

Sant Longowal Institute of Engineering & Technology

Longowal -148106, Dist. Sangrur (Pb.)

Deemed to be University

Under MHRD, Govt. of India

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TEQIP – III

Technical Education Quality Improvement Programme

Short Term Course (STC)

On

IMPLICATIONS AND REALITIES OF INDUSTRY 4.0

(IRI4.O-2020)

(December 21-25, 2020)

Organized by

Department of Mechanical Engineering,

SLIET, Longowal

Under

TEQIP III

MHRD, Govt. of India

Course Coordinators

Dr. Sunil Kumar, Dr. Harish Arya, and Er. Sumit Kumar

Convener

Prof. Pardeep Gupta and Prof. Jagtar Singh

Department of Mechanical Engineering,

SLIET Longowal

Introduction:

The fourth industrial revolution alias Industry 4.0 represents a new era of organizing and controlling the industrial value chain. It utilizes a cyber-physical system as a foundation comprising of smart machines, embedded software systems connected with the internet (IoT). Industry 4.0 can be addressed as a current trend of automation and data exchange in manufacturing technologies, including cyber-physical systems, the Internet of things, cloud computing, and cognitive computing and thus creating a smart factory. This STTP focuses on the discussions about technologies, research ideas involved in the field of Industry 4.0 along with some industrial case studies. Through this program, we would like to address the implication and realities for implementing Industry 4.0

Course Contents:

The STC is focused to discuss various aspects of Industry 4.0. Following important topics will be covered in this program.

- Introduction to Industry 4.0
- Industrial Automation
- Automation in Metrology
- Humanoid Robots
- Robotics in Industry 4.0
- Advance Manufacturing Process
- Cloud Computing
- AI
- Additive Manufacturing
- Test Automation
- Supply Chain 4.0
- IoT
- Quality in Industry 4.0
- Six Sigma
- Industry 4.0- Understanding the Challenges and Opportunities

Resource Persons:

Apart from faculty members of SLIET Longowal, experts from reputed Institutes and Industries of National and International repute like Google and L&T will conduct the expert lecture of the program.

Who can participate?

Faculty members, research scholars belonging to engineering & applied sciences disciplines from AICTE recognized Colleges and Universities can participate in the program. The program is also useful to industrial practitioners working at an appropriate level

How to Apply:

The interested persons from academia and Industrial practitioners are required to send the duly filled registration form on or before December 15, 2020, through the google form link:



<https://forms.gle/fE3yF1V6hf7tcGXW8>

Course fee/Registration Fee

Registration fee charged: Rs. 200/-

Details of the Bank Account:

Name:	IRI4.O-2020
Acc. No.:	3865816637
Bank and Branch:	Central Bank of India, Longowal
IFSC code:	CBIN0283105

The participants must deposit the registration fee by digital mode and attach the online transaction details as a .pdf/.jpg file in the google registration form.

Important Dates:

Last date for receipt of duly filled application form

December 10, 2020

Finalization of the list of selected participants

December 12, 2020

Last Date for receipt of confirmation participation (via email)

December 15, 2020

Organizing Committee

Chief Patron: Prof. S. K. Jain, Director
Patron: Prof. A. S. Arora, Dean (Acad.)
Chairman: Prof. Rajesh Kumar, HOD (ME)
Convener: Prof. Pardeep Gupta, (ME)
Prof. Jagtar Singh, (ME)
Coordinators: Dr. Sunil Kumar, (AP, ME)
Dr. Harish Arya, (AP, ME)
Er. Sumit Kumar, (AP, ME)

Address for Communication

Program Coordinator (IRI4.O-2020)

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Report of STTP/Workshop/Conference Conducted Under TEOIP-III

1. Name of the Department : Mechanical Engineering
2. Title of Programme : Implications & Realities of Industry 4.0
3. Name of Coordinator : Dr. Sunil Kumar, Dr. Harish Kumar Arya and Er. Sumit Kumar
4. Duration (Dates) : 21st to 25th December 2020
5. Details of Experts/Keynote Speakers:

S. No.	Name and Designation	Affiliation/Organization	No. of Lectures Delivered/Hours
1	Dr. Vikas Rastogi, Professor	DTU, Delhi, India	1 (1 Hr., 30 min)
2	Dr. Puneet Katyal, Associate Professor	GJUST, Hisar, India	1 (2 Hrs.)
3	Dr. Ramana Kumar Vinjamuri, Assistant Professor	University of Maryland, Baltimore County, USA	1 (1 Hr., 30 min)
4	Mr. Rahul Dixit, Scientific Officer	AKGEC-KUKA Industrial Robotics Training Centre, Ghaziabad, India	1 (1 Hr., 30 min)
5	Mr. Vikash Kumar, Scientific Officer	AKGEC-KUKA Industrial Robotics Training Centre, Ghaziabad, India	1 (2 Hrs.)
6	Dr. Santosh Rane, Dean Academics	Sardar Patel College of Engineering, Mumbai, India	1 (1 Hr., 30 min)
7	Mr. Vikas Aggarwal, Director Todubuddy	Test Automation Consultant, The Pension regulator, UK	1 (1 Hr., 30 min)
8	Mr. Irfan Ahmad, V. P.	Customer Insights and Data Analytics, Evalueserve, Gurugram, Haryana, India	1 (1 Hr.)
9	Dr. Prabhkiran Kaur, Assistant Professor	IKGPTU, Amritsar Campus	1 (1 Hr.)
10	Dr. Ajat Shatru Arora , Professor, Dean (Acad),	SLIET, Longowal	1 (1 Hr., 30 min)
11	Mr. Aman Sinha, Director	Paragon Solutions, Maharashtra, India	1 (1 Hr., 30 min)
12	Dr. Manmohan Singh, Associate Professoer	SLIET, Longowal	1 (2 Hrs.)
13	Mr. KSN Murthy, Senior DGM Plant Engineering	L&T Valves, Coimbatore, Tamil Nadu, India	1 (1 Hr., 30 min)
14	Mr. Sachin Kumar	Coord3, Chennai, India	1 (1 Hr., 30 min)

6. Details of Participants:

(a) No. of participants: 36

	Faculty	Research Scholars	Industry Participants	Total
External	11	08	03	22
Internal	--	14	--	14

7. Summary of the Course

Participants were familiar to the state of art technology in the field of Industry 4.0

Participants' knowledge was enhanced in field of Industry 4.0.

The role of interdisciplinary knowledge in modern Industry was given to participants.

An introduction to recent advanced manufacturing technics was provided to participants

IMPLICATIONS AND REALITIES OF INDUSTRY 4.0 (IRI4.0)

(21-25 December 2020)

STC, Organized by

SLIET Longowal

DATE/TIME	10:00-11:30 am	11:45am-1:15 pm	1:15-3:00 pm	3:00 pm -4:00 pm	4:00 pm -5:00 pm
21.12.2020	Registration/ Inauguration	Introduction to Industry 4.0	Break	Role of Additive Manufacturing in Industry 4.0	
		(Dr. Vikas Rastogi) Professor DTU, Delhi https://drive.google.com/file/d/1ptg9BXfo58T7IroAvjgwalBSai49WrzAJ/view?usp=sharing		(Dr. Puneet Katyal) Associate Professor GJUST, Hisar, India https://drive.google.com/file/d/1FOyp5Agug-ELSARGKdru069k0iGvTMsJ/view?usp=sharing	
22.12.2020	Humanoid Robots	Industrial Automation	Break	Robotics in Industry 4.0	
	Dr. Ramana Kumar Vinjamuri Assistant Professor University of Maryland, Baltimore County, USA https://drive.google.com/file/d/1bh5Zz37XUu4GM6CY1Kst-ioefc3NWAW/view?usp=sharing	Mr. Rahul Dixit Scientific Officer AKGEC-KUKA Industrial Robotics Training Centre https://drive.google.com/file/d/1hzc_vV0Pa51jRz0-L2Sisse7QWQk6b/view?usp=sharing		(Mr. Vikash Kumar) Scientific Officer AKGEC-KUKA Industrial Robotics Training Centre https://drive.google.com/file/d/1nmRikUvKpWesy6ja0CI-a0JuNuxfQK/view?usp=sharing	
23.12.2020	Transformation of Business Operations using Industry 4.0 Technologies	Test Automation	Break	Industry 4.0- Understanding the Challenges and Opportunities	Six Sigma
	(Dr Santosh Rane, Dean Academics at Sardar Patel College of Engineering Mumbai) https://drive.google.com/file/d/1mGk5AzbpwVUHNYG6mUAf7lUDGHVQwa/view?usp=sharing	(Mr. Vikas Aggarwal, Test Automation Consultant, The Pension regulator, UK) https://drive.google.com/file/d/1b28vcI7VVu16LYAQ17XWg7xcCu9V-w4/view?usp=sharing		(Mr. Irfan Ahmad, VP Customer Insights and Data Analytics, Evalueserve) https://drive.google.com/file/d/1WU1k3birqXNxn4Tn2IW-EDZhdFinZcH/view?usp=sharing	(Dr. Prabhkiran Kaur, IKGPTU, Amritsar Campus) https://drive.google.com/file/d/1-z76pt2fwhRBYb577I2AkQyTYW8rOj3G/view?usp=sharing
24.12.2020	AI	Supply Chain 4.0	Break	IoT	
	Dr. Ajat Shatru Arora Dean Acad., SLIET https://drive.google.com/file/d/1gpp_BEHfpcHcLN4ZVe5Bl4fG16PxP_2/view?usp=sharing	Mr. Aman Sinha Director Paragon Solutions https://drive.google.com/file/d/1kLh8p39nWQmDUH3a2tCeVtaufpsbnnP/view?usp=sharing		Dr. Manmohan Singh Associate Prof., SLIET https://drive.google.com/file/d/1EWIK3VXG69wGwC7Yrfl_XUJWpkEDKiZZ/view?usp=sharing	
25.12.2020	Quality in Industry 4.0	Automation in Metrology	Break	Valedictory	
	(Mr. KSN Murthy, Senior DGM Plant Engineering, L&T Valves, Coimbatore) https://drive.google.com/file/d/1UVmmgVyaWs-E9ZxCbdsivlTcdckUmoy2/view?usp=sharing	(Mr. Sachin Kumar, Coord3) https://drive.google.com/file/d/1DY_k_rbM0bWdqEJjds5aQV9wTF9Mxl7x/view?usp=sharing			

List of registered Participants in STC IRI4.O during 21st to 25th December

Sr. No.	Name	Email	Education Qualification	Designation	Department	Organization
1	Dr. Sumit Kumar Yadav	sumitarya007@gmail.com	PhD	Assistant Director of Income Tax	Department of Income Tax Govt. of India	Income Tax Department
2	Amrit Pal	amritpaul123@gmail.com	M.tech	Assistant Professor	Mechanical Engineering	GZSCCET-MRSPTU, Bathinda
3	Rajender Kumar	rkbhukal@gmail.com	M.Tech	Assistant Professor	Department of Basic Engineering	CCS Haryana Agricultural University Hisar
4	Dr. Nisha Pahal	nisha23june@gmail.com	Ph.D.	Assistant professor	Computer Science	Amity University
5	Dr.Sanjay soni	soni563@yahoo.com	Phd	Assistant Professor	Industrial & Production Engineering	Jabalpur Engineering College
6	Gulvir Singh	gulvir75@gmail.com	M.TECH.	Assistant Professor	Mechanical Engineering	Guru Nanak Dev Engineering College
7	Hitesh arora	hitesh.15774@lpu.co.in	Phd	Associate professor	Mechanical	Lovely Professional University
8	Rachna Chawla	rachna.igit@gmail.com	M.tech	Asst professor	MAE	maharaja Agrasen institute of technology
9	Aviral Sonkar	sonkar.aviral@gmail.com	M.Tech	Engineer	R&D	Falcon Autotech Pvt Ltd.
10	Mukesh Kumar Kataria	mkataria968@gmail.com	ME(Mfg. Technology)	HOD	Production Engineering	S. V. Polytechnic Mahavidyalaya
11	Imamul Haque	imamulhaque1992@gmail.com	M.Tech	Lecturer	Mechanical Engineering	Maulana Azad National Urdu University
12	Yusuf Parvez	yusufinmech@gmail.com	M.Tech	Lecturer	Mechanical Engineering	Maulana Azad National Urdu University
13	Kirti Ratna Gupta	ratnakirti@gmail.com	B-Tech	OMi Specialist	Server Monitoring and Automation	Schlumberger
14	Dr. Pratibha kumari	pratibha.kumari@kiet.edu	Ph D	Professor	Mechanical	KIET group of institutions
15	Mahendra Jangid	mahendraitk7@gmail.com	M.Tech.	Research Scholar	Mechanical Engineering	SLIET Longowal
16	Sahil Thappa	st.skt59@gmail.com	M Tech	Research Scholar	Energy Management	Shri Mata Vaishno Devi University
17	bhanu pratap gautam	bhanu.wayne@gmail.com	Pursuing PhD	Research Scholar	Mechanical Engineering	Sliet
18	Lucky	luckysaklani94@gmail.com	M.Tech	Research Scholar	Mechanical Engineering Department	Indian Institute of Technology, Delhi
19	SHUBHAM KUMAR VERMA	sverma4585@gmail.com	M Tech	Research Scholar	Energy Management	SHRI MATA VAISHNO DEVI UNIVERSITY
20	Sanjay Singh	2017rme9027@mnit.ac.in	M.Tech	Research scholar	Mechanical Engineering	MNIT, Jaipur
21	Sumit Saini	sumitmehraj@gmail.com	M.Tech	Research Scholar	MECHANICAL ENGINEERING	SLIET Longowal
22	Sunil Kumar	kumarsunil9712@gmail.com	M.Tech in Mechanical	Research Scholar	Mechanical Engineering	GJU S&T, Hisar, Haryana
23	ANUMAY KUMAR	anumay4@gmail.com	Mtech	Research Scholar	Mechanical Engineering	SLIET LONGOWAL
24	Abhishek Kumar Pandey	abhishek.hrb@gmail.com	Ph. D.(Persuing)	Research Scholar	Mechanical Engineering Department	IIT Delhi
25	PREM RAJ	premrj0911@gmail.com	Ph.D Pursuing	Research Scholar	Mechanical Engineering	SLIET LONGOWAL
26	PARAMJEET SHAKYA	shakya.tech437@gmail.com	PhD Pursuing	Research scholar	MECHANICAL ENGINEERING	SLIET LONGOWAL
27	PRAVEEN KUMAR	PRAVEEN30201@GMAIL.COM	PhD Pursuing	Research Scholar	Mechanical Engineering	SLIET, LONGOWAL
28	ANKESH MITTAL	ankeshmittal07@gmail.com	Pursuing PhD	Research Scholar	Mechanical Engineering	SLIET LONGOWAL
29	Chhavi Teotia	chhavi.teotia8@gmail.com	Mtech	Research Scholar	Mechanical and automation Engineering	IGDTUW, Delhi
30	Harish Kumar	Harishmechiitd@gmail.com	M.Tech, Ph.D. pursuing	Research Scholar	Mechanical Engineering	Indian Institute of Technology, Delhi
31	MANJINDER SINGH BELING	navi.beling@gmail.com	BE	Students	Mechanical engineering	SLIET LONGOWAL
32	SHASHI RANJAN	shashigwt953@gmail.com	BE (MECHANICAL)	Students	MECHANICAL ENGG.	SLIET LONGOWAL
33	Kushal Kumar	kushalpal570@gmail.com	M.tech.	Students	Mechanical engineering	SLIET LONGOWAL
34	Don Augusty Plackal	donaugusty@gmail.com	Mtech	Students	Mechanical Engineering	SLIET LONGOWAL
35	Rachit kumar	rachitsingh925@gmail.com	M.tech	Students	Mechanical	SLIET LONGOWAL
36	ROBIN SINGH	robinthakur430@gmail.com	M.tech	Students	Mechanical	SLIET LONGOWAL

Organization	Location	RP System	Nature of Work
RPC,Central Tool Room	Ludhiana	Vanguard HS(SLS)	RP Service Provider ,Product Development &Design
GTTC	Bangalore	FDM8000	RP Service Provider
CTTC	Kolkata	FDM2000	RP Service Provider
CMERI	Durgapur	SLA250/LOM1015	R&D
BARC	Mumbai	SLA250	R&D
CMTI	Bangalore	EOSINT	R&D
3DPD	Bangalore	FDM3000	RP Service Provider
TVS SUZUKI	HOSUR	FDM8000	Automobile
Mahindra&Mahindra	Nasik	FDM Quantum	Automobile
Protosys Tech.	Mumbai	FDM1650	RP Service Provider
IISC.	Bangalore	FDM1650	Education
PSG	Colmbatore	FDM1650	Education
MNREC	Allahabad	FDM1650	Education
IIT	Mumbai/Kanpur	FDM1650	Education
BAJAJ AUTO	Pune	SLA5000	Automobile
Maruti Udyog	Gurgaon	SLA5000	Automobile

Screen Short of the Lecture on topic Role of Additive Manufacturing in Industry 4.0 during 21 Dec. 2020 by Dr. Puneet Katyal Associate Professor, GJUST, Hisar, India

Screen Short of the Lecture on topic Test Automation given on 23, Dec. 2020 by Mr. Vikas Aggarwal, Test Automation Consultant, The Pension regulator, UK.

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- 3,800+ Professionals

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Screen Short of the Lecture on topic Industry 4.0- Understanding the Challenges and Opportunities Given on 23, Dec. 2020 By Mr. Irfan Ahmad, VP Customer Insights and Data Analytics, Evaluesserve

In the second year.....

- Engage key suppliers
- Build six sigma goals into strategic plans.
- Quarterly reviews with senior management.
- Reward & recognize black belt achievements.
- Develop incentive plans through for ensuring continued support.
- Get each BB to work on 4-6 projects a year.
- Create pull for six sigma initiative
- Pre-determine next year goals for number of BB's,GB's,Master BB's,project selection & projected savings.

Screen Short of the Lecture on topic Six Sigma during 23, Dec, 2020 by Dr. Prabhkiran Kaur, IKGPTU, Amritsar Campus