SDG 9. INDUSTRY, INNOVATION AND INFRASTRUCTURE

Urgench State University (UrSU) plays a pivotal role in **SDG 9: Industry, Innovation, and Infrastructure** by serving as the primary hub for technical research and industrial modernization in the Khorezm region. The university bridges the gap between academic theory and the growing industrial needs of Western Uzbekistan.

🏗️ 1. Strengthening Regional Infrastructure

UrSU contributes to infrastructure through both physical research and digital transformation:

- **Modernizing Construction:** The **Technical Faculty** conducts research on sustainable building materials. Notably, inventors at the university have developed patented methods for high-capacity brick and wall-block production, which are used by local construction firms to build more resilient housing.
- **Digital Infrastructure (HEMIS):** The university has fully implemented the **HEMIS (Higher Education Management Information Systems)** electronic platform. This digital infrastructure streamlines academic management and serves as a model for regional institutions transitioning to "Smart Campus" systems.
- **Laboratory Base:** Through projects like **RENES**, UrSU has established modern laboratories for **Renewable Energy Sources**, helping the region transition from aging energy infrastructure to sustainable alternatives.

💡 2. Fostering Innovation and Startups

UrSU is a center for the "Startup Movement" in Khorezm, encouraging students to turn ideas into industrial solutions:

- **Technical Innovation Exhibitions:** The university regularly hosts events like **"Future Energetics"** and faculty-wide project presentations. In recent exhibitions, over **56 innovative projects** were showcased, ranging from numerical controlled (CNC) mini-machines to modern laboratory stands for physics and electrical engineering.
- **Robotics and AI:** UrSU hosts STEM seminars such as **"Educational Robotics Training"** using Edison Mini Robots. These initiatives prepare a workforce capable of managing automated industrial lines, which is essential for the region's modernization.
- **Startup Competitions:** Collaborating with **IT Park Uzbekistan**, UrSU facilitates competitions where students develop apps and hardware solutions

(e.g., the **RoboLab project**) to solve local logistics and manufacturing problems.

🏭 3. Integration of Science, Education, and Industry

The university operates under a "Triple Helix" model, ensuring that research directly supports local factories and clusters:

- **Khorezm Technopark:** UrSU maintains a close partnership with the **Khorezm Technopark**. This collaboration allows scientists from the **Faculty of Bioengineering and Food Safety** to test industrial food processing technologies that are later adopted by regional export companies.
- **Manufacturing Support:** The university develops mini-machinery and spare parts for local agriculture and industry. By producing complex construction details using **CNC machines** on campus, UrSU helps reduce the region's dependence on imported industrial parts.
- **International Technical Partnerships:** UrSU collaborates with global leaders in innovation, including:
    - **Weinberg Technopark (Germany):** To develop innovation center concepts.
    - **Budapest University of Technology:** For knowledge exchange in engineering.
    - **Technical University of Cluj-Napoca:** For joint research in modern infrastructure.

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