PROTOSHOP

VENTURE CENTER

Three months intensive workshop on

"Model-Based Design for Electrified Systems"

Think - Design - Build

- Organized by Venture Center -

Potential gains	• Startups will have a clear understanding of Model Based Design (MBD) and its applications in electrified systems. • Through MBD expertise, startups will be empowered to design highly efficient electrified systems, optimizing their workflows for scalability and wider market impact. • Participants will gain hands-on experience with MathWorks MBD tools, learn from industry experts, and develop strategies to implement MBD in their workflows. • Participants can significantly shorten development cycles and reduce development time by 50% or more.
Organized by	Protoshop at Venture Center
For whom	• Early-stage startups and studentpreneurs focused on electrification. • Only 25 participants will be included in the program
When	Starts from 06 September 2024 ***(Please refer to the detailed schedule in page 3)***
Program Structure	• Duration: 3 months • Frequency: Biweekly virtual sessions and physical workshops
Where	Protoshop, Venture Center, 300 NCL Innovation Park, Dr. Homi Bhabha Road, Pashan, Pune-411008
Contact	**Registration queries:** Mr. Adarsh Lodhi | 8956226076 | adarsh.lodhi@venturecenter.co.in Mr. Anjan Kumar N | 8956457047 | anjan@web.venturecenter.co.in
Cost	• **Rs. 3,500/-** per participant • Only 25 seats: First come first serve (based on preliminary screening) • Register online at: "Click here" Note:- • Registration closes once 25 seats are full • Participation only after confirmation of registration by organizers • Organizers reserve the right to accept or refuse or delay registrations so as to optimize the composition of the group and hence maximize learning for all participants.

Introduction

This 3-month program is designed to empower early-stage startups and studentpreneurs by introducing them to Model-Based Design (MBD) for Electrification. Participants will gain hands-on experience with MathWorks MBD tools, learn from industry experts, and develop strategies to implement MBD in their workflows. By systematically using simulation models and AI throughout the development process, participants can significantly shorten development cycles and reduce development time by 50% or more.

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Overview

Model Based Design

Model-Based Design is the systematic use of models throughout the development process that improves how you deliver complex systems. Using MATLAB and Simulink, you can easily try out new ideas, expose design problems early, and automate steps such as code generation to speed up the overall development process.

Getting Started with Model-Based Design

Reduce the risk of slowing down development by introducing Model-Based Design in stages. Start with a single project, then build on initial success with expanded model usage and code generation. This ensures an achievable return on investment (ROI) from the beginning.

Benefits

Try new ideas and perform fast repeatable tests with modeling and simulation Eliminate manual steps and reduce human error by automating key steps such as reporting, coding, and verification Create a digital thread with traceability from requirements and system architecture to component design and tests Perform predictive maintenance, detect faults, and optimize the system in operation using models as digital twins

Model-Based Design Positions Startups for Success

Learn how MathWorks can help you adopt Model-Based Design to unlock new opportunities and increase value for your customers. Hear from startup founders and engineers on why they adopted Model-Based Design, the benefits they've seen from it, and how it helped them address their engineering challenges.

Terms and Conditions

- No sessions will be repeated if a participant is unable to attend due to any reasons

Event includes

- Access to MATLAB and Simulink licenses for the program duration
- Comprehensive training materials, Technical support from MathWorks experts
- Free membership in mailing list to follow-up on program and intimation of relevant events/ funding opportunities from Venture Center
- Certificates will be given to only those candidates who complete the workshop assignments and have 100% attendance

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Date & Time	Session	Description	Venue
06 September 2024 10:30am to 01:30pm ***(In person session)***	Program Kickoff and Orientation	• Intro to MathWorks and Venture Center • Overview of the MathWorks ecosystem for supporting new Startups in their success • Sharing experience of MathWorks working with worldwide leaders in Electrification • Setting the program agenda	Lecture Theatre
13 September 2024 10:30am to 01:30pm	**One on One - Mentorship Session – *Virtual Session***		
20 September 2024 10:30am to 01:30pm ***(In person session)***	Workshop: Getting Started with MBD	***Track 1****:* *For Automotive EV related companies* Building Vehicle System Models using MBD ***Track 2:*** *For Medical, IAM companies* *Building System Level Simulation Models for Mechatronic Systems*	Lecture Theatre
04 October 2024 10:30am to 01:30pm ***(Virtual session)***	AI in Electrification	• "Why" - AI in electrification? • Different workflows for AI in Electrification, e.g. Predictive Maintenance, Reduced Order Modeling etc.	Virtual Session
11 October 2024 10:30am to 01:30pm	**One on One - Mentorship Session – *Virtual Session***		
18 October 2024 10:30am to 01:30pm ***(Virtual session)***	Hands-on Workshop	• Electric Component Modeling for Industrial Automation & Machinery, Medical Devices, and Automotive Applications • Battery, Power Electronics, Motor Modeling, Control Design, Component Sizing, Design trade-offs etc.	Virtual Session
25 October 2024 10:30am to 01:30pm	**One on One - Mentorship Session – *Virtual Session***		
01 November 2024 10:30am to 01:30pm ***(In person session)***	Real-Time Testing and Code Generation	• Using simulation models for Model-Based Testing, Real-time Testing and Code generation • Integration with Hardware	Lecture Theatre
08 November 2024 10:30am to 01:30pm	**One on One - Mentorship Session – *Virtual Session***		
15 November 2024 10:30am to 01:30pm ***(In person session)***	Graduation	• Feedback and Next Steps • Networking and Ask me Anything!	Lecture Theatre

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Speakers and Organizers	
 **Prasanna Deshpande** Application Engineering Manager, MathWorks India	**Prasanna** , a seasoned leader with almost two decades in the automotive and e-Mobility domains, holds the role of Application Engineering Manager at MathWorks India. He leads e-Mobility initiatives and has been actively speaking at prominent conferences of SAE, ICAT, and ARAI. His impactful mentorship reaches startups through collaborations with Accelerators like COEP Bhau, KPIT Sparkle, iCREATE, STPI Motion, VJTI-TBI and India Energy Storage Alliance (IESA), nurturing emerging talents and fostering innovation. His expertise further empowers startups in the energy utility sector, leveraging MathWorks tools for efficient development, in alignment with MathWorks commitment to driving sustainable progress. **Domain Expertise** - Electric vehicle, Electrification, Model based design, Battery management systems, Sustainable Energy Solutions, Clean Energy
 **Rahul Choudhary** Principal Application Engineer MathWorks India	**Rahul** is a Principal application engineer at MathWorks India Private Limited and specializes in the field of System Modeling and Control Design. He has over 10 years of experience in power electronics control, motor control, multi-domain modeling, and real-time simulation. Before joining MathWorks, Rahul worked with Eaton India Engineering Centre as a Control Engineer where he was involved in developing prognostics and health monitoring algorithms for proof-of-concept projects for their electrical business using MATLAB and Simulink. He holds a master's degree in Systems and Control Engineering from Indian Institute of Technology Bombay, Mumbai and a bachelor's degree in Electronics and Instrumentation Engineering from Institute of Engineering and Technology, Lucknow, India.
 **Koustubh Shirke** SeniorApplication Engineer MathWorks India	**Koustubh** is a Senior Application Engineer at MathWorks, specializing in efficient Data Analytics and AI workflows. He collaborates on projects involving Data-driven modeling, predictive maintenance, and both edge and cloud deployments. Previously, he worked with Mercedes-Benz, Cummins, and Mahindra in AI for engineering applications. He holds a Bachelor's in Mechanical Engineering and a Master's in Mechatronics. Koustubh actively supports startups through mentoring and collaboration.
 **Adarsh Lodhi** Senior Engineer – Product Design and Prototype, Venture Center	Adarsh is working as a Senior Engineer – Product Design and Prototype. He is a Mechanical Engineer with 4 years of industry experience in product design of medical devices. Adarsh lives and breathes design and feels that through good design specialists in different fields can collaborate and create better living conditions for everyone.

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 **Anjan Kumar N** Lead Engineer – Product Design and Prototype, VentureCenter	Anjan is working as a Lead - Product Design & Prototyping in Venture Center. He is a Mechanical Engineer graduate from CMR Institute of Technology, Bengaluru. He is responsible for supporting the startups, innovators, budding entrepreneurs at Venture Center in Product Design and Prototype Development. He has specialization in designing of functional and non-functional prototypes, developing POC's, converting POC to Prototype and end Products, Reverse Engineering and also comes up with strong problem solving skills. He has been actively involved in the development of prototypes majorly in healthcare, automobile, renewable energy, biotech, cutlery, agro based, etc. He is also responsible for running facilities at Protoshop and also setting up technical and non-technical workshops at Protoshop.
 **Himanshu Kunjam** Associate - Protoshop, VentureCenter	Himanshu is working as an Associate Protoshop in Venture Center. He has completed his integrated M.Sc. in Physics from the Center for Basics Sciences, Pt. Ravishankar Shukla University, Raipur, C.G. He is responsible in planning and execution of various services in Protoshop and providing high quality PCB layout designs to the clients.

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About the organizers	
PROTOSHOP	**Protoshop** combines Tinkering lab and Prayashala, which are the prototyping facilities at Venture Center. Protoshop is an initiative of Venture Center (a technology business incubator hosted by CSIR-NCL) with the generous support from in-house funds and the host Institution. It aims at providing services to the Inventors and Entrepreneurs to design and build their prototypes and bringing their ideas into life. For more information about Protoshop: http://www.protoshop.in/
Tinkering Lab	The **Tinkering Lab** is a facility developed and managed by Venture Center, NCL Innovation Park, Pune, India. The main aim of the Tinkering Lab is to help inventors and entrepreneurs to build prototypes of their ideas and generally "tinker" around exploring new ideas. The focus is on electronics, instrumentation and optics besides related prototyping and design. For more information, visit http://tinkeringlab.co.in/
VENTURE CENTER 15 years of service to the Nation	**Entrepreneurship Development Center (Venture Center)** – a CSIR initiative – is a Section 25 company hosted by the National Chemical Laboratory, Pune. Venture Center strives to nucleate and nurture technology and knowledge-based enterprises by leveraging the scientific and engineering competencies of the institutions in the Pune region in India. The Venture Center is a technology business incubator supported by the Department of Science & Technology's National Science & Technology Entrepreneurship Development Board (DST-NSTEDB). Venture Center's focuses on technology enterprises offering products and services exploiting scientific expertise in the areas of materials, chemicals and biological sciences & engineering. For more information, visit: http://www.venturecenter.co.in/
MathWorks	**MathWorks** is the leading developer of mathematical computing software. MATLAB, the language of engineers and scientists, is a programming environment for algorithm development, data analysis, visualization, and numeric computation. Simulink is a block diagram environment for simulation and Model-Based Design of multidomain and embedded engineering systems. They can explore and implement designs without having to write C, C++, CUDA, or HDL code. Engineers and scientists worldwide rely on these product families to accelerate the pace of discovery, innovation, and development in automotive, aerospace, electronics, renewable energy, financial services, biotech, and other industries. MathWorks supports over 5,000 startups and 400 Accelerators worldwide. www.mathworks.com/startups