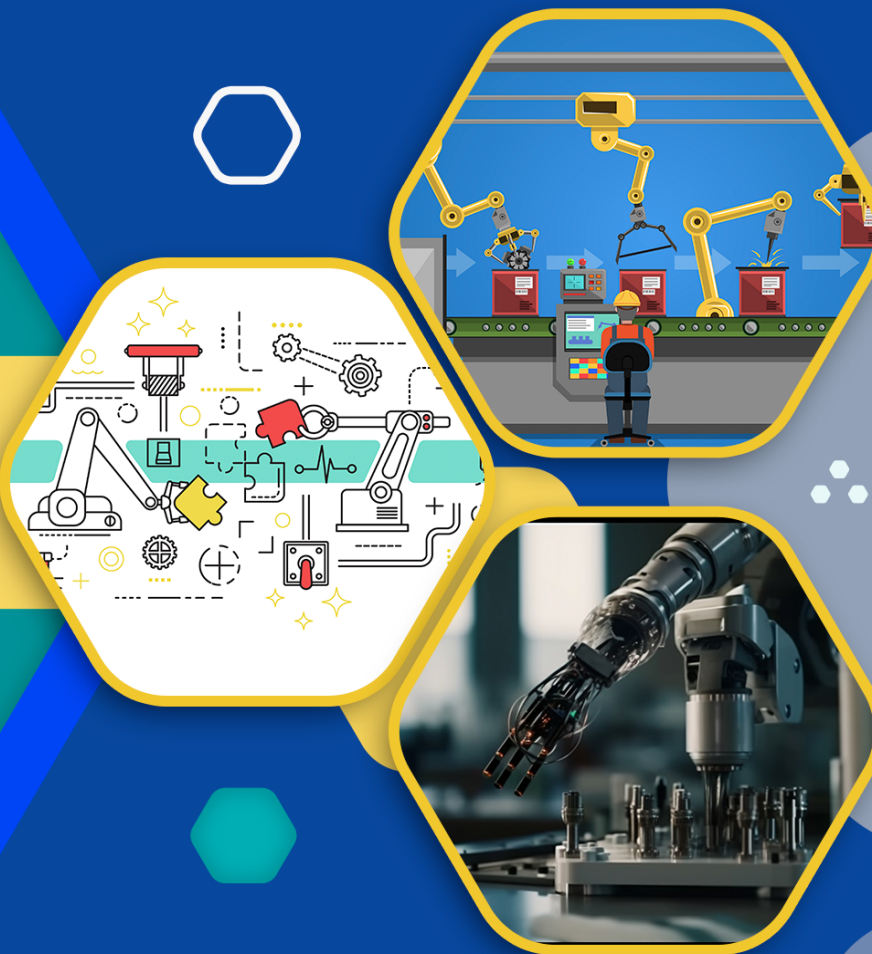


GUIDELINES FOR COMPETITION

RuleBook & Rubric



*This book is published to facilitate the students about the competition.
It includes the general guidelines for the competition.*

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1 Introduction

In a rapidly evolving world, the Internet of Things (IoT) and Industry 4.0 concepts are revolutionising how we interact with the digital and physical realms. This competition is a platform for aspiring innovators, engineers, and visionaries, with a special emphasis on encouraging students, both undergraduate and postgraduate, to showcase their talents and create groundbreaking solutions that address real-world challenges. Whether you're passionate about smart manufacturing, sustainable cities, healthcare transformation, or any other facet of the IoT landscape, this competition invites you to harness the power of connectivity and automation to bring your ideas to life. It is an opportunity for all participants to actively engage in digital transformation methodologies while fostering innovation and excellence.

2 Competition Overview

2.1 Competition Mechanism

2.1.1 Registration

Competition must be announced at least 1.5 months before the Exhibition & Symposium scheduled date, so that students have the chance to get prepared for the competition. Registration will be carried out with submission of Abstract detailing the idea of the proposed project.

2.1.2 Reviewing / Evaluation

Initial Screening for the registered projects will be carried out and go/no-go approach will be used for project evaluation. Final Evaluation will be done using rubrics (Annexure I). The list of final projects that will take part in competition will be communicated (to those who have applied) and publicized.

2.1.3 Exhibition & Symposium

Participant will Exhibit their project at the specified day. The exhibition will be open to stakeholder. The evaluation of the project will also be carried out by a team of evaluators on the exhibition day using the criteria defined in section 4.

2.1.4 Result & Closing Ceremony

Based on the evaluation result, prizes/Awards will be distributed among participants and souvenirs among Judges and chief guests in the closing ceremony.

2.2 Competition Domain

1. Industry 4.0/Internet of things (IoT)
2. Artificial Intelligence in Manufacturing
3. Smart Manufacturing
4. Cloud Manufacturing
5. Additive manufacturing
6. Automation In Supply Chain

3 Eligibility and Team Structure

1. Individual or Team (may consists of maximum 4 members) can participate in above mentioned competition categories.
2. All team members must be students of undergraduate or postgraduate programs of HEC recognised institute.
3. Registration fee is PKR 500/- per team (Redeemable)

4 Judging Criteria

1. Students will be evaluated based on technical challenge behind the idea, developed prototype, robustness of integrated sensors, data acquisition & management, scalability, and reporting.
2. Breakdown distribution of the grading of the competition will be as follows.

Rubric Based Assessment (Annexure)	60%
Presentation & QnA (See Section 6)	10%
Project Demonstration (See Section 6)	30%

5 Submission Guidelines

1. All project submissions must follow a standardized format (All reports and presentation will be in PDF). Participants are required to submit their projects electronically through the designated competition platform, ensuring compatibility with the specified file formats.
2. The submission deadline for projects is [Specify the date and time in GMT]. Late submissions will not be accepted, so participants are urged to adhere to the deadline.
3. Each project submission should be appropriately named, following the format: "[Team Name]_[Project Name]_Submission." Ensure that the file name is clear and contains no special characters or spaces.
4. Project submissions should include a comprehensive project report, Presentation and some high-resolution pictures of project with team members. Documentation that outlines the project's objectives, methodology, design, implementation, and results. The document should be well-structured and include relevant visuals, diagrams, and references.
5. Upon submission, participants will receive a confirmation receipt or acknowledgment to verify the successful submission of their project. Keep this confirmation for reference.

6 Project Demonstration and Presentation

- Each team will be allocated a (Specific Time {may be 10-15 minutes}) slot for their project demonstration & Presentation. Teams must ensure that their demonstration is well-prepared and efficiently conveys the functionality and innovation of their IoT/Industry 4.0 solution.
- During the presentation, teams should cover key aspects of their project, including its objectives, technical details, and the problem it solves. Presentations should also highlight any unique features, benefits, and real-world applications of their solution.
- It is essential that teams adhere to the allocated time to allow all participants equal opportunity.
- Teams should be punctual for their designated presentation time slots. Delays may result in reduced presentation time.
- After the presentation and demonstration, there will be a question and answer (Q&A) session with the judging panel. Teams should be prepared to respond to questions related to their project's design, implementation, and impact.
- Teams are encouraged to use visual aids such as slides, diagrams, or prototypes to enhance their presentation. Any visual aids should be clear and relevant to the project.
- Teams should be aware of the judging criteria and tailor their presentations to align with these criteria. Criteria may include innovation, technical excellence, scalability, and impact, among others.
- In the event of technical difficulties during the demonstration, teams should have a contingency plan in place to address or work around such issues. The judging panel will consider the team's adaptability and problem-solving skills in such cases.
- During the presentation and Q&A session, teams are expected to maintain respectful and professional conduct towards the judges, audience, and other participants.

7 Evaluation and Assessment

- The evaluation of competition projects will be carried out by a distinguished judging panel composed of experts in relevant fields. The judging panel will assess each project based on predefined rubrics and criteria to ensure a fair and rigorous evaluation.
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- Each project will receive scores for various aspects of its performance, with scores assigned to different rubric categories. The judging panel will use these scores to determine the overall quality and merit of each project.
- The rubrics-based assessment ensures objectivity and transparency in the evaluation process. It allows judges to assess projects systematically and provide constructive feedback to participants.
- Our esteemed judging panel consists of industry professionals, academics, and experts with in-depth knowledge and experience in IoT and Industry 4.0. Their expertise ensures a thorough and comprehensive evaluation.
- After evaluation, participants will receive valuable feedback from the judging panel. This feedback aims to assist participants in understanding their project's strengths and areas for improvement, fostering a culture of continuous learning and innovation.
- The evaluation process will be transparent, and participants will have the opportunity to review their evaluation scores and feedback, promoting fairness and accountability.

- *Based on the cumulative scores and assessment, the judging panel will select the winners and recognize outstanding projects in various categories. These winners will be celebrated for their innovation and contribution to the Industry 4.0 and Smart Manufacturing domains.*

8 Awards and Prizes

- *The competition aims to celebrate and reward outstanding innovation and creativity in the Industry 4.0 and Smart Manufacturing Domains.*
- *Awards will be presented in various categories, allowing participants to be recognized for their excellence in specific areas, such as smart manufacturing, Internet of Things, and Artificial Intelligence.*
- *Exceptional projects will be acknowledged with prizes that not only honour participant's achievements but also provide tangible incentives for their dedication and hard work.*
- *The competition will offer substantial cash prizes for winners in different categories, empowering participants to further their innovative pursuits or invest in their educational and professional development.*

9 Communication

- *In case of queries, teams must ensure to communicate the organisers through email and WhatsApp Number. Contact details are given in Section 10.*

10 Contact Information

Email: info@getinnovative4impact.com

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Whatsapp no: +92 3402392598

ANNEXURE

Performance Indicator	Below Expectation-1	Progressing to Criteria-2	Meets Criteria-3	Exceeds Criteria-4
Technical Feasibility - Demonstrated technology viable - Successful proof of concept	The feasibility of the project is highly questionable, and it lacks clear path forward	The project's feasibility is uncertain and it requires further analysis and validation	The project feasibility is plausible but may need additional validation and refinement	The project is technically feasible and well-documented with clear roadmap for execution
Data Acquisition & management - Efficient data collection methods - Adequate data storage and retrieval - Meaningful data processing & analysis	Student fails to use tools nor analyze data in project.	Student identifies tools, but struggles to use them or to analyze data.	Student correctly uses tools to collect data and analyze it, but makes minor mistakes during the process.	Student shows proficiency and familiarity with tools and uses them effectively to collect and analyze data in project.
Prototype development - Prototype functionality meets project goals - Cost-effective prototype components analysis	Student fails to develop the prototype.	Student develops the prototype but the prototype is not functioning properly.	Student develops the prototype and the prototype adequately perform essential function but may have minor issues.	Student develops the prototype and the prototype fully meets functional requirements demonstrating flawless performance.
Scalability assessment - Clear scalability testing plan - Identification of scalability challenges - Proposed solutions for scaling up	The prototype lacks any consideration for scalability.	The prototype has minimal scalability planning but lacks a comprehensive strategy	The prototype includes a reasonable scalability plan but may have some gaps.	The prototype has a well-documented and robust scalability plan in place.
Resource requirement - Documented resource consumption - Efficient resource utilization	Students inefficiently utilizes resources, leading frequent crashes or system failures.	Students struggles with resource management but experiences periodic resource bottlenecks.	Student effectively manages resources but could benefit from optimization.	Students efficiently utilizes resources, ensuring stable and scalable performance.
Technical challenges & solution - Identification of technical challenges - Documented solutions or workaround	Students didn't mention any technical challenges and their solution.	Students mentioned technical challenges but their solution are not well suited or fully developed	Student identifies clear technical challenges but their solution may require further elaboration	Students presents well thought out solution that are well matched to the technical challenges
Performance metrics - Defined and measured KPIs - Benchmarking against expected thresholds	Students lacks clear or relevant performance metrics and KPIs.	Some performance metrics and KPIs are mentioned, but they are vague or not well-aligned with the project's objectives.	The project includes reasonable performance metrics and KPIs that are somewhat aligned with the project's goals.	The project provides well-defined, relevant, and strategic performance metrics and KPIs that are closely tied to the project's success.
Risk Analysis - Identification of potential risk - Strategies for risk mitigation	The project lacks a comprehensive risk analysis, and potential risks are not identified	Some risks are mentioned, but they are not well-defined or analyzed in-depth.	The project includes a reasonable risk analysis, highlighting potential risks and their potential impact on the project.	The project provides a thorough and well-documented risk analysis, including a clear assessment of the likelihood and consequences of identified risks
Regulatory and compliance consideration - Compliance with relevant regulation and standard - Exploration of regulatory pathway for scaling	The project lacks any mention of regulatory or compliance considerations, and there is no indication of awareness of	Some regulatory or compliance considerations are briefly mentioned, but they are not well-defined or adequately addressed.	The project includes reasonable regulatory and compliance considerations, identifying relevant regulations and outlining basic strategies for	The project provides a thorough and well-documented analysis of regulatory and compliance requirements, including a comprehensive strategy for compliance and risk mitigation.
Cost analysis - Accurate cost estimation for scale up implementation - Cost-benefit analysis with ROI investment	The project lacks a comprehensive cost analysis, and there is no mention of budget considerations.	Some cost-related aspects are mentioned, but they are not well-defined or analyzed in-depth.	The project includes a reasonable cost analysis, outlining budget estimates and potential cost drivers.	The project provides a thorough and well-documented cost analysis, including detailed budget breakdowns, cost projections, and cost-saving strategies.

ANNEXURE

Performance Indicator	Below Expectation-1	Progressing to Criteria-2	Meets Criteria-3	Exceeds Criteria-4
Data security & privacy - Adequate data security measures - Privacy compliance in data handling	The project does not address data security or privacy concerns, and there is no mention of safeguards.	Some data security and privacy considerations are briefly mentioned, but they lack depth or comprehensive analysis.	The project includes reasonable data security and privacy considerations, outlining potential risks and basic safeguards.	The project provides a thorough and well-documented analysis of data security and privacy concerns, including detailed risk assessments and robust measures for safeguarding data.
Documentation & reporting - Comprehensive & organized documentation - Well-structured project reports	Student fails to effectively and clearly express thoughts in written communications	Student expresses thoughts in writing but fails to make an effective argument or repetitively makes grammatical mistakes and/or uses wrong sentence structure	Student expresses thoughts in writing but makes minor mistakes and/or struggles to articulate effective sentences and present ideas clearly.	Student demonstrates a consistent pattern of communicating effectively in writing and uses complete and effective sentences to articulate ideas clearly
Stakeholder communication - Effective stakeholder engagements - Feedback gathering mechanisms	The project lacks any mention of stakeholder communication strategies or engagement efforts.	Some stakeholder communication strategies are briefly mentioned, but they are not well-developed or considered.	The project includes reasonable stakeholder communication strategies, but they may lack depth or comprehensive planning.	The project provides a thorough and well-documented stakeholder communication plan, including a clear strategy, identified stakeholders, and methods for
Lessons learned - Identification of key take aways - Recommendations for scaling based on lesson learned	The project presentation does not include any lessons learned or reflections on the project.	Some lessons learned are briefly mentioned, but they lack depth or meaningful insights.	The project includes a reasonable discussion of lessons learned, but they may not be fully applicable or insightful.	The project provides a comprehensive and insightful analysis of lessons learned, including how they can be applied to future projects.
Environmental impact assessment - Assessment of environmental impact factors - Consideration of sustainability measures	The project lacks any consideration of environmental impact or sustainability factors.	Environmental impact is briefly mentioned but not analyzed or taken seriously.	The project includes a reasonable assessment of potential environmental impacts, but it lacks depth or comprehensive analysis.	The project provides a thorough and well-documented environmental impact assessment, including an analysis of potential environmental risks, benefits, and mitigation strategies.