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Coimbatore - 641659, Tamil Nadu, India

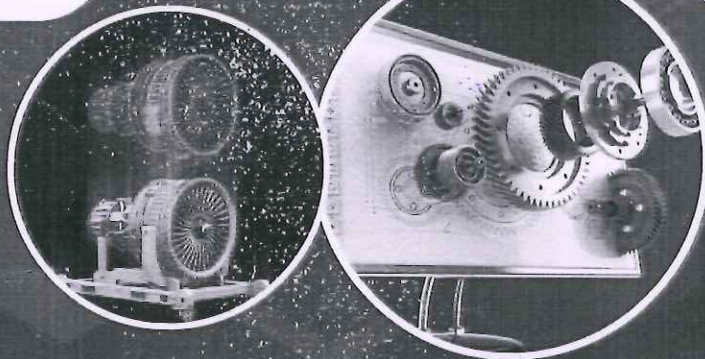
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INDIAN INSTITUTION OF PRODUCTION ENGINEERS

in association with

JIT-IC & NDLI CLUB



"3D DIGITAL TWIN"

AN INNOVATIVE PRODUCT MODELLING CHALLENGE

Sep 28, 2024 (Sat)

CAD Laboratory

Mr. Kiran J, IIPE - President
Mr. Arjun P, IIPE - Secretary
Mr. Balaji S, Vice President
Mr. Rex P, Joint Secretary



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Dr. M. MUTHUKUMARAN, M.E., Ph.D.
Professor & Head
Mechanical Engineering
Jansons Institute of Technology
(Autonomous)
Karumathampatti, Coimbatore - 641659.




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Indian Institute of Production Engineers

in association with

JIT- IIC & National Digital Library of India (NDLI) Club

organises

a technical contest on

"3D DIGITAL TWIN"

An Innovative Product Modelling Challenge

on 29-04-2022 at CAD Laboratory

AGENDA

10:00 AM	Introduction about the Contest IIPE Faculty Coordinator
10:05 AM	Selection of Physical Model Participants of the contest
10:10 AM	Modelling of the Part as per the dimension Using the mechanical design software
11:45 AM	Detailing of the Prototype modelled Using the mechanical design software
12:00 AM	Presenting the model Preparing the final digital twin (Prototype)
12:15 PM	Prototype Evaluation IIPE Faculty Coordinator

Balaji . d

Student Coordinator
(Mr.S.Balaji)



Alexander

Faculty Coordinator
(Mr.F.Alexander)

[Signature]

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Event Report

Title : "3D Digital Twin" - An Innovative Product Modelling Challenge

Date (on) : 28.09.2024 **Time (from & to)** : 09.30 AM to 12.30 PM

Venue (offline) : CAD Laboratory, JIT

Organised by : Indian Institute of Production Engineers

In association with : JIT- IIC & National Digital Library of India (NDLI) Club



<https://www.facebook.com/photo/?fbid=980203153911630&set=a.522181053047178>



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Event Objective

The objective of the Technical Contest is exploring students towards the design software towards the Innovative product modelling for the Digital Twin

Event Summary

Prototyping is a draft version of a product or the overall design concept to users before investing time and money into development. A digital twin is a digital representation of a physical object, process, service or environment that behaves and looks like its counterpart in the real-world. A Digital Twin Prototype is a great way to ease communication between product developers. Using the Digital Twin Prototype provides the user with the opportunity to modify parameters and operating conditions of different components and allows observing the response of the entire system. During the design phase of a product, a digital twin allows representing the ideal version of the coming product using 3D models and simulations. A digital twin updated with real-time conditions of the physical product makes it possible to perform data analysis and run what-if scenarios for predictive maintenance. Based on the process, performance and operational data of both the physical and digital part of the product, the new insight can be feedback, through the digital twin, to improve the next generation in the product line. To explore students towards the design software for digital replica of an object in the physical world, a Technical Contest - "3D Digital Twin" - An Innovative Product Modelling Challenge was conducted for the Mechanical Engineering Students by the Indian Institution of Production Engineers (IIPPE) in association with JIT-IIC and NDLI Club on Sep 28, 2024 from 09.30 AM onwards. In this Contest, the participants are provided with a finished component (Physical model) and they have to create a digital replica with mechanical design software. The event planned for a team (Maximum of three members) in the CAD Laboratory, JIT. Registration form was shared to all the students of mechanical engineering department and Interested students actively registered for the event. All the Participating teams are provided with a Vernier Calliper to measure the accurate and exact dimensions of the components. The participating teams were evaluated based on Product Modelling, Dimensioning and Presenting the modelled component. Based on the Scores obtained, the best performing teams were selected and honoured with Appreciation E-Certificate and all the participants are provided with an E-Certificate. Feedback form was shared to the participants; Participants felt that the contest was interesting and helpful to familiarize the mechanical design software and the related tools in making Innovative Digital Prototyping.



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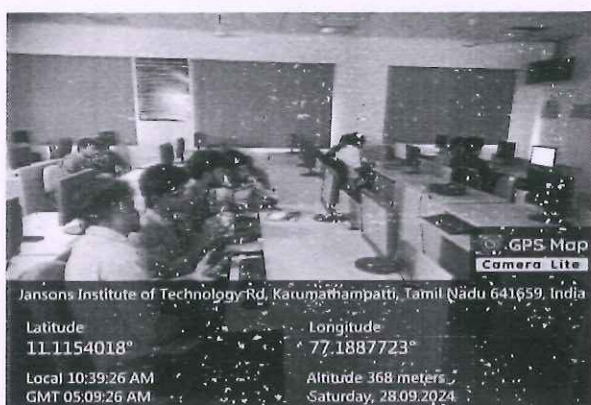
Event Photographs



Event Explanation to Participants by the IIPE Coordinator



Participating Team of the Contest "3D Digital Twin"



Participants Measuring the given physical Components



Modelling of the Digital Prototype in the Software



Participants Presenting the modelled component



Physical Component of the "3D Digital Twin" Contest

Event Outcomes

Students will be aware of the different tools and software used in the Industries to make the Innovative 3D Product design for manufacturing


Event Feedback


How would you rate the event in terms of preparation, flow, and content?	<p>Excellent 67%</p> <p>Very Good 26.67%</p> <p>Good 6.33%</p> <p>Fair </p>
The content and activities of the event has increased my knowledge.	<p>Strongly Agree 60.00%</p> <p>Agree 26.67%</p> <p>Neutral 13.33%</p> <p>Disagree </p>
How would you rate the speaker in terms of knowledge and presentation?	<p>Strongly Agree 73%</p> <p>Agree 26.67%</p> <p>Neutral </p> <p>Disagree </p>
Overall experience of the event.	<p>Very Satisfied 53%</p> <p>Satisfied 33.33%</p> <p>Neutral 13.67%</p> <p>Dissatisfied </p>
Suggestion for Improvements (If any)	-

No. of Participants / Benefices

Total (Participants / Benefices)	Students	Teaching Faculty	Students (Outside institution)	Teaching Faculty (Outside institution)
15	15	-	-	-


Date of report submission: 30.09.2024


Student Coordinator
 (Mr.S.Balaji)


Faculty Coordinator
 (Mr.F.Alexander)


Head of Department
 (Mr.M.Muthukumaran)




Principal
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“3D DIGITAL TWIN” An Innovative Product Modelling Challenge on 29-04-2022 at CAD Laboratory

WINNERS

Event	Position	Name (Year & Department)
“3D DIGITAL TWIN” An Innovative Product Modelling Challenge	First	Mr.P.Rex, Mr.S.A.Mithunraj III Year, Mechanical Engineering
	Second	Mr.P.Mugilan, Mr.V.Dharanikumar III Year, Mechanical Engineering
	Third	Mr.C.Naresh, Mr.B.Mohana Murali, Mr.R.Sowmeshwaran II Year, Mechanical Engineering

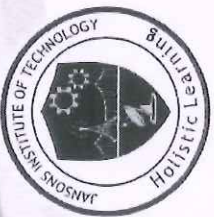
Date: 30.09.2024

Faculty Coordinator
(Mr.F.Alexander)



Principal

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DEPARTMENT OF MECHANICAL ENGINEERING

Certificate of Excellence

This certificate is awarded to

Mr. REX P

for his active participation and securing of "FIRST" Position in the
" 3D DIGITAL TWIN - AN INNOVATIVE PRODUCT MODELLING CHALLENGE "
conducted by Indian Institution of Production Engineers (IIPE) in association

with JIT-IIC & NDLI Club on Sep 28, 2024



IIPE FACULTY IN-CHARGE (Autonomous)
Mr. F. Alexander
KARUMATHAMPATTI, COIMBATORE

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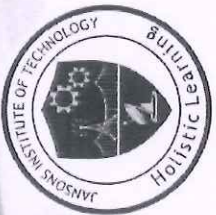


JANSONS INSTITUTE OF TECHNOLOGY
HEAD OF THE DEPARTMENT
Dr. M. Muthukumaran





DIRECTOR - ADMINISTRATION
Dr. M. V. Sureshkumar



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DEPARTMENT OF MECHANICAL ENGINEERING

Certificate of Excellence

This certificate is awarded to

Mr. MOHANA MURALIB

for his active participation and securing of "THIRD" Position in the
" 3D DIGITAL TWIN - AN INNOVATIVE PRODUCT MODELLING CHALLENGE "
conducted by Indian Institution of Production Engineers (IIPE) in association

with JIT-IIC & NDLI Club on Sep 28, 2024

Shanmugam

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JANSONS INSTITUTE OF TECHNOLOGY

Dr. Muthukumar



IIPE FACULTY IN-CHARGE

(Autonomous) HEAD OF THE DEPARTMENT

Mr. F. Alexander ARUMATHAMPATTI COIMBATUR Dr. M. Muthukumar

Dr. M.V. Sureshkumar

DIRECTOR - ADMINISTRATION

Dr. M. V. Sureshkumar



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DEPARTMENT OF MECHANICAL ENGINEERING

Participation Certificate

This certificate is awarded to

Mr. BALAJIS

for his active participation in the

" 3D DIGITAL TWIN - AN INNOVATIVE PRODUCT MODELLING CHALLENGE "
conducted by Indian Institution of Production Engineers (IIPE) in association

with JIT-IIC & NDLI Club on Sep 28, 2024


Mr. F. Alexander

IIPE FACULTY IN-CHARGE

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DR. M. Muthukumaran

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DIRECTOR - ADMINISTRATION

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