SUSTAINABLE ENERGY DEVELOPMENT AUTHORITY (SEDA) MALAYSIA

2nd SEDA INNOVATION CHALLENGE (SIC) 2026

CHALLENGE GUIDELINE

Table of Contents

1. GENERAL RULES

1.1 The competition is open to **youths aged 18 to 30 years**.

1.2 Participation is open to **IPTA/IPTS students** who are currently enrolled as **full-time students** in **Diploma, Pre-University (Pre-U), Undergraduate, or Postgraduate** programmes at institutions registered under the Ministry of Higher Education (MOHE).

1.3 **International students residing in Malaysia** are eligible to participate, subject to providing proof of **full-time enrolment at a Malaysian higher education institution**.

1.4 All team members must be from the **same institution** and must meet the stated eligibility requirements.

1.5 Each team may consist of a **maximum of four (4) members.**

1.6 Each team must include **at least one (1) female member.**

1.7 Each team must appoint **one (1) Team Leader, who must be a Malaysian citizen.**

1.8 Each team may participate in **only one (1) category**, as follows:

- **Category A: Innovate the Future**
- **Category B: Build the Future**

1.9 Each team is required to select **one (1) innovation scope** and subsequently choose **one (1) specific sub-scope** within the selected scope. The selected sub-scope is **not limited to the examples provided**, as long as it clearly aligns with the selected scope.

1.10 During registration each team is required to provide the following project details:

- Project title
- Selected challenge category (Category A: Ideation or Category B: Prototype)
- Selected innovation scope

1.11 Each participant may be registered under **only one (1) team** throughout the competition. **Multiple registrations under different teams are strictly prohibited**.

1.12 Teams may appoint **lecturers or academic staff members from the same institution as mentors** to provide guidance and support throughout the competition. However, they **shall not participate as team members nor be involved in the submission or presentation as competitors**.

1.13 Any change to **team composition, project title, scope or category** after registration is subject to:

- Formal notification by the Team Leader;

- Submission of written justification; and

- Approval by SEDA Malaysia

  SEDA Malaysia reserves the right to reject any request without obligation to provide justification.

1.14 Failure to comply with the eligibility requirements at any stage of the competition may result in **immediate disqualification**, even if the team has already advanced to later stage.

2. SCOPE OF CHALLENGE

2.1   Teams are required to select **one (1) innovation scope** from the six (6) scopes listed below.
The sub-scopes provided are examples only and are not limited. Teams may propose other innovative sub-scopes, provided they clearly align with the selected main scope.

1. Future Renewable Energy Concepts - Next-generation solar, wind, hydro or geothermal concepts - Breakthrough ideas for new renewable energy materials or technology	**2. Circular Economy & Sustainable Resource Innovation** - Waste-to-Energy & Resource Recovery - Battery Recycling & Life-Cycle Optimization - Design for Circularity
3. Energy Access & Humanitarian Solutions - Renewable energy technologies for disaster relief and emergency response - Affordable and accessible energy solutions for low-income or remote communities	**4. Urban & Built Environment Solutions** - Energy-efficient campus or institutional initiatives - Urban planning models that integrate renewable energy systems - Net-zero building concepts and sustainable architectural innovations
5. Food–Water–Energy Nexus - Agrivoltaics and dual land-use concepts - Solar-powered or renewable-powered agricultural systems - Renewable-driven water purification, desalination, or treatment systems	**6. Digital Intelligence & Smart Technologies for Renewable Energy** - Digital twins, GIS-based analysis, simulation, and modelling tools - Artificial intelligence and advanced data analytics applications - IoT, smart sensors, and intelligent monitoring technologies

Teams are encouraged to explore innovative approaches beyond the examples listed, as long as the proposed solution remains relevant to the selected main scope.

3. CATEGORY DESCRIPTIONS

3.1 CATEGORY A: IDEATION – INNOVATE THE FUTURE

Category A is intended for **early-stage ideas and conceptual innovations** that propose **novel, forward-looking solutions related to sustainable energy**. Physical prototypes **are not required** for this category.

Teams participating in Category A are expected to present **well-developed concept supported by clear explanations, visual representations, and a structured implementation vision**. Each team is expected to deliver the following:

1. **Problem Statement**

   A clearly defined problem statement related to **sustainable energy** or the **selected challenge scope**, supported by relevant context or background.

2. **Innovative Concept or Solution**

   A proposed concept of solution that demonstrates originality, creativity, and strong future potential in addressing the identified problem.

3. **Conceptual designs**

   Visual or conceptual representations that help illustrate the proposed idea. These may include, but are not limited to:
   - Sketches
   - Diagrams
   - System flowcharts
   - Digital mock-ups or illustrations

4. **Concept Explanation**

   A clear description explaining:
   - How the proposed idea or solution works
   - The intended **users, beneficiaries or target community**

       o   The expected **environmental, social or economic impact**

5. **High-level Implementation Plan**

   An outline of how the concept could potentially be developed or implemented, including:
   - Key components, systems or technologies involved
   - Potential scalability and opportunities for future development

6. **Project Poster**

   A clear, engaging, and informative project poster that effectively communicates the proposed ideas or solution and its value during the exhibition session.

*Category A focuses on quality of the idea or solution, innovation potential, and clarity of concept, rather than on technical completeness or development of a physical prototype.

3.2 CATEGORY B: PROTOTYPE - BUILD THE FUTURE

Category B is designed for **more advanced and developed innovations,** where the idea has progressed beyond the conceptual stage and is demonstrated through **a functional prototype**. Teams participating in Category B are expected to present **working solutions or demonstrate systems that showcase practical application, technical feasibility and real-world potential.**

Each team is expected to deliver the following:

1. **Problem Statement**

   A clearly defined problem statement related to sustainable energy or the selected challenge scope, supported by relevant context or background.

2. **Innovative Concept or Solution**

   A proposed concept of solution that demonstrates originality, creativity, and strong future potential in addressing the identified problem.

3. **Functional Prototype**

   A working or demonstrable prototype that represents the core functionality of the proposed solution. The prototype may be **hardware-based, software-based or a combination of both.**

4. **Technical Feasibility**

   Evidence demonstrating the technical viability of the innovation, which may include:
   - System architecture
   - Operating principles
   - Performance indicators or testing results (where applicable)

5. **Technical Documentation**

   Clear documentation explaining:
   - The design process and development stages
   - Materials, components, or technologies used in the prototype

6. **Problem-Solution Alignment**

   A clear explanation of how the **prototype effectively addresses the identified problem or challenge scope**.

7. **Practical Consideration**

   Evidence that the innovation considers important real-world factors, including:
   - Safety and usability
   - Potential for real-world application
   - Scalability or opportunities for future improvement

8. **Project Poster and Demonstration**

   A **clear and informative project poster**, accompanied by a **live prototype demonstration** during the exhibition and pitching session.

*Category B emphasizes **functionality, practicality, and technological readiness**, in addition to innovation and potential impact.*
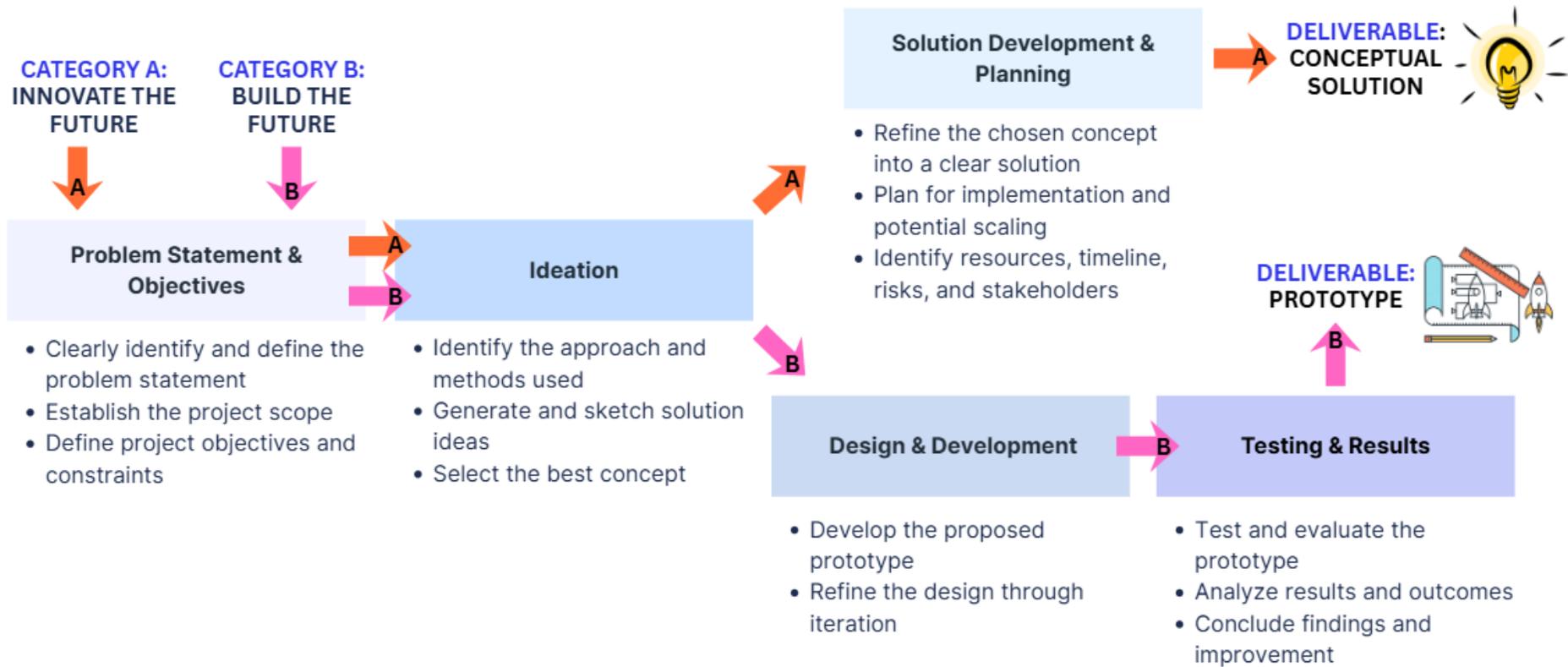
Figure 1 shows the innovation pathway from problem identification to final deliverables, highlighting the differences between Category A (Ideation – Innovate the Future) and Category B (Prototype – Build the Future)

4. CHALLENGE TIMELINE

4.1   The table below shows the **competition timeline and important dates** for the SEDA Innovation Challenge (SIC) 2026. Participants are advised to take note of the schedule and plan their submissions accordingly.

ACTIVITIES	DATE
Registration	30 December 2025 – 31 March 2026
Stage 1 - Video Submission	20 April 2026 – 26 April 2026
Stage 2 - Document Submission	15 June 2026 – 21 June 2026
Final - Exhibition	12 August 2026

Notes:

** **Only shortlisted teams** will advance to the next stage of the competition.*

*** All dates are **subject to change at the discretion of the organize**r. Any updates will be communicated through official channels and published on the official website: https://www.seda.gov.my/seda-innovation-challenge/*

*** **Late submissions will not be accepted under any circumstances**, unless officially extension is announced by SEDA Malaysia.

5. CHALLENGE STAGES AND SUBMISSION REQUIREMENT

5.1   FIRST STAGE - VIDEO SUBMISSION

1. Each team must submit **one (1) video pitch** with a **maximum duration of three (3) minutes.**

2. The video must clearly present the following elements:

    - **Project Concept** – a brief explanation of the proposed idea or solution.

    - **Project Purpose** – the problem being addressed or the objective of the project.

    - **Technical Features** – an explanation of the key technical aspects of the proposed solution.

    - **Project Impact** – the potential benefits, outcomes, or contributions of the project.

    - **Sketch Design Visualization** – visual representations of the concept, such as design, sketches, diagrams, mock-ups, or other illustrations.

    - **Real-World Application** - examples of scenarios demonstrating how the innovation could be applied in real-world application

3. The video submission must correspond to the **project title, category and innovation scope selected during registration.**

4. The video must be **uploaded to YouTube as an Unlisted video.**

5. The **Youtube video link must be submitted via the designated Microsoft Form**. The submission link will be provided at a later date.

6. **Only one (1) video submission per team** is allowed.

7. Videos must be presented in **either Malay or English only**.

8. **Only shortlisted teams** will advance to the second stage of the competition.

9. The video must **clearly feature all key team members** either through narration, on-screen appearance, or credits.

5.2   SECOND STAGE - DOCUMENTATION SUBMISSION

1.   Shortlisted teams are required to **submit the full project documentation** for evaluation.

2.   The documentation must include the following components:
     o   **Executive summary**
     o   **Background/Motivation**
     o   **Development/Implementation**
     o   **Result/ Output/ Outcome**
     o   **Picture of the innovation**

3.   All documentation must be **submitted via the designated Microsoft Form**. The submission link will be provided at a later date.

4.   For projects that have been previously developed projects or presented, teams must clearly demonstrate **new improvements, advancements, or developments made specifically for SIC 2026**. Failure to demonstrate meaningful progression may result in **disqualification or lower evaluation scores**.

5.   The **top five (5) teams from each category** will be shortlisted to advance to the **final stage of the competition.**

5.3   FINAL STAGE - EXHIBITION & PITCHING

1.   Finalist teams are required to **present their projects during the ISES 2026 Exhibition.**

2.   **Submission requirements**:
     Category A: Ideation
     o   Project poster

     Category B: Prototype
     o   Project poster
     o   Functional Prototype
         (The prototype will be exhibited on a display table. Each team will be allocated one (1) table with size of 70 cm (L) x 50 cm (W). Teams must

ensure that their prototype and display materials fit within the allocated space.

3. **Presentation format:**
   o Presentation duration: 3 minutes per team
   o Question & Answer (Q&A): 2 minutes following each presentation

4. **Announce of Winners**
   Winners will be announced during the Award Ceremony at ISES 2026.

6. ADDITIONAL AWARDS AND SUB-COMPETITIONS

In addition to the main competition, the following sub-competitions are offered and are held only during the final stage at the ISES 2026 Exhibition: Best Video Award, Best Poster Award and Best Presenter Award.

6.1 Best Video Award

1. Teams interested in competing for the **Best Video Award** must submit a video for evaluation.

2. Teams may choose to:
   o Use the **video submitted during Stage 1**, or
   o **Submit an upgraded or new video** before the final stage.

3. Teams that do not submit a new video will have their **Stage 1 video automatically considered and evaluated** for the award.

6.2 Best Poster Award

1. **Poster Submission Requirements:**
   o The poster must be **submitted to SEDA Malaysia during Stage 2** for printing and exhibition purposes.
   o Recommended poster size: **A1 size (594mm x 841mm)** in **vertical (portrait) orientation.**

- A **poster template will be provided** by SEDA Malaysia and teams are required to follow the given template.

2. **Poster Content**

The poster must include the following information:

- **Project title and team name**
- **Innovation scope and focus area**
- **Key problem statement**
- **Brief description of the concept** and idea
- Expected impact or outcomes

3. Design Guidelines

- Use high-resolution images, diagrams, or illustration where appropriate.
- Ensure fonts are clear, legible, and easily readable from a distance.

6.3 Best Presenter Award

- The Best Presenter Award recognises participants who demonstrate excellence in:
  - **Communication skills**
  - **Presentation delivery and confidence**
  - **Ability to explain the project clearly and effectively**

7. EVALUATION AND JUDGING CRITERIA

Submission for the SEDA Innovation Challenge (SIC) 2026 will be assessed through **a fair, structured, and transparent evaluation process**. Participants are encouraged to use the following criteria as a guide when preparing their submissions to better understand how projects will be evaluated.

7.1 General Evaluation Principles

All submissions will be evaluated based on the following overall principles:

- **Impact (Environmental, Society & Economic)** – The innovation generates meaningful benefits for the environment, supports community well-being and contributes to economic development.

- **Relevant to Sustainable Energy Transition** – The proposed solution aligns with the goals and priorities of the sustainable energy transition.

- **Scalability and Adoption Potential** – The ideas demonstrated strong potential for real-world adoption, scalability and replication.

- **Feasibility and Readiness** – The proposed solution can be realistically implemented, taking into account resource availability, technology requirements, and practical constraints.

- **Novelty and Originality** – The project demonstrates originality beyond existing solutions and reflect creative and innovative thinking.

- **Clarity and Quality of Presentation** – The concept is communicated clearly and persuasively through with well-structure content and effective visuals or supporting materials.

- **Commercialisation Potential** – The proposed innovation shows potential for market adoption, value creation and long-term sustainability.

7.2 Stage-Based Assessment Focus

Judges will place emphasis on different aspects depending on the **competition stage**.

Stage 1: Video Submission – Preliminary Assessment

Evaluation will focus on:

- **Problem Identification & Relevance** – Clear definition of the problem and its relevance to sustainable energy or the selected innovation scope.

- **Innovation & Originality** – Creativity, novelty and uniqueness of the proposed idea.

- **Concept Clarity** – How well the idea is explained and communicated within the video format.

- **Potential impact** – Expected environmental, social or economic benefits of the proposed innovation.

- **Presentation Quality** – Structure of the video, clarity of explanation, and effectiveness of visual support.

Only **shortlisted teams** will advance to **Stage 2**.

Stage 2: Documentation Submission

Shortlisted teams will undergo a **more detailed evaluation** based on their submitted documentation.

Evaluation will focus on:

- **Concept development / Technical depth** – Level of development, technical understanding and justification of the proposed solution.

- **Feasibility & Readiness** – Practically of implementation, availability of resources and technical viability.

- Scalability & Adoption Potential – Potential for real-world application, scalability and wider adoption.

- **Impact Assessment** – Depth and significance of environmental, social and economic benefits.

- **Clarity & Quality of Documentation** – Structure, completeness and professionalism of the submitted materials.

- **Progression (for Previously Developed Projects)** – Clear demonstration of improvements, enhancements or new developments specifically made for **SIC 2026**.

The **top teams for each category** will advance to the **Final Stage**.

Final Stage – Exhibition and Pitching

Finalists will be evaluated through live presentations, exhibitions and interaction with the judging panel.

Evaluation will focus on:

- **Overall Innovation Quality** – Strength of the idea or prototype in addressing the identified problem.

- **Concept Strength (Category A)** – Coherence, originality and reliability of the proposed solution

- **Functionality & Demonstration (Category B**) – Performance, usability and reliability of the prototype

- **Presentation & Communication Skills** – Clarity, confidence and effectiveness in pitching the project

- **Q&A Performance** – Ability to respond to questions and demonstrate a strong understanding of the project.
- **Visual & Exhibition Quality** – Effectiveness of posters, displays and overall exhibition presentation.

7.3 Additional Awards Consideration

Submissions may also be considered for **special awards** (e.g**., Best Video, Best Poster and Best Presenter**) based on the quality of the supporting materials, clarity of communication and presentation effectiveness.

8. TERMS AND CONDITIONS

8.1. By participating in the **SEDA Innovation Challenge (SIC) 2026**, teams grant **SEDA Malaysia** the right to use their submitted materials (including videos, documentation, images and related content) for **promotional, educational, reporting and internal purposes**, without additional compensation.

8.2. All submissions must be **original** and must not infringe upon any **intellectual property rights**. Previously developed projects are permitted only if **significant improvements or enhancements** are made for SIC 2026. Any form of **plagiarism, false claims, or misrepresentation** will result in **immediate disqualification**.

8.3. Submissions must not contain **confidential or proprietary information** that cannot be shared publicly, unless prior approval has been obtained from SEDA Malaysia.

8.4. **SEDA Malaysia reserves the right** to amend, postpone or cancel the challenge or any part thereof, and to revise these **Terms and Conditions**. Any such changes will be notified to **registered teams through official channels**.

8.5. The **decisions of the judging panel are final and binding**; and **no correspondence or appeal will be entertained**.

8.6. Teams are responsible for ensuring all members comply with **registration requirements, submission deadlines, and presentation or demonstration requirements**. Failure to comply may result in **disqualification**.

8.7. **SEDA Malaysia shall not be liable** for any **loss, damage or costs** incurred by participants in connection with this challenge.

8.8. Teams are responsible for their **own travel, logistics, accommodation, insurance, and related expenses**, unless otherwise stated by SEDA Malaysia.

8.9. **Intellectual property (IP) rights** of the submitted ideas, designs and prototypes shall remain with the **participating teams**. However, by participating in the competition, teams grant SEDA Malaysia a **non-exclusive, royalty-free, perpetual right** to use, reproduce, publish, display, and distribute the submitted materials for **non-commercial, promotional, educational, reporting, and institutional purposes**.