



# Electroma

A Quarterly Publication of  
Department of Electronics and Communication Engineering

Volume IV, Issue 4, April – June, 2021

IIMT COLLEGE OF ENGINEERING NEWSLETTER



## India: Internet of Things (IoT) – Policy and Challenges in India

Internet of Things (IoT) is essentially a seamless connected network of embedded objects/devices, with identifiers, in which M2M communication without any human intervention is possible using standard and interoperable communication protocols. The IoT ecosystem is booming exponentially, not only in India, but across the world.

The IoT ecosystem comprises of a close relationship between software, electronic hardware and telecommunication industries. The number of Internet-connected devices (12.5 billion) surpassed the number of human beings (7 billion) on the planet in 2011, and by end of 2020, Internet-connected devices are expected to number between 26 billion and 50 billion globally. It is predicted to offer outstanding scope and opportunities to many industries in India.

In 2015, the Government of India had formulated a Draft IoT Policy with a vision to develop connected and smart IoT based system for our country's economy, society, environment, and global needs. This Policy launched a Smart City project, with a plan to develop 100 smart cities in the country, allocating INR 7,060 crores for the same. In continuation of this endeavor, the launch of the Digital India Program aims to transform the Indian society into a digitally empowered society and boosted the IoT industry. The proposed smart cities shall consist of smart homes, smart parking, smart phone detection, smart transportation, smart roads and smart lighting.

Draft IoT policy adapts a multi-modal approach, comprising of five vertical pillars: Demonstration Centres, Capacity Building & Incubation, R&D and Innovation, Incentives and Engagements, and Human Resource Development. It focuses on areas that promote engagement and awareness with IoT in India and two horizontal supports, Standards and Governance structure, which are essentially the regulatory functions to govern IoT in India.

The government has laid down the policy to form an effective structure for appropriate governance of IoT activities and its implementations. Firstly, it lays down provisions for setting up an Advisory Committee, which will have the responsibility of formulating guidelines concerning the emerging areas of IoT. Secondly, a Governance Committee shall be formed for implementing effective governance policies and projects in India.

## From the desk of Editor



Dear Readers,  
Greetings!

We are pleased to present before you another issue of the Newsletter of the Department of ECE, to make you informed about the current happenings in our department. I am glad to see that the faculty members, staff, and the student community of the department are striving for greater heights and achievements.

The effort of every educator should be to unlock the treasure of learning and education. The Department of Electronics & Communication Engineering is a perfect example where everyone strives towards achieving this. The department lays emphasis on deep understanding of fundamental principles and knowledge of electronic devices and circuits, computer architecture and microprocessors, VLSI and Embedded Systems, Analog & Digital communication, Digital Signal Processing, microwave and mobile communication.

I wish all the best to all students, staff and faculty members of the department, and hope that this issue will encourage them to keep doing the good work.

Happy reading!

Prof. (Dr.) Seema Nayak  
Chief Editor & HOD Dept. of ECE



Editorial Board:

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# Workshop on Prototype/ Process Design and Development, 09th April 2021

**INSTITUTION'S INNOVATION COUNCIL**  
(Ministry of HRD Initiative)

**IIMT COLLEGE OF ENGINEERING**  
Greater Noida  
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MoE IIMT ENGINEERING INNOVATION CELL & DEPARTMENT OF ECE  
is Jointly Organizing  
**WORKSHOP**  
ON  
**"PROTOTYPE/ PROCESS DESIGN AND DEVELOPMENT"**  
Under IEI Student's Chapter  
9<sup>th</sup> April 2021 | 11:00 AM - 12:00 PM  
Speaker

  
**Dr. Vipul Vashisht**  
(Co-founder and CEO, Lagozon Tech. Pvt. Ltd.)  
Online Mode

**Coordinator:**  
Dr. Gopal Krishan  
Associate Professor, Department of ECE

**PATRONS:**

**DR. SANJAY PACHAURI** President, IIC IIMT  
**DR. GAURAV SINHA** Director, IIMT College of Engineering Gr. Noida

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The Department of ECE organized a workshop on PROTOTYPE/ PROCESS DESIGN AND DEVELOPMENT on 9<sup>th</sup> April 2021. This Workshop was organized under IEI Student's chapter of the Department. Dr Vipul Vashisht, Co-founder and CEO, Lagozon Tech. Pvt. Ltd., elaborated upon the Prototyping and Process Design. He explained Prototyping involves producing an early, inexpensive, and scaled down version of the product in order to reveal any problems with the current design. Further he said Prototyping offers designers the opportunity to bring their ideas to life, test the practicability of the current design, and to potentially investigate how a sample of users think and feel about a product.

He continued saying that Prototypes are often used in the final, testing phase in a Design Thinking process in order to determine how users behave with the prototype, to reveal new solutions to problems, or to find out whether or not the implemented solutions have been successful.

He elaborated that the results generated from these tests are then used to redefine one or more of the problems established in the earlier phases of the project, and to build a more robust understanding of the problems users may face when interacting with the product in the intended environment.

Finally he remarked that Prototypes are built so that designers can think about their solutions in a different way (tangible product rather than abstract ideas), as well as to fail quickly and cheaply, so that less time and money is invested in an idea that turns out to be a bad one. He quoted Tim Brown, CEO of the international design and innovation firm IDEO:

“They slow us down to speed us up. By taking the time to prototype our ideas, we avoid costly mistakes such as becoming too complex too early and sticking with a weak idea for too long.” – Tim Brown

**Course Duration**

This course is for Aspiring students pursuing graduation who want to start a career in data analytics. The internship program is 6 - 8 weeks of duration (including 30 hours of live sessions by technology team and 8 weeks of 24\*7 access to LMS).

The program is delivered via LMS hosted on Microsoft Cloud, online Live Classes via Zoom/Microsoft Teams, and with pre-recorded videos, assignments, case studies, Live projects, course end exams acting as support.

Students will get access on LMS with entire course content hosted on Cloud.

Additional module of live 4 hrs session on Software Quality Management System - understanding on project plan, estimation, SRS, Test Cases, RTM, Agile- SCRUM methodology would be covered as part of Internship.

Additional module of live 2 hrs session on soft skills and customer handling would be covered as part of Internship.

Workshop in Prototype / Process Design and Development



## Guest Lecture on Ethics of Innovation Based Collaboration & Agreements, 17th April 2021

**INSTITUTION'S INNOVATION COUNCIL**  
(Ministry of HRD initiative)

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MoE IIMT ENGINEERING INNOVATION CELL & DEPARTMENT OF ECE  
is Jointly Organizing  
**GUEST LECTURE**  
ON  
**"ETHICS OF INNOVATION BASED COLLABORATION & AGREEMENT"**  
17<sup>th</sup> April 2021 | 12:00 PM - 01:00 PM

**Speaker**

**Mr. V R Srinivasan**  
( Founder, 4A IP Solution )

**Online Mode**

**Coordinator:**  
Dr. Gopal Krishan  
Associate Professor, Department of ECE

**PATRONS:**

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**DR. GAURAV SINHA** Director, IIMT College of Engineering Gr.Noida

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The Department of ECE organized a GUEST LECTURE on ETHICS OF INNOVATION BASED COLLABORATION & AGREEMENTS on 17<sup>th</sup> April 2021.. Guest speaker, Mr. Srinivasan, explained the topic saying Ethics is one of the 'buzzwords' of the 21st century. He emphasized that even in the last decade, amid growing concern over economic inequalities and international human rights, increasing public interest in scientific endeavors and broader social trends towards individual and organizational 'accountability', ethical issues have attained greater significance than ever before.

He mentioned Ethical review by Research Ethics Committee (REC) is now a standard part of the grant application/award process for social science and natural science research in UK universities. Particularly since the publication of the Economic and Social Research Council (ESRC) Framework for Research Ethics and the Natural Environment Research Council (NERC) Ethics Policy in 2005, most of the institutions and organizations would need support in pure and/or applied research now at the college, if not school level REC.

There are a number of reasons why it is desirable for researchers to adhere to ethical norms. As Resnick (2011) synthesizes, it helps to promote the aims of research (knowledge, truth, avoidance of error) and the values that are essential to collaborative work (trust, accountability, mutual respect, fairness),

It ensures public accountability (particularly important when researchers are funded by public money), it can help build public support for research (trust in quality and integrity), and assist in promoting other important moral and social values (social responsibility, human rights, etc.)



## Workshop on Expressing Your Organization to Others for Collaboration for Faculties, 23rd April 2021

**INSTITUTION'S INNOVATION COUNCIL**  
(Ministry of HRD Initiative)

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MoE IIMT ENGINEERING INNOVATION CELL & DEPARTMENT OF ECE  
is Jointly Organizing  
**WORKSHOP**  
on  
**EXPRESSING YOUR ORGANIZATION TO OTHERS FOR COLLABORATION FOR FACULTIES**  
Under TI Activity  
23<sup>rd</sup> April, 2021 | 10 AM -11:15 AM

**Speaker**

**Mr. Javed Baig D.**  
Embedded Application Engineer  
(Edgate Technologies Pvt. Ltd., Bangalore)

**Online Mode**

**Coordinator:**  
**Mr. Basanta Mahato**  
Assistant Professor, Department of ECE

**PATRONS:**

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**DR. GAURAV SINHA** Director, IIMT College of Engineering Gr.Noida

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The Department of ECE organized a WORKSHOP on EXPRESSING YOUR ORGANIZATION TO OTHERS FOR COLLABORATION FOR FACULTIES on 23<sup>rd</sup> April 2021.

This workshop was organized under TI Activity. Mr. Javed Baig D., explained the topic very interestingly. In his opinion businesses specialize in order to be more competitive and collaboration enables them to make use of a broader pool of resources and knowledge while sharing risks. He said patterns of collaboration are influenced by business characteristics and their innovation objectives. For example, R&D-based forms of innovation may call for different types of partners. Collaboration with higher education or public research institutions constitutes an important source of knowledge transfer for large firms. Further he said that in most of the countries, such firms are usually two to three times more likely to engage in this type of collaboration than small and medium-sized enterprises (SMEs).

Collaboration for innovation is more frequent with suppliers and customers. Among large firms, suppliers play a dominant role as value chains become increasingly integrated. For countries like Finland, Korea, Germany and the United Kingdom, collaboration with clients is equally or more important especially for innovating SMEs.

This may be an indication of the importance of users in driving innovation. Foreign partners can play an important role in the innovation process, as global value chains gain in significance. International innovation collaboration rates vary widely across countries. In some small open economies, collaboration with partners abroad is particularly high.

**MSP-EXP430F5529 LAUNCHPAD**

EXPRESSING YOUR ORGANISATION TO OTHERS FOR INNOVATION BASED COLLABORATION FOR FACULTIES

17:15:53 (Shared) Tue 20 Apr 2021

Top chat replay

- Kavitha Kumar: Really, great presentation
- Shivam Kumar: very encouraging
- Gaurav Technology: information
- PRASHANT KUMAR: great session
- ashishrai Gupta: Beneficial session for us... from this we were get to know about technology
- Shivam Kumar: yess
- Munish Pipligani: great presentation
- Rohini Kumar: 🙌🙌🙌
- Jayanta Nayak: nice session
- SHARATI SHANKAR TRIPATHI: nice
- Ashutosh Verma: 🙌🙌🙌
- Shivam Kumar: yess
- Shivam Kumar: 🙌🙌
- Aashita Mishra: 🙌🙌
- Dr. Yashika Agrawal: Good
- Pratiksha Singh: fully informative 🙌



## Workshop on Prototype/ Process Design and Development, 30 April 2021



**INSTITUTION'S INNOVATION COUNCIL**  
(Ministry of HRD Initiatives)

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**WORKSHOP ON**  
**"PROTOTYPE / PROCESS DESIGN AND DEVELOPMENT"**  
30<sup>th</sup> April 2021 | 01:30 PM - 02:30 PM

**Speaker**



**Mr. V. R. Srinivasan**  
(Founder & CEO, 4A IP Solution)

**YouTube LIVE**

**Coordinator:**  
Dr. Gopal Krishan,  
Associate Professor,  
Department of ECE

**PATRONS:**

**DR. SANJAY PACHAURI** President, IIC IIMT

**DR. GAURAV SINHA** Director, IIMT College of Engineering Gr.Noida

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The Department of ECE organized a workshop on PROTOTYPE/ PROCESS DESIGN AND DEVELOPMENT on 30<sup>th</sup> April. This Workshop was organized in collaboration with IIC.

The eminent speaker, Mr. V.R SRINIVASAN, President, 4A IP Solution, Delhi, elaborated the Prototyping and Process Design. He said prototyping involves producing an early, inexpensive, and scaled down version of the product in order to reveal any problems with the current design. Prototyping offers designers the opportunity to bring their ideas to life, test the practicability of the current design, and potentially investigates how a sample of users think and feel about a product.

He mentioned prototypes are often used in the final, testing phase in a Design Thinking process in order to determine how users behave with the prototype, to reveal new solutions to problems, or to find out whether or not the implemented solutions have been successful.

The results generated from these tests are then used to redefine one or more of the problems established in the earlier phases of the project, and to build a more robust understanding of the problems users may face when interacting with the product in the intended environment.













## Virtual Industrial Visit

Yakult Danone India Pvt. Ltd., 10<sup>th</sup> June, 2021

An Industrial Visit was organized for all the students of the ECE branch. Following are the details:

Date: 10 June 2021 (Thursday)

Time: 12:00 noon – 01:30 PM

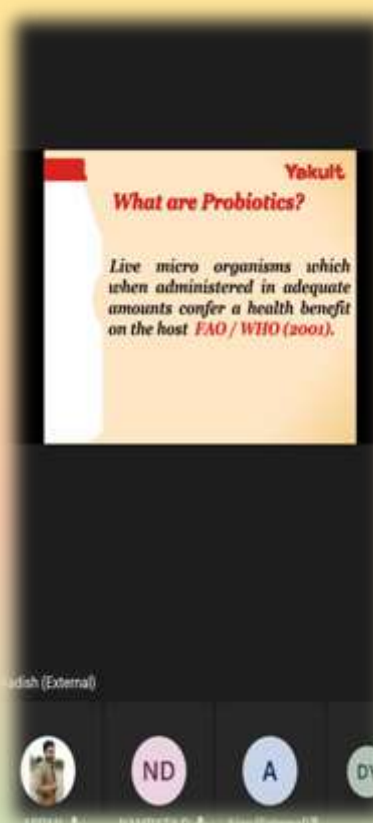
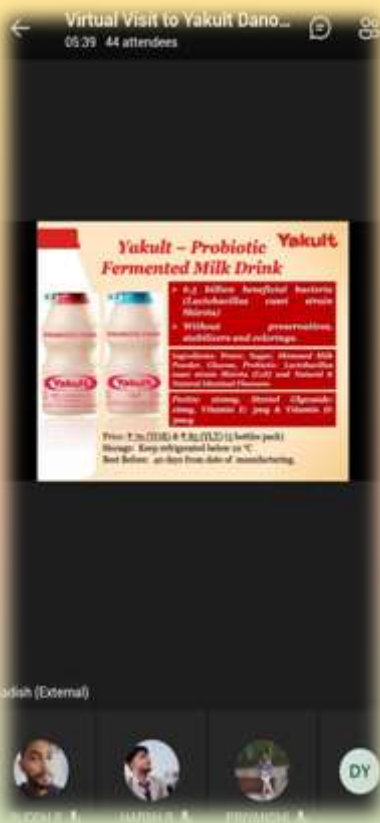
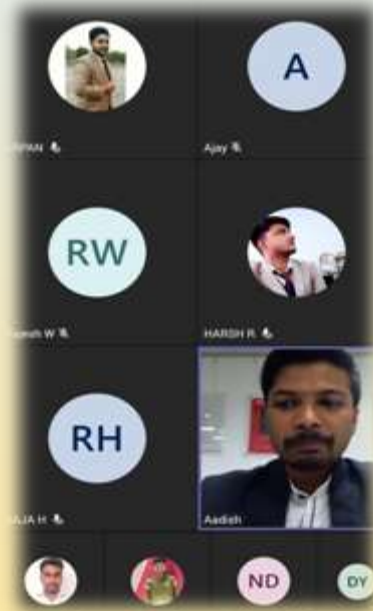
**Industry: Yakult Danone India Pvt. Ltd.**

Plot no. 402-405 & 410-413, Food Park,  
HSIIDC, Rai, Sonapat, Haryana

Resource Person: Mr. Aadish, Sr. Executive - PR Dept.

Mode: Online Microsoft Teams meeting

Mr. Aadish gave a presentation to Students about the overall manufacturing process of Yakult Health Drink. They were made aware of Probiotics, the benefits of Yakult, manufacturing techniques, and safety measures observed in the company.



## Alumni Connect, 15<sup>th</sup> June, 2021



Experience is one such thing which surpasses bookish knowledge.

To give a practical insight our alumnus, **Mr. Prabhat Shukla**, who has his own start-up “Travel Influencer” joined with our students in online session and provided practical useful tips, which really works in industrial set-up.

He shared his real world problems and remedies which are generally hidden from us and could only be learned when someone actually becomes a part of it.

## Two Day Student Development Program on “Different Phases of Prototype Development”, 14<sup>th</sup> – 15<sup>th</sup> June, 2021

**MoE IIMT Engineering Innovation Cell & Department of ECE**  
is Jointly Organizing  
**Two Days Student Development Program**  
ON  
**“DIFFERENT PHASES OF PROTOTYPE DEVELOPMENT”**

Date: 14 <sup>th</sup> June 2021		Date: 15 <sup>th</sup> June 2021	
Day 1 (Session 1)	: Problem Recognition Phase	Day 2 (Session 1)	: Ugly Prototype Phase
Time	: 10:30 am to 11:30 am	Time	: 10:30 am to 11:30 am
Day 1 (Session 2)	: Idea Validation Phase	Day 2 (Session 2)	: Final Product Phase
Time	: 01:30 pm to 02:30 pm	Time	: 01:30 pm to 02:30 pm

**CERTIFICATES WILL BE GIVEN TO THOSE STUDENTS WHO WILL ATTEND ALL THE FOUR SESSIONS AND SCORE MINIMUM 70 % IN THE QUIZ TO BE ORGANIZED AFTER THE FINAL SESSION.**

**Speaker**  
**Dr. UMESH DUTTA**  
DIRECTOR, Manav Rachna  
Innovation & Incubation Centre,  
Faridabad (India)

**Coordinator**  
**Dr. Gopal Krishan**  
Associate Professor (ECE)  
IIMT College of Engineering  
Greater Noida (India)

**Host**  
**Prof. (Dr.) Seema Nayak**  
HOD (ECE)  
IIMT College of Engineering  
Greater Noida (India)

**PATRONS**

**Dr. Sanjay Pachauri**  
President, IIC IIMT

**Dr. Gaurav Sinha**  
Director,  
IIMT College of Engineering

Register Here: <https://forms.gle/uoeqfr75NduJkiKe6>

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The Department of ECE organized a Two Day Student Development Program on “Different Phases of Prototype Development” during 14<sup>th</sup>-15<sup>th</sup> of June 2021. This event was organized in the collaboration with IIC of IIMT College of Engineering.

The eminent speaker, Dr Umesh Dutta, Director, Manav Rachna Innovation & Incubation Centre, Faridabad, India, explained the first phase of prototype development i.e. Problem Recognition. The reality is that many different types of prototypes will have to be created in order to test different aspects.

He explained each and every detail. He stated it from proof of concept models to test the idea through to iterations designed to communicate the ideas. Again he focused on to validate the design, to obtain certification, to use in customer trials, to sales and marketing and to validate the manufacturing process. He mentioned a broad range of prototypes would typically be created. He said Design thinking is both an ideology and a process used to solve complex problems in a user-centric way.

Further he said that recognition process can be divided into five phases: empathize, define, ideate, prototype, and test. While we might look at these steps and see a very logical sequence, it's important to bear in mind that the Problem Recognition process is not linear. Each step brings new discoveries to light, so we shouldn't be surprised if we need to loop back to a previous step and redefine what we've done in order to move forward

- ✓ The main objective of prototyping is:
- ✓ To deliver a working system to end-users.
- ✓ To achieve faster and more effective design cycle of a sellable product.
- ✓ To validate or derive the system requirements. The prototyping process starts with those requirements those are poorly understood.
- ✓ To identify several output implementation methods





# Two Day Student Development Program on “Different Phases of Prototype Development”, 14<sup>th</sup> – 15<sup>th</sup> June, 2021(contd.)

