

American International University-Bangladesh

Sustainable Development Goals Report



SDG 17: PARTNERSHIPS FOR THE GOALS



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SDG 9: Industry, Innovation, and Infrastructure at AIUB (Sustainability Report)

American International University-Bangladesh (AIUB) demonstrates a strong commitment to UN Sustainable Development Goal 9 (Industry, Innovation, and Infrastructure) through a broad range of initiatives. From building **sustainable campus infrastructure** to fostering an **innovation ecosystem**, advancing **cutting-edge research**, and forging **partnerships with industry and government**, AIUB integrates SDG 9 into its core mission. The sections below highlight AIUB's efforts in sustainable infrastructure, innovation and incubation programs, research and development activities, and collaborations that drive industrial innovation and infrastructure development.

Sustainable Infrastructure

AIUB's green campus features abundant landscaping and modern architecture designed for sustainability. AIUB's **campus infrastructure** incorporates sustainability at its core. The university relocated to a new **13-acre permanent campus** which is celebrated as one of the country's picturesque **green campuses**, blending state-of-the-art facilities with green open spaces aiub.edu. The campus design is **open-architecture and connected to nature**, providing a healthy environment that stimulates creativity and well-being aiub.edu. Extensive landscaping, palm-lined walkways, and a scenic central courtyard underscore AIUB's commitment to preserving **green space** alongside modern buildings. Even with contemporary amenities, AIUB ensured that the campus remains environmentally friendly and rich in greenery aiub.edu.

Energy efficiency and renewable energy upgrades are a priority in AIUB's infrastructure. The university has adopted **energy-efficient building standards** and is continuously upgrading campus facilities (lighting, HVAC, etc.) for better energy performance aiub.edu. Key initiatives include transitioning to **renewable or low-emission energy sources** on campus and implementing energy-efficient systems, which together have measurably reduced AIUB's carbon footprint aiub.edu. For example, AIUB's Climate Action Plan outlines investments in **solar panels and green energy** options to power the campus, alongside efficient appliances and lighting aiub.edu. Through collaboration with Bangladesh's Sustainable & Renewable Energy Development Authority (SREDA), AIUB hosted training workshops on rooftop solar technology to promote clean energy adoption aiub.edu. The campus itself showcases **renewable energy installations** – visitors can observe AIUB's own solar photovoltaic system in action, which was demonstrated during a recent clean energy workshop where a **solar-powered electric vehicle** developed by AIUB ferried guests around the campus aiub.edu. These efforts not only cut emissions but also serve as living laboratories for students to learn about sustainable infrastructure.

AIUB has also integrated **smart infrastructure** to improve efficiency and reduce resource waste. The campus features a two-story **automated parking system** with RFID-based smart access control, streamlining vehicle entry/exit to reduce congestion and idling aiub.edu. This contributes to lower emissions and a more organized transport flow on campus. In terms of IT

infrastructure, AIUB boasts the **largest virtual lab setup in the South Asian region**, enabling students to perform laboratory simulations and remote experiments digitally aiub.edu. Such innovations in e-learning and virtual labs enhance academic access while minimizing the need for physical resources and travel, aligning with sustainability goals. By combining green building practices, renewable energy, and smart-campus solutions, AIUB ensures its physical infrastructure supports both environmental sustainability and operational efficiency.

Innovation and Incubation

AIUB cultivates an **innovation ecosystem** that empowers students and faculty to translate ideas into impact. Central to this ecosystem is the **Dr. Anwarul Abedin Institute of Innovation (D2A2I)**, which houses dedicated facilities like the **AIUB Business Incubation Center (BIC)**. The BIC is a dynamic space for nurturing projects, cutting-edge research, and **entrepreneurial ventures** aiub.edu aiub.edu. It provides collaborative workspaces, technology hubs, and mentorship programs to help students and researchers develop viable prototypes and startups aiub.edu aiub.edu. Through BIC and D2A2I, AIUB offers a comprehensive support system – from skill development workshops on entrepreneurship and product design to seed funding opportunities – guiding innovators from the ideation stage to successful launch aiub.edu aiub.edu. Notably, AIUB integrates the Sustainable Development Goals into its incubator’s approach, encouraging startups to align their business models with societal needs and environmental responsibility aiub.edu. This alignment ensures that innovation at AIUB also advances sustainable development.

AIUB hosts hackathons and technology competitions to foster student innovation (Cisco IoT Hackathon 2024 award session). Beyond formal incubation, AIUB actively promotes a **culture of innovation** through events, competitions, and industry-linked programs. In 2024, AIUB provided its facilities and resources to host major tech innovation events such as the **Cisco IoT Hackathon** and the **NASA Space Apps Challenge** aiub.edu aiub.edu. These events attracted innovators from across the country (over **125 teams** for the IoT hackathon and **3,000+ participants** for Space Apps) and connected them with industry experts and global technology partners aiub.edu aiub.edu. By hosting such hackathons and coding competitions, AIUB gives students and local entrepreneurs access to mentorship, training, and networks. For instance, the winning project of the 2024 Cisco Hackathon – a “Smart Farm Management System Using IoT” – demonstrated how student innovations at AIUB address real-world problems like agricultural efficiency aiub.edu. AIUB also sponsors business plan competitions, startup showcases, and an annual **Innovation Challenge**, often in partnership with companies and industry associations. These initiatives have led to notable student-led innovations; some capstone projects have evolved into startup ventures with university support. In November 2025, the Faculty of Engineering organized “**IGNITE: Turning Ideas into Impact**,” a seminar where industry entrepreneurs coached students on transforming their final-year projects into sustainable businesses aiub.edu aiub.edu. Such programs illustrate AIUB’s commitment to not only impart technical knowledge but also to **incubate entrepreneurship** and innovation skills among its students.

AIUB’s dedication to innovation is further evidenced by specialized labs and centers that serve as **technology hubs**. The university has established makerspaces and research labs in areas like robotics, renewable energy, and cybersecurity. For example, the **Renewable Energy Technology Lab** allows students to work on solar-powered systems and prototypes (such as an

off-grid solar cold storage unit and a solar PV-based electric power tiller) that were recently showcased to international delegates aiub.edu. Similarly, AIUB's affiliations with industry-led labs – like a **Samsung R&D partnership lab** – expose students to emerging technologies (AIUB's MoU with Samsung R&D Bangladesh integrates Tizen OS development into the curriculum, preparing students for next-generation IoT and wearable platforms aiub.edu). Through these centers and partnerships, AIUB students gain hands-on experience with advanced technology, often leading to **student startups and innovations**. Several faculty and student teams from AIUB have won national innovation awards (e.g. in sustainable energy and smart city design), reflecting the efficacy of the university's incubation support. Overall, AIUB's robust innovation and incubation programs are launching pads for entrepreneurs and innovators who will drive sustainable industry and infrastructure development in the future.

Research and Development

Research and development (R&D) at AIUB is geared towards solving practical industrial and infrastructure challenges, aligning with national development needs. The university's faculty and students are engaged in cutting-edge research across engineering, technology, and design disciplines. Notably, AIUB has created specialized research centers to focus on priority fields. For example, the **Center for Sustainable Energy Research (CSER)** was established to advance renewable energy technologies and power system innovations in Bangladesh aiub.edu. CSER brings together researchers to work on improving solar PV efficiency, energy storage, smart grid stability, and alternative energy solutions with the aim of reducing reliance on fossil fuels and achieving affordable clean energy (directly supporting SDG 7 and industry development) aiub.edu aiub.edu. Projects under CSER include designing high-efficiency solar panels and inverters, developing **solar-powered irrigation systems**, optimizing wind turbine blade designs for greater efficiency, and creating energy-efficient appliances for households aiub.edu aiub.edu. These research efforts contribute to national goals by addressing Bangladesh's energy crisis and enhancing infrastructure resilience. Students trained in the CSER lab gain **practical expertise** in sustainable power engineering, positioning them to drive innovation in the country's energy industry aiub.edu. Another hub, the **Center for VLSI and Embedded Systems (CVES)**, focuses on semiconductor and electronics research, which supports local industry in digital infrastructure and hardware development (for instance, AIUB is slated to host a National Semiconductor Training Center in partnership with government initiatives, building talent for the tech manufacturing sector).

AIUB's **Center for Nanotechnology Research (CNR)** exemplifies how university research contributes to industrial and social innovation. Established in 2020, CNR conducts multidisciplinary research on nanotechnology applications in electronics, medicine, agriculture, and environment aiub.edu. The center has produced research on **nanomaterials for solar cells** (in collaboration with local and international universities) to improve renewable energy technologies aiub.edu. It is also working on nanosensor devices for environmental monitoring and pollution control, aiming to support cleaner industries and water treatment solutions aiub.edu aiub.edu. By exploring nano-engineered solutions – from improved crop yields (nano-fertilizers) to advanced water filtration – AIUB's researchers are contributing to **sustainable industrial innovation** at the frontier of science. The CNR regularly collaborates with industry partners and holds the International Symposium on Nanotechnology (with themes like “Nanotech for SDGs”) to disseminate knowledge and forge links between academia and industry aiub.edu aiub.edu.

Importantly, AIUB's R&D outputs include **published research and patents** that impact national and regional development. Faculty publications highlight advancements in **network security, IoT systems, and sustainable engineering solutions**, underlining the university's focus on relevant innovation aiub.edu. For instance, AIUB researchers have investigated machine-learning algorithms for network intrusion detection and developed encryption techniques for IoT-based vehicle systems over 5G networks aiub.edu. Such work has practical implications for Bangladesh's growing IT and telecom industries, improving cybersecurity and intelligent transportation infrastructure. Likewise, AIUB scholars have published studies on infrastructure design – from earthquake-resistant building materials to efficient transportation modeling – contributing to safer, smarter cities in line with SDG 9. Many of these projects are done in collaboration with government research grants or industry sponsorship, ensuring a pathway to implementation. By linking academic inquiry with real-world application, AIUB's research enterprise is actively **contributing to industrial development and infrastructure innovation** in Bangladesh and beyond.

Industry and Government Collaboration

AIUB recognizes that **partnerships with industry and government** are crucial to achieving impact under SDG 9. The university has a strong track record of collaboration with corporate, public, and non-profit sectors to drive innovation, provide student opportunities, and support national infrastructure projects. **Academia-industry collaboration** is a formal part of AIUB's strategy – over the years the university has signed numerous Memoranda of Understanding (MoUs) with companies to benefit its students and society aiub.edu. For example, AIUB entered an MoU with **Riseup Labs**, a leading Bangladeshi technology solutions company, to create pathways for student **placements (internships and jobs)**, joint academic research, and expert knowledge exchange aiub.edu. This cooperation helps align AIUB's curriculum and research with industry needs while giving students hands-on experience with real projects. The MoU even offers incentives for Riseup Labs' employees to pursue graduate studies at AIUB, illustrating a two-way talent and knowledge flow between academia and industry aiub.edu. In another notable partnership, AIUB and **Samsung R&D Institute Bangladesh** are collaborating to train students on mobile and Tizen OS application development, directly **addressing skill gaps** in the local ICT industry aiub.edu. Through this partnership, Samsung's engineers and AIUB faculty jointly mentor students, making them industry-ready developers for next-generation wearable and IoT technology aiub.edu. These strategic alliances ensure that AIUB's programs remain cutting-edge and that innovation can be transferred from the lab to the marketplace. AIUB also works with business incubators and industry associations (like BASIS in the Space Apps Challenge) to co-host events, thereby expanding networks between students and industry leaders aiub.edu.

On the infrastructure side, AIUB has **collaborations with government and public sector organizations** to support national development agendas. The university often partners with government agencies on research and training initiatives. For instance, in the energy sector AIUB collaborated with the government's **SREDA** to organize a national workshop on "*Net Metered Rooftop Solar in Bangladesh*," promoting solar power adoption in line with the country's renewable energy policy aiub.edu. AIUB's faculty experts worked alongside SREDA officials to train participants on solar PV installation and net-metering regulations, demonstrating how academia can assist government in knowledge transfer. AIUB is also an active member of international consortia that involve government bodies; in May 2025, the university hosted a field visit as part of an **Asian Development Bank (ADB)** regional workshop on **inclusive clean energy transitions** aiub.edu. Delegates from Bangladesh,

Maldives, and Sri Lanka – including government energy officials and ADB experts – toured AIUB’s campus to see its renewable energy innovations (solar labs, solar EV, etc.) aiub.edu. Such engagements position AIUB as a key academic partner in driving policy-oriented innovation and infrastructure planning.

Furthermore, AIUB has joined global initiatives and formed public-private partnerships that bolster infrastructure and industry. The university is a signatory to the **UN Race to Zero** campaign and has pledged to become a carbon-neutral campus, an effort that involves working closely with both government and private innovators. In 2023, AIUB signed an MoU with **Krishi Shwapno Limited**, an agritech startup, to collaborate on circular economy solutions (like sustainable agriculture technology) as part of its climate action and infrastructure resilience strategy aiub.edu. By teaming up with this youth-led enterprise (which has links to government climate goals), AIUB is contributing to modernizing Bangladesh’s agricultural infrastructure in a sustainable way. Additionally, AIUB has served as an **education partner to government organizations** – for example, it partnered with the Bangladesh government to host a National Semiconductor Training Center on campus (under a nationwide digital transformation initiative), aiming to develop skilled human resources for the country’s growing high-tech industries. In sports infrastructure and youth development, AIUB even partnered with the **Bangladesh Football Federation** as an official education partner to provide expertise and training facilities (illustrating the university’s diverse collaboration portfolio).

Through these multi-faceted partnerships, AIUB leverages its academic strengths to support industry innovation and public infrastructure projects. The **outcomes** of such collaborations are evident: new research and startup ventures, enhanced student employability, technology transfer to local industries, and contributions to national policies on digital and sustainable infrastructure. By **bridging academia, industry, and government**, AIUB ensures that its pursuit of SDG 9 has a tangible impact on society – fostering innovation, building resilient infrastructure, and promoting sustainable industrial growth in Bangladesh aiub.edu aiub.edu.

*This report demonstrates how AIUB’s initiatives align with SDG 9 (Industry, Innovation, and Infrastructure) as part of the Times Higher Education Impact Rankings. AIUB’s sustainable campus development, innovation hubs, R&D breakthroughs, and collaborative projects collectively showcase the university’s commitment to driving sustainable industrialization and fostering innovation. **Through continuous investment in these areas, AIUB not only excels in academics but also serves as a catalyst for sustainable development and technological progress in its community and beyond.***