

U-Corp @ NewEnergyNexus

Exploration of Smart Energy Innovation Pathways and Enterprise Selection:
Technologies and Applications in the Field of Sustainable Energy

U-Corp Lab

The U-Corp Lab (U-Corp) is a co-innovation platform that connects innovative organizations/companies with the vibrant DKU research and entrepreneurial community. The goal is to provide DKU students the opportunity to master industry-proven innovation research methodologies through productive practice and co-creation projects with companies. These co-innovation projects will provide students with exposure to real-world innovation practices, businesses, cultures, and mindsets; a chance to deep dive into an industry and develop domain knowledge in specific sectors; experience using a variety of industry-proven research methodologies and tools; practical innovation project experience working in teams on real business challenges.

NewEnergyNexus

New Energy Nexus (NEX) empowers diverse entrepreneurs to build a 100% clean energy future through funding, accelerators, and training, spanning emerging technologies to clean energy adoption and distribution. Founded in 2004 in California as the California Clean Energy Fund (CalCEF), NEX has invested \$30 million in early-stage startups, including Tesla. Today, NEX connects with over 300 global partners and drives innovation in 13 countries, offering financial support, opportunities, and a thriving ecosystem for clean energy pioneers worldwide.

Aligned with New Energy Nexus' global vision and mission, NEX China has developed a targeted strategy to address local market dynamics and harness China's unique opportunities in clean energy. Positioned as a vital bridge, NEX China connects China with the world and amplifies the voices of Global South countries. Through a bottom-up approach, it fosters technological exchange, international cooperation, and innovative solutions to advance the global clean energy transition.

For more information, please visit: <https://newenergynexus.cn/>

Project Introduction

This project aims to drive development in the field of sustainable energy by fostering innovative thinking and technology application, ultimately identifying a group of high-potential startups and research teams for the Teraward Smart Energy Innovation Competition. As renewable energy gains importance, energy storage technologies advance, carbon neutrality goals grow more urgent, the hydrogen economy rises, energy digitalization accelerates, and green smart city initiatives expand, the smart energy sector is experiencing unprecedented opportunities and challenges.

The project will be conducted in stages, focusing on six core categories: renewable energy, energy storage and conversion, carbon neutrality, hydrogen energy, energy digitalization, and green smart cities. Comprehensive market research and technical analysis will be carried out for each category. By building an extensive enterprise database, project members will gather and organize information on innovative and forward-looking startups worldwide, examining their technological features, market applications, and growth potential.

Leveraging platforms like LinkedIn, email, and X, participants will connect with startups, enhancing their networking skills. They will also explore real-world applications of smart energy technologies, assessing their commercialization potential and social value. Under the guidance of mentors, students will analyze successful domestic and international cases in the smart energy field and learn advanced evaluation and selection methodologies. This includes establishing communication channels from scratch and seamlessly integrating theoretical knowledge with practical experience, significantly improving their professional competence and practical abilities.

Final Result: Startup Information Database

Study methods: Data Collection, Data Analysis, Brand Influence Building and Communication

Student Team Composition

Number of students: 4-5

Overseas background preferred.

Students with skills in media design and visual communication are preferred.

Working Plan

1. 4-5 students will form a working group, which will work together to complete the project under the guidance of the tutor.
2. In addition to meeting with the company for the first time, students will have weekly meetings with the U-Corp team to report on their work progress and receive mentoring feedback. (See below for details.)
3. Project arrangement: Students need to work about 6-10 hours per week, and the project duration is 12 weeks. See the following table for the specific schedule:

Timetable

Date	Week	Working Content	Delivery Results
2.24-3.9 <i>*(3.3-3.6 Final Week will be skipped.)</i>	WK 1-2	<p>1. Conduct a Project Kick-off Meeting: Communicate with NewEnergyNeuxs representatives to clarify project objectives, scope, timeline, and team member roles.</p> <p>2. Gain Comprehensive Understanding: Deeply study the TERA-Award Smart Energy Innovation Competition, including its participation requirements, evaluation criteria, prize structure, and past winners. Gather relevant materials such as the competition's official website, news reports, and case studies of previous winners to support future work.</p> <p>3. Develop Media Promotion Materials: Update the media toolkit based on previous recruitment materials, including posters, LinkedIn posts, WeChat articles, and other promotional content.</p>	<p>Arrangement of division of responsibilities among team members and established internal meeting dates/times</p> <p>Project Proposal Document on Competition Rules and Requirements Media Toolkit</p>

3.10-3.23	WK 3-4	<p>1. Market Research: Information collection will focus on the following areas:</p>	
3.24-4.6	WK 5-6	<p>Renewable Energy (Solar, Wind, Geothermal, Biomass): Research the global and Chinese renewable energy market size, growth trends, technological advancements, etc. Collect information on companies in solar, wind, geothermal, and biomass energy, including company names, core businesses, technological strengths, and market share. Analyze each company's technological features, market applications, and development potential.</p>	
4.7-4.20	WK 7-8	<p>Energy Storage and Conversion (Electrochemical, Mechanical, Thermal, Energy Conversion): Investigate technological developments, market size, and key players in energy storage and conversion. Collect information on companies involved in electrochemical storage, mechanical energy conversion, thermal energy conversion, and energy transformation. Analyze each company's technological innovation, market applications, and future trends.</p> <p>Carbon Neutrality (Carbon Capture, Utilization, Storage, Methane Control): Study the policy background, technological challenges, and market opportunities in the carbon neutrality sector. Collect information on companies in carbon capture, utilization, storage, and methane control. Analyze their contributions to carbon neutrality and market potential.</p> <p>Hydrogen Energy (Hydrogen Production, Transport and Storage, Applications, Green Hydrogen Fuels): Research the technological</p>	<p>Company Database (Excel spreadsheet categorized by type) Market Research Report Phase-by-phase Reporting Documents Targeted Company Contact Record (5 companies per person per day)</p>

	<p>development, industrial chain layout, and market prospects in the hydrogen energy field. Collect information on companies in hydrogen production, transport and storage, hydrogen applications, and green hydrogen fuel production. Analyze each company's technological advantages, market applications, and future development directions.</p> <p>Energy Digitalization (Energy Internet, Virtual Power Plants, AI Energy Management): Investigate technological innovations, market trends, and business models in energy digitalization. Collect information on companies involved in energy internet, virtual power plants, and AI energy management. Analyze each company's technological strength, market applications, and development potential.</p> <p>Green Smart Cities (Green Smart Kitchens, Home Energy Management, Green City Initiatives): Research trends, policy support, and market demand in the green smart city sector. Collect information on companies involved in green smart kitchens, home energy management, and green city initiatives. Analyze each company's technological innovations, market applications, and social value.</p> <p>2. Enterprise Database Construction: Based on the competition requirements, define enterprise selection criteria, such as technological innovation, market potential, and revenue. Collect relevant information on companies that meet the selection criteria through industry reports, company websites, news articles, etc. The data should include company names, founding years, core business</p>	
--	--	--

		<p>areas, technological strengths, market applications, and revenue details. Organize and categorize the collected data to build a comprehensive enterprise database, which will be updated daily/weekly to ensure accuracy and completeness. Team members can classify the data by technological route or region for research and retrieval.</p> <p>3. Targeted Enterprise Outreach: Conduct targeted outreach to companies in the database to enhance the Tera-Award's brand influence and global recognition.</p>	
<p>4.21-5.4</p>	<p>WK 9-10</p>	<p>Database In-depth Analysis:</p> <p>Understanding Application Scenarios: Conduct in-depth research on smart energy technologies in each category, exploring their application scenarios, technical features, market potential, and more. Collect and analyze relevant cases to assess the technology's effectiveness and market feedback.</p> <p>Enterprise Selection and Recommendation: Based on criteria such as technological innovation, market potential, and alignment with competition requirements, select suitable companies for the TERA-Award Smart Energy Innovation Competition. Perform detailed research on the selected companies, analyzing their technological characteristics, market applications, competitive advantages, etc., and draft documents outlining the application scenarios for each company. Compile a list of recommended companies, preparing the rationale and highlights, including technological innovations, market prospects, and contributions to the smart energy industry.</p>	<p>Business Application Scenarios Overview Document (categorized by industry) Recommended Companies List and Justifications Stage-wise Reporting Document</p>

<p>5.5-5.18 * (5.5-5.8 Final Week will be skipped.)</p>	<p>WK 11-12</p>	<p>Summary Report Writing: consolidate the findings of the project research, including market research, company selection, and application scenario analysis. Write the project summary report, covering the project background, key findings, and an introduction to the recommended companies, fully reflecting the research outcomes and highlights of the recommended companies. Summarize the successes and shortcomings of the project, offer suggestions for improvement, and provide references for future projects.</p> <p>Project Completion: Review and revise the summary report to ensure accuracy and completeness. Complete the archiving and organization of all project documents, including market research reports, company databases, application scenario documents, and the list of recommended companies. Hold a project debriefing meeting to share project experiences and provide feedback and guidance to team members.</p>	<p>Final Report & Database (Including all research findings and recommended company introductions) Project Archive Documents Project Final Meeting Minutes</p>
--	-----------------------------------	--	--

Important Date:

Orientation meeting: 2.22

Regular meetings with the U-Corp: Bi-weekly meeting

NewEnergyNexus (NEX) team participation guidance Date: Biweekly meeting

Final Presentation: TBD