



IEEE Technology and Engineering Management  
Society Conference: Asia-Pacific (2025)

13 SEPTEMBER 2025

# EMPOWERING FUTURE INNOVATORS: HANDS-ON AI AND ROBOTICS FOR SUSTAINABLE DEVELOPMENT

## TUTORIAL WORKSHOP

**Organized by:** TEMSCON 2025 Technical Workshop Committee  
(in collaboration with ROBBO)



# BACKGROUND AND RATIONALE:

In the era of rapid digital transformation and the rise of smart societies, enhancing the competencies of educators in Artificial Intelligence (AI) and Embedded Systems has become a national priority. This initiative aligns with Thailand's 20-Year National Strategy on Human Capital Development and the United Nations Sustainable Development Goals (SDGs), particularly Goal 4: Quality Education and Goal 9: Industry, Innovation, and Infrastructure.

## Tutorial Workshop for TEMSCON 2025



### Artificial Intelligence

This workshop aims to advance digital skills through hands-on learning using internationally recognized educational technology developed by ROBBO. Participants—comprising STEM teachers, EdTech developers, technical instructors, and school administrators—will acquire practical skills to integrate AI, STEM, and innovation into teaching and learning practices at both institutional and community levels.



# Objectives:

01

Promote deep learning in AI and Embedded Systems using the ROBBO platform in real-world contexts.

02

Enhance the professional capacities of teachers and school leaders to design 21st-century learning experiences.

03

Integrate Design Thinking into STEM project development that addresses societal and environmental challenges.



## EMPOWERING FUTURE INNOVATORS: HANDS-ON AI AND ROBOTICS FOR SUSTAINABLE DEVELOPMENT

### MORNING SESSION (09:00–12:00): INSPIRATION AND TECHNOLOGY ORIENTATION

- Welcome and Opening Remarks
- Keynote Lecture by ROBBO Expert: "STEM, AI, and Designing Learning in the Digital Age"
- Live Demonstration of ROBBO equipment with introductory concepts on Embedded Systems
- Hands-on Activity: Programming sensors and devices using block-based coding

Workshop Format (Full Day)



### AFTERNOON SESSION (13:00–16:30): COLLABORATIVE INNOVATION

- Design Challenge Activity: Prototype development to solve real-life problems (e.g., Smart Farming, Smart Classroom)
- Coding and prototype testing
- Project Pitching with expert feedback
- Reflection and planning for institutional implementation

## THAILAND – CAMP FOR PREPARATION FOR THE OLYMPIADS



**SCRATCH**  
olympiad world

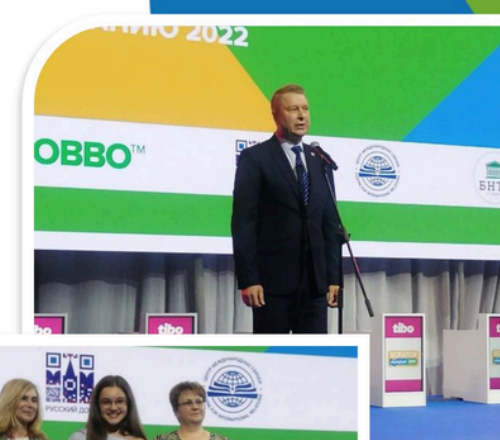
## SCRATCH OLYMPIAD – 2022 Vietnam



**SCRATCH**  
olympiad world



## AWARDING IN BELARUS



**SCRATCH**  
olympiad world



# 9TH INTERNATIONAL SCRATCH CREATIVE PROGRAMMING OLYMPIAD 2025 (ISCPO) TEAM.



Pavinee  
Chaipark

CEO of Global Organic group Co.,Ltd. And Director of Thai International Scratch Creative Programming Olympiad with 65 countries.



Master  
Coach Witter  
K. Maneerak

President of Focus foundation and Thai International Scratch Creative Programming Olympiad with 65 countries.



Mr. Savelev  
Sviatoslav  
Head of Education  
Department ROBBO  
Finland Oy



Mr. Sergeev  
Andrey  
Mikhailovich  
Director of Business  
Development  
ROBBO Finland Oy.



Master Coach  
Kamonporn  
Klaymak

Vice President of Focus foundation and Thai International Scratch Creative Programming Olympiad with 65 countries.

# Target Audience

Expected number of participants: 30–40 people

## Target Audience #2

Educational technology (EdTech) developers and technical instructors



## Target Audience #1

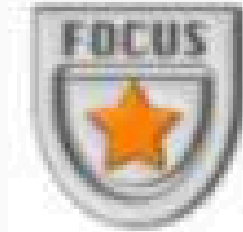
STEM teachers and trainers



## Target Audience #3

School administrators seeking to enhance quality and innovation in their institutions

**ROBBO®**



# CERTIFICATE

**Wanlert Sangkaew**

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has participated in the ROBBO demonstration event

date: **May 27-Jun 4, 2024**

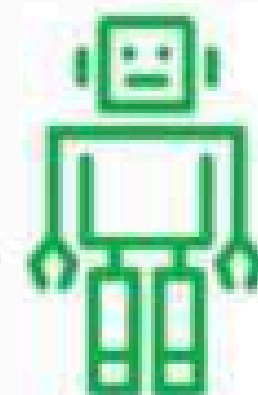
A handwritten signature in blue ink, appearing to read "W. K. Maneerak".

**Witter K. Maneerak**  
Chairman

Otakaari 7, 02150 Espoo, Finland

A handwritten signature in blue ink, appearing to read "Andrew Sergeev".

**Andrew Sergeev**  
Director



# EXPECTED OUTCOMES:

## PARTICIPANTS WILL



Gain knowledge and skills to apply AI and Embedded Systems in educational contexts



Design STEM projects aligned with SDGs and national strategic objectives



Develop functional prototypes and strategies for educational innovation



Receive a digital certificate for portfolio use or for application to international competitions such as Olympiad 2025



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# THANK YOU

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