liaison (2870)	Anuja Thukral
Section-Division Liaison (2850)	Manish Kumar
Standards & Practices (1150)	Sumit Kumar Haldar
Standards & Practices (1150)	Arupjyoti Saikia
Past Section President (3090)	Sanjay Raizada
Other (2950) Sr. Advisor (Chief Patron)	Rohit Bhardwaj
Other (2950) Sr. Advisor (Patron)	S K Dhawan
Other (2950) Sr. Advisor (Patron)	M K Srivastava
Other (2950) Sr. Advisor (Patron)	Prasenjit Pal
Other (2950) Sr. Advisor (Patron)	S K Bardhan
Other (2950) Sr. Advisor	R K Bassi
Other (2950) Sr. Advisor	R Priyamvada
Other (2950) Sr. Advisor	Dharmender Singhal
Other (2950) Sr. Advisor	S K Tripathi
Other (2950) Sr. Advisor	Atish Chakraborty
Other (2950) Sr. Advisor	Ashis Dev
Other (2950) Sr. Advisor	R Sarangapani
Other (2950) Sr. Advisor	Ravinder Goyal
Other (2950) Sr. Advisor	S Sudershan Rao



INTERNATIONAL SOCIETY OF AUTOMATION

ISA DELHI SECTION

GREAT LOSS FOR THE AUTOMATION FRATERNITY



Mr Alok Shrivastava

(AGM -Head of Quality Assurance-Control & Instrumentation -NTPC limited)

ISA, Delhi Section and whole of the automation fraternity have suffered an unrecoverable loss this year with sad demise of Mr Alok Shrivastava.

He joined ISA-D in the year 2002-2003 and served at various key position in ISA-D. With his immense knowledge in instrumentation field, have guided a lot of young engineers and have touched lots of souls.

Mr Alok Shrivastava was Bachelors in Electronics Engg- Govt Engg College Ujjain (MP); Masters in Power Generation Technology-IIT Delhi. He had over 30 years of experience in Operation and Maintenance (10), Engineering and Design (16), Quality assurance (4)- Fossil power plants-control & instrumentation with NTPC limited.

His various interests were organisation Designs, Big-data: acquisition, organisation, processing, ethics, security and analytics for organisational improvement; Business process optimisation and Digital organisations and always believed in Equity and Justice, system and process orientation as key to sustainable growth, technology as a tool for solving human problems and continuous innovation.

Mr Alok Shrivastava will be dearly missed by whole of the ISA Team and complete engineering community.





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TECHNICAL ARTICLE

INDUSTRY 5.0 IN THE HORIZON

BY ARUPJYOTI SAIKIA, ENGINEERS INDIA LIMITED. NEW DELHI

INTRODUCTION:

We are in the midst of Industry 4.0. Industry 4.0 allowed intelligent machines and other technological equipment to do much of the work in factories and production facilities by means of “smart” manufacturing through the integration of the IoT, AI, cyber-physical systems, and cloud and cognitive computing.

However, starting from March and April 2020, entire production chains all over the world came to a halt or badly affected due to the COVID-19 pandemic.

Here, a simple point to ponder over “If the disease only affects humans, why didn't the machines continue to do their job?”

We thus realized that even though machinery and equipment can operationalize tasks, all industries still need people and the interaction and collaboration between man and machine is so important.

Industry 5.0 is the future and already an emerging trend. The important advancement over 4.0 can be summarised with the following:

- a.) People work alongside robots and smart machines.
- b.) Robots help humans work better and faster by leveraging advanced technologies (IoT & Big data).
- c.) Personal human touch to the Industry 4.0

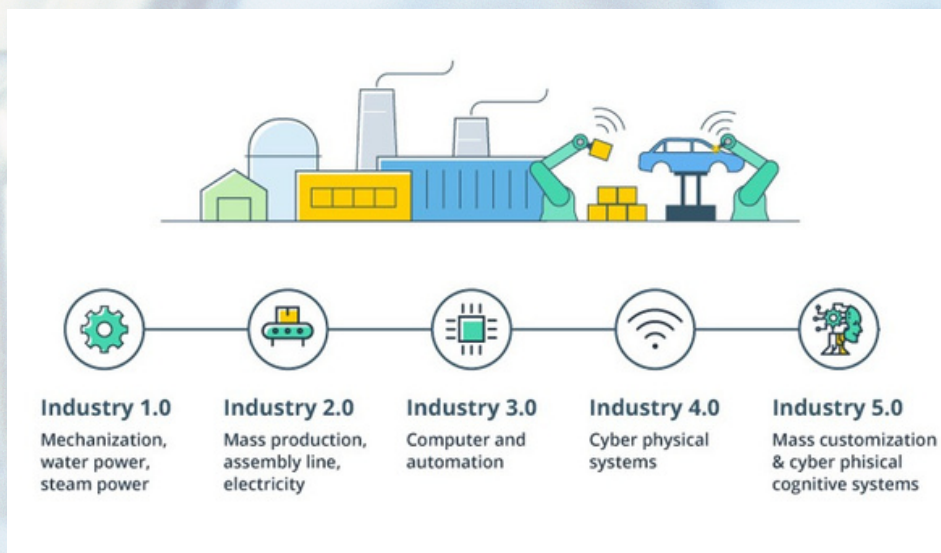


As Industry 4.0 has evolved into Industry 5.0, it is fundamentally changing the way we live, work, and relate to one another.

The trend is already set by the consumers with high-demand of individualization in the products they buy, meaning they prefer a degree of “hands-on” personalization and customization with their products. Industry 5.0 solves this requirement of high degree of customisation. Here the technology performs the mundane, repetitive, error prone tasks while the humans set the strategy, provide oversight, and add creative input for customisation

Historical perspective of Industrial revolutions:

Starting from the 1st Industrial revolution, the following describes how various important milestones in each stage of Industrial revolution.





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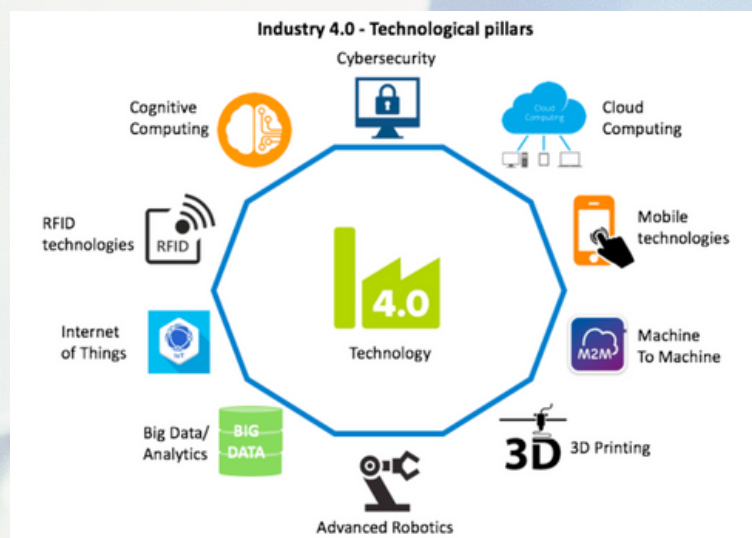
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The first Industrial Revolution era began starting from 1765. The biggest changes came in the industries in the form of mechanization. Agriculture started to be replaced by the industry as the backbone of the societal economy. It witnessed massive extraction of coal & invention of the steam engine.

In the second Industrial Revolution which happened during 1870 onwards, there were massive technological advancements in the field of industries like electricity, gas, and oil. The invention of Internal combustion engine, the development for steel & chemicals, path breaking development in communication such as the telegraph and the telephone, Inventions of automobile, and the plane were the major gifts of IR 2.0

The Third Industrial Revolution which commenced in 1969 gave us nuclear energy. There was rise of electronics, telecommunications, computers, Space expeditions, research, and biotechnology. Two major inventions, Programmable Logic Controllers (PLCs) and Robots helped give rise to an era of high-level automation. The internet has changed the world forever.

Industry 4.0 is happening now. It is to shape the world as the Worldwide economies are based on them.



Human centric Industry 5.0

This next wave of industrial revolution is all about how we collaborate and how we define the rules between human and machine interaction as that will be core of Industrial Revolution 5.0

As Industry 4.0 puts smart technology at the forefront of manufacturing, Industry 5.0 on the other hand will be the increased collaboration between humans and smart systems. This has come from one of the greatest learnings from the 4.0 era that technology alone is not sufficient. Machines depend on operators, programmers, and maintenance. Not everything can be automated. Additionally, we know that our human cognitive power and analytical capabilities remain irreplaceable. Industries work by transforming resources into goods, but the most valuable and irreplaceable resource in any industry is the people that work in it and uses its products.

Thus, Industry 5.0 has not kept away people from getting jobs. If anything, Industry 5.0 brought about the importance of including human beings in the process.

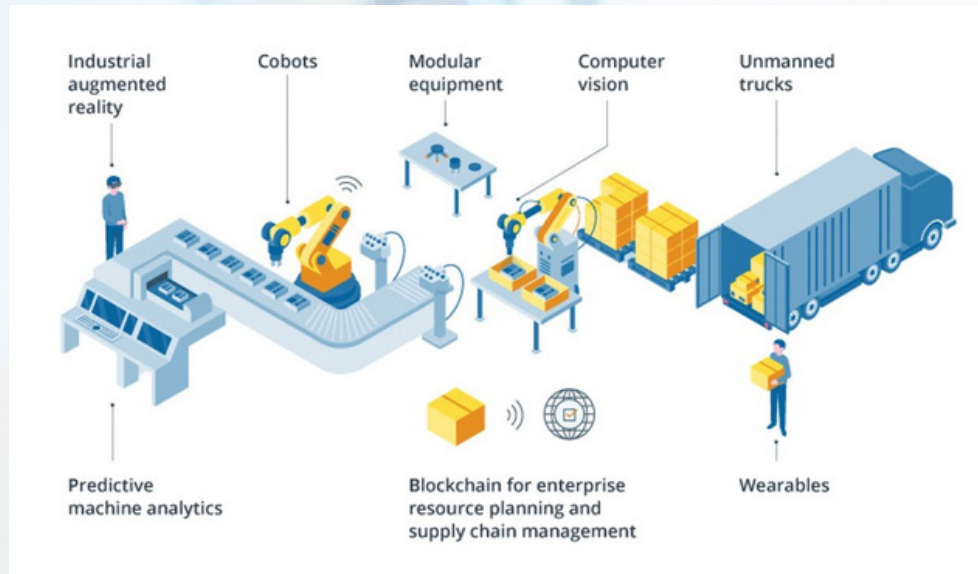
The table below illustrates the paradigm shift between: 4.0 & 5.0

Industry 4.0	Industry 5.0
Technologies-IoT, Cloud computing, Big Data, Robotics, AI	IR 4.0 technologies, Bionics, Blockchain
Focus on equipment connectivity	Focus on customer experience
Mass personalization	Hyper-Customization
Smart Supply chain	Responsive & Distributed Supply Chain
Smart Products	Interactive Products (experience - activated)
Remote workforce	On-site Workforce
Smart factory	Bioeconomy
Mass production	Sustainability
Electrical Power-Fossil/Renewable	Electrical Power-Renewable



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ISA DELHI SECTION



The upcoming industry 5.0 would be about bridging the gap between robots and highly skilled workforces to produce and deliver the best -individualised products, services and customer experiences possible where human intervention would be intellectual rather than physical.

Apart from being human centric, Industry 5.0 also provides resilient and sustainable approach to the industries. It will be an optimal balance of efficiency and productivity. The progress of Industry 5.0 is unavoidable

References: <https://hbr.org>, <https://www.machinedesign.com>, <https://www.intellias.com> <https://ied.eu>, <https://www.spectralengines.com>, Future Automation: Changes to Live and to Business , Timothy E Carone, The Next Industrial Revolution: Industry 5.0 and discussion on Industry 4.0 -Kadir et.el.



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TECHNICAL ARTICLE- KNIFE GATE VALVES

What is a knife Gate Valve?

Knife Gate Valves (KGVs) were introduced to the world to be used in the pulp and paper industry in 1927. When the market demanded a low-cost valve for pulp stock operations, the specialised knife gate valve design was born. Knife gate valves have been used all over the world since then, with several variations; the Push-Through Knife Gate was introduced in the United States, whereas the Guided Shear Gate was designed in Switzerland. While the word adopted as “knife gate” as a general term for each version of this valve, it might be surprising to learn that only the Guided-Shear Gate and its higher-caliber variant, can really “cut” through media like a knife.

Knife gate valves are engineered specifically for on-off and isolation operations in systems with a high dissolved solid particle. Knife gate valves are extremely useful when dealing with slurry, abrasive, corrosive, and viscous media. The valves have a low-pressure drop in the fully open position, are simple to operate, light in weight, and cost-effective.

Knife gate valves are intended to work in the harshest conditions, with a sharpened blade to cut through heavy liquids. They are extremely helpful in wastewater/petrochemical/mining applications where corrosion and abrasion is a major concern. In addition to the valve design that is optimised for slurry media, having a knife gate valve composed of acid-proof stainless steel is advantageous because it is less vulnerable to corrosion damage and therefore requires less frequent maintenance or even replacements.

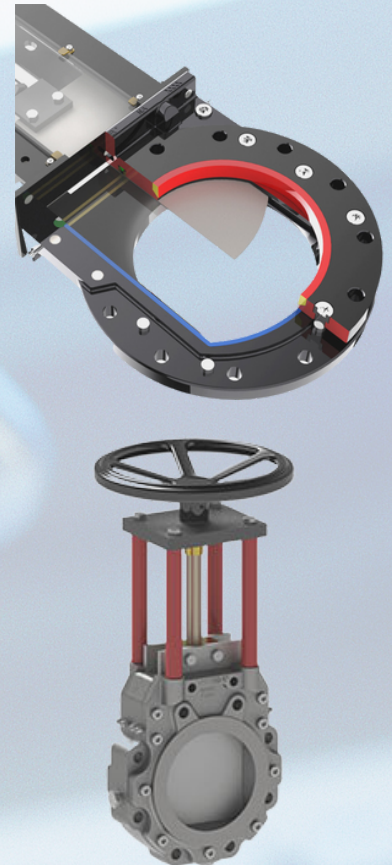
How knife Gate Valve works?

A knife gate valve is a component that uses a blade to cut through heavy liquid /solid clogging. These valves were created to function in some of the world's most corrosive and abrasive conditions. Some KGVs also have mechanically retained seals, contoured flushing corners in the body, a transverse seal which is repackable in line under full pressure without disassembly of the valve or removing the actuator, and a minimal gate arc to reduce the chest cavity where solids can collect. All resilient seated KGVs provide zero leakage bi-directional shut-off without jamming.

KGVs are present with all types of actuation from manual, pneumatic cylinder and electric actuator types.

Applications:

- 1) Thermal Based Power Plants– Ash Handling – Wet & Dry, Fly, Clinker, Bottom Ash Transportation Vacuum Pump Suction, Burner Isolation , Burner Line (Conveyors) , Coal Crushing ,Coal Pulverised Feed Isolation ,Cooling Water
- 2) Oil and Gas– Cement Casing , Lime Softeners Warm & Hot , Mud Drilling Isolation,Reactors, Scrubbers
- 3) Pulp and Paper– Black Liquor (Heavy, Weak & Strong) , Bleached Stock , Brown Stock , Centri Cleaners, Chip Pre-Treatment , Chlorinated Stock Injection , Clay , Digester Chip Feed ,Effluent ,Green Liquor (Clarified & Unclarified) ,High-Density Stock ,Kamyr Feeders ,Knotter Washer Lime Mud , Pulper, Starch , Stock Tower Isolation ,Wash Liquor ,White Liquor
- 4) Steel Industry– Blast Furnace Gas, Blast Furnace Slurry,Carbon Injection, Coke,Condenser Isolation,Cooling Water Recirculation , Equalizer ,Flue Gas Desulphurization (FGD) ,Furnace Feed (Anthracite Coal Silo) ,Pyrite ,Slag Water ,Water Treatment
- 5) Mining–Extraction (Grinding, Crushing, Concentrating, Classifying) ,Leaching,Refining,Smelting,Tailings Systems





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ISA DELHI SECTION

ISA-D ANNOUNCES ITS TWO DAY VIRTUAL AUTOMATION EVENT

**EVENT THEME:
TOMORROW'S OPPORTUNITIES WITH TODAY'S AUTOMATION LEADERS
TOTAL-2021**

**A UNIQUE TWO DAY VIRTUAL AUTOMATION EVENT ON
3RD(FRIDAY) & 4TH(SATURDAY) SEPTEMBER 2021**

TECHNICAL SESSIONS:

- 1) IIOT AND DIGITAL TECHNOLOGY**
- 2) SMART LOGISTIC & INFRASTRUCTURE**
- 3) NEW TRENDS IN PROCESS CONTROL**
- 4) INNOVATIVE ENERGY SOLUTIONS**



**JOINED BY LEADERS AND PROFESSIONALS FROM INSTRUMENTATION AND
AUTOMATION FRATERNITY OF VARIOUS INDUSTRY DOMAINS INCLUDING:**

- OIL AND GAS**
- POWER GENERATION**
- INFRASTRUCTURE (INCLUDING WATER/WASTE WATER)**
- CHEMICALS AND FERTILIZERS**
- FOOD AND PHARMA**

KEY ATTRACTIONS:

**UNPARRALLED TECHNICAL SESSIONS, QUIZ WITH PRIZES AFTER EVERY TECHNICAL
SESSION, STALL VISITS, PANEL DISCUSSIONS, LUCKY DRAW, HONOURS AND
AWARDS**

For Further Information:

Email: info@isadelhi.org Web-site:- www.isadelhi.org PhNo:+919313384543



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COVID-19 PANDEMIC SUPPORT INITIATIVE BY ISA-D

ISA-D Team with full enthusiasm took an initiative to provide support to all its members and their family members during these difficult times by creating a small groups among the members which handled different requirements during the need to members like medicines, hospital availability, medical equipment requirements etc. This support was beneficial to all its members and ISA-D worked as a support system during these hard times to various member families.

QUIZ

1) A Safety Instrumented System (SIS) comprises of

- A. Programmable Logic Controllers (PLC)
- B. Emergency Shut-down Devices (ESD Devices)
- C. Both PLCs and ESD Devices
- D. None of the above

2) ISA-95 standard is developed with the objective to

- A. Reduce the cost
- B. Reduce risk and avoid errors
- C. Improve communication
- D. All the above

PLEASE SEND YOUR ANSWERS TO :
TR.JEGDEESH@EIL.CO.IN AND RAJATGOYAL06@GMAIL.COM

PRIZES TO BE WON AT END OF THE YEAR

VARIOUS UPCOMING EVENTS BY ISA(D):

- 1) VIRTUAL DLC MEET- 25 JULY 2021
 - 2) TOTAL-2021 VIRTUAL SHOW- 3-4 SEPTEMBER 2021
- (PLEASE VISIT ISA DELHI WEBSITE FOR UPDATES ON EVENTS AND DATES)

ISA-D REQUEST ALL TECHNOCRATS AND PROFESSIONALS TO JOIN ISA
TO SHARE EXPERIENCE AND KNOWLEDGE



DOWNLOAD ISA MEMBERSHIP FORM USING QR CODE
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