

**Expert talk on "Process of Innovation Development & Technology Readiness Level (TRL)" & "Commercialization of Lab Technologies & Tech-Transfer"**

**Report on Expert talk on 'Process of Innovation Development & Technology Readiness Level (TRL)' and 'Commercialization of Lab Technologies & Tech-Transfer'**

<b>Date of the Event</b>	29/12/2021
<b>Title of the Event</b>	Expert Talk on 'Process of Innovation Development & Technology Readiness Level (TRL)' and 'Commercialization of Lab Technologies & Tech-Transfer'
<b>Name of the Resource Speaker</b>	Dr. Vishal Singh Associate Professor Centre for Product Design and Manufacturing (CPDM), Indian Institute of Science (IISc), Bangalore  Co-founder and Chairman of the Board VISUALYNK OY, Espoo, Finland
<b>Number of Participants</b>	67 (Students -53, Faculty -14)
<b>Venue</b>	Seminar Hall 5, MVJCE Campus, Bangalore

MVJ College of Engineering, Bangalore, in association with Institutions' Innovation Council-IIC- Ministry of Education Initiative and IQAC, organized an Expert Talk on '**Process of Innovation Development & Technology Readiness Level (TRL)**' and '**Commercialization of Lab Technologies & Tech-Transfer**', on 29/12/2022, from 1:30pm to 4:30 pm, to enlighten young graduates on the process of innovation development and Technology Readiness Level (TRL), and Technology Transfer, and motivate them.



The inauguration function graced by the honorable chief guest Dr. Vishal Singh, Associate Professor, CPDM, IISc, Bangalore, in the presence of Dr. P. Mahabaleswarappa, Principal, MVJCE, Bangalore, in Seminar Hall 5, on 29/12/2021

The inaugural function was graced by the honorable Chief Guest **Dr. Vishal Singh, Associate Professor, CPDM, IISc, Bangalore**, in the presence of Dr. M. Brindha, Vice-Principal, MVJCE, Bangalore, and Dr. P. Mahabaleswarappa, Principal, MVJCE, Bangalore.

The event commenced with an invocation song and the lighting of the lamp.



The chief guest, Dr. Vishal Singh, Associate Professor, CPDM, IISc, Bangalore Lighting the Lamp, in Seminar Hall 5, on 29/12/2021

The IIC Students heartily welcomed the Chief Guest, the Principal, Vice Principal and the other delegates.



Dr. P. Mahabaleswarappa, Principal, MVJCE, Bangalore welcome the chief guest Dr. Vishal Singh, Associate Professor, CPDM, IISc, Bangalore, with a Bouquet in Seminar Hall 5, on 29/12/2021

### **The Guest Speaker**

Dr. Vishal Singh is an Associate Professor in the Centre for Product Design and Manufacturing at IISc. Before joining IISc, he was an Assistant Professor in the Department of Civil Engineering at Aalto University, Finland, besides having a brief stint as Director, Innovation, at the Helsinki Metropolia University of Applied Sciences where he led the Research & Development strategy for the Data-Driven Construction Innovation Hub. At Aalto, Dr. Vishal led the Aalto BIM collaboration and built the Integrated Construction Innovation and Collaboration (ICONIC) Lab, focusing on construction informatics and Building Information Modeling (BIM). He has also worked in Australia as a Postdoctoral Research Fellow at Deakin University and as a Research Assistant at the University of Newcastle.

Dr. Vishal's research and teaching have revolved around construction informatics, looking at BIM and Product Lifecycle Management (PLM) approaches, complemented by his research on design and construction innovation. He also serves on scientific committees of several international conference series across Engineering Design, Product Informatics and Lifecycle Management. He has also served as the Chair of the Educational Committee in EC3, the European Council for Computing in Construction. He has also been a regular contributor and reviewer in several noted academic journals.

**Dr. Vishal's research is strongly built on Industry-Academia collaboration, and he also serves as the Chairman of the Board at Visualynk Oy, a Finland-based start-up that provides software as a service for the construction and facilities management sectors.**



The speaker, Dr. Vishal Singh, Associate Professor, CPDM, IISc, Bangalore addresses the gathering in Seminar Hall 5, on 29/12/2021

### **Details of the Lecture:**

The main objective of this Talk was to create awareness among the students and faculty of Engineering and Science courses about the many innovative ways of technology readiness level.

### **The session covered the following topics:**

- **Process and Implications in Innovation Development**
- **Understanding Technology Readiness Level (TRL)**
- **Manufacturing Readiness Level (MRL)**
- **Investment Readiness Level (IRL)**
- **Understanding the Metric assessment of Innovation Development stages**



The speaker, Dr. Vishal Singh, Associate Professor, CPDM, IISc, Bangalore, delivering his talk on the topic "Technology Readiness Level (TRL) in Seminar Hall 5, on 29/12/2021"

The Speaker started with the concept of TRLs which can allow engineers to have an understanding of readiness for a particular technology, its evolution, scope, and how to achieve top level regardless of their technical background. He explained the TRLs measure of maturity level of a technology throughout its research, development and deployment phase progression. He further explained about the scaling-based system from 1 to 9, with 9 being the most mature technology.



The speaker, Dr. Vishal Singh, Associate Professor, CPDM, IISc, Bangalore, delivering his talk on the topic” Manufacturing Readiness Level (MRL) in Seminar Hall 5, on 29/12/2021

He stated that Manufacturing readiness and technology readiness go hand-in-hand. MRLs, in conjunction with Technology Readiness Levels (TRL), are key measures that define risk when technology or process is matured and transitioned to a system. It is quite common for manufacturing readiness to be paced by technology readiness or design stability. Manufacturing processes will not be able to mature until the product technology and product designs are stable.

After the Lecture, the queries of students were taken by the speaker. Finally, the participants were asked to come on to the dais and share their experience of the whole session. The feedback was a positive one.

### **Outcome of the Event:**

Students gained knowledge in the following areas:

- How Scientific Observations are made and reported in Technology Readiness level
- How Practical application is involved in TRL, MRL and IRL
- Risk analysis and various implications involved in the TRL

Students felt that all the topics covered were very informative. They got a lot of technical inputs on Technology Readiness Levels and understood how to assess the maturity of a given technology, system, subsystem, or component, from a manufacturing perspective.



**Group photo-1:** The Chief Guest, Faculty members and students of MVJ College of engineering, Bangalore in seminar hall 5, on 29/12/2021



**Group photo-2:** The Chief Guest, Faculty members and students of MVJ College of engineering, Bangalore in seminar hall 5, on 29/12/2021