



# EXTENDED ABSTRACT



**InViCCAD 2025**  
1<sup>ST</sup> INTERNATIONAL VIRTUAL COMPETITION OF CREATIVE  
ARTS & INNOVATIVE DESIGN IN TEACHING & LEARNING



# Design Innovation Academic Show 2025



Organized by



Fakulti  
Seni Lukis & Seni Reka  
Cawangan Kedah



اوسها تقوى موليا

Collaboration with



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**EXTENDED  
ABSTRACT**

**Design  
Innovation  
Academic  
Show 2025**





DIAS 2025 (Design Innovation Academic Show) is all about "Transcending the Boundaries of Creativity: Innovation in Art & Design for 21st Century Education." This vibrant program shines a spotlight on how creativity and innovation are reshaping modern education.

It consists of three key components. First up is the Mindareka Design Show, an exhibition that showcases students' final year projects and creative designs, giving them a chance to connect with industry professionals and the wider community. Next, we have the Northern Innovation Academic Tour (NIAT), which takes participants on an academic adventure to select institutions and innovation centers in the northern region, aimed at promoting knowledge sharing and building strong academic and professional networks.

Finally, there's the 1st International Virtual Competition of Creative Arts & Innovative Design in Teaching & Learning (InViCCAID), a global competition that recognizes outstanding practices in teaching and learning by blending art, technology, and innovative design. But DIAS 2025 is more than just a talent showcase; it's a powerful platform for empowering both students and educators, while also strengthening collaborations between universities, creative industries, and global communities. With its inclusive and interdisciplinary approach, this initiative strives to spark relevant, competitive, and impactful ideas and innovations that truly benefit society and push the future of education forward.



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**Prof. Dr. Roshima Haji Said**  
Acting Rector  
UiTM Kedah Branch

# Rector's Message

I am delighted to extend my heartfelt congratulations to the College of Creative Arts, UiTM Kedah Branch, for bringing MINDAREKA 2024 - Unleashing Your Visual Creativity to fruition. The triumphs of past MINDAREKA editions undoubtedly fueled the organization of this year's event, making MINDAREKA 2024 a reality.

MINDAREKA 2024 - Unleashing Your Visual Creativity stands as a testament to the dedication of students at the College of Creative Arts, UiTM Kedah Branch, providing them with a platform to showcase their final art projects. Beyond serving as a space for the exploration of fresh, innovative, and entrepreneurial concepts, this exhibition is poised to connect aspiring talents with potential clients and employers.

I extend my sincere gratitude to all participants whose enthusiasm and support have contributed to the success of MINDAREKA 2024 - Unleashing Your Visual Creativity. Their unwavering belief and commitment have truly brought this event to life, marking it as a resounding triumph!





# Head of Faculty Message

It is an honour to introduce DIAS 2025 – Design Innovation Academic Show, held under the theme “Transcending the Boundaries of Creativity: Innovation in Art & Design for 21st-Century Education.” This significant event reflects the faculty’s ongoing commitment to fostering a culture of innovation, critical thinking, and creative exploration among our students and academic community. As we navigate the complexities of the 21st century, it becomes increasingly clear that education must go beyond traditional boundaries to embrace multidisciplinary approaches that are both relevant and future-forward.

The three core components of DIAS 2025, Mindareka Design Show, Northern Innovation Academic Tour (NIAT), and the 1st International Virtual Competition of Creative Arts & Innovative Design in Teaching & Learning (InViCCAID) which is serve as vital platforms to highlight the convergence of design, technology, and pedagogy. These initiatives not only empower our students to showcase their talents and ideas, but also create opportunities for engagement with industry leaders, academic peers, and global collaborators. The Mindareka Design Show celebrates student creativity and innovation through compelling final year projects. NIAT fosters knowledge sharing and institutional partnerships through academic visits and exchanges, while InViCCAID offers international recognition for excellence in integrating art and design into teaching and learning.

I would like to express my deepest appreciation to the organising committee, faculty members, students, and strategic partners who have worked tirelessly to bring this programme to life. Your dedication and collaborative spirit have made DIAS 2025 a reality and a reflection of our shared vision for transformative education. It is my hope that this platform will continue to inspire meaningful dialogue, cultivate groundbreaking ideas, and spark a new wave of innovation that enriches both education and society.



**Mohamat Najib Mat Noor**  
Head of Faculty  
Faculty of Arts & Design  
UiTM Kedah Branch





***Industrial  
Design  
(Diploma)***





## GRANDOVA | SPORTCAR

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### ABSTRACT

Grandova is a modern Malaysian sports car designed with a distinct identity and swift performance. Designed to go fast and be agile, its aerodynamic body combines innovative appearances with functionality. With its powerful and thrifty engine, Grandova boasts responsive handling and a thrilling driving experience. The chassis incorporates light materials to achieve enhanced performance without compromising safety. With state-of-the-art driver-focused technology, a low-profile outline, and an aerodynamic contour, Grandova not only represents national innovation but also excitement and control with every drive. Designed for the racetrack and everyday city use, it represents a new breed of Malaysian automotive engineering.

**Keywords:** Malaysian Sportscar, Aerodynamic Design, Performance Vehicle, Grandova, National Identity, Automotive Innovation

### INTRODUCTION

The Grandova sportscar symbolises Malaysia's entry into the world of high-performance vehicles. With a design emphasis on modern appearance, performance, and national pride, Grandova is designed to deliver an exhilarating driving experience. With an emphasis on lightweight and aerodynamic efficiency, the vehicle gives way to speed while maintaining stability. The dramatic design of the vehicle, low height, and air-enabling features place the car in one sense as distinctive



as they enhance downforce and economy. Driver control and interior comfort are maximised by ergonomic cockpit engineering and built-in digital systems. Grandova is not just a car; it's a symbol of Malaysian ambition and creativity.

## **MATERIALS AND METHODS**

Grandova's design is founded on light construction, aerodynamic handling, and eco-friendly use of materials. The chassis of the vehicle has a mix of aluminium alloys and carbon fibre-enhanced panels, selected for their strength-to-weight ratio and stiffness. Aerodynamic features such as vented fenders, rear diffusers, and slim body lines are used to reduce drag and optimise high-speed manoeuvrability. A standout and unique green aspect of this initiative is the interior constructed using bamboo-based composite panels as a carbon fibre replacement with green credentials. Bamboo is a fast-growing, renewable crop that is naturally robust, tough, and flexible attributes well-suited to automotive applications.

Using the carbon fibre lay-up technique as inspiration, the bamboo undergoes a layering, resin infusion, and compression moulding process to produce heat-resistant curved interior parts. These form-plasticity bamboo composites were incorporated into significant interior components such as the dashboard, door trims, centre console, and seat backing. The result is an aerated and aesthetically premium cabin aligning with global sustainability trends but injecting a Malaysian touch of culture through the utilisation of indigenous local natural material. This method is substantiated by Malaysian real-world research.

One collaborative project between Universiti Putra Malaysia (UPM) and Proton Holdings analysed the potential for natural fibre composites, e.g., bamboo, to be utilised in car interiors. The research demonstrated bamboo to be viable for replacing petroleum-based materials, especially interior non-structural components—justifying the use of bamboo on concept vehicles such as Grandova. In addition to material choice, Grandova has a digital cockpit with real-time telemetry, adaptive driving modes, and personalised ambient lighting all integrated into the bamboo interior

panels. The features enhance the driving experience while maintaining the car's commitment to performance and environmental stewardship.



Figure 1.1 The picture of final body structure

## RESULTS AND DISCUSSION

Grandova's design was able to achieve its goals of high performance, Malaysian automotive identity, and integration of sustainable materials in a modern sports car. Its aerodynamic concept vented fenders, rear diffuser, and air channels built into the body was found to be able to minimise drag by up to 18%, for improved speed, handling, and fuel efficiency. Its use of a turbocharged inline-four engine provides tight torque and responsive acceleration with economical running. Among the innovations is the interior, which replaces carbon fibre with moulded bamboo composite panels. Produced through compression moulding processes identical to carbon fibre lay-up, the bamboo panels were discovered to be structurally viable, thermally resistant, and visually distinctive. This sustainable material contributes to cabin atmosphere while reducing environmental impact, aligning with ongoing research efforts in Malaysia, such as the Proton-UPM bamboo composite project. Feedback sessions and design reviews with users indicated that there was keen interest among young Malaysian drivers (18–35 years old), who associated the vehicle with national pride, modernity, and environmental awareness. Lastly, Grandova does not only represent a high-performance theme but also a shining star of future Malaysian car design.

## CONCLUSION & RECOMMENDATION

Grandova represents a significant advancement in Malaysian car design. It marries performance, innovation, and identity into a racing-bred sports car that is as suited to the road as it is to the track. Through its use of light materials, aerodynamic styling, and driver-centric technology, it is a formidable contender for the compact performance car sector.

As a recommendation, future models would focus on electric or hybrid versions to meet future mobility demands and ecological requirements. Targeted marketing efforts focus on young professionals and car culture enthusiasts, positioning Grandova not only as a vehicle but also as a national icon and driving passion symbol.



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# DMS



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