



University : National Chin-Yi University of Technology
Country : Taiwan
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[SDGs 1] No Poverty

[1.4.2] Does your university as a body provide financial assistance to the local community assisting the start-up of sustainable businesses?

NCUT's Research and Development Alliance for Practical Machining Technology

National Chin-Yi University of Technology (NCUT) has spearheaded a **Research and Development Alliance** designed to enhance practical machining technologies, particularly for **difficult-to-cut materials**. This alliance offers robust technical services, innovative solutions, and support to manufacturers, ensuring they overcome challenges in production and machining. The alliance focuses on three key areas: advanced machining strategies, real-time problem-solving platforms, and collaboration between academia and industry.

Advanced Machining Strategies

The alliance utilizes cutting-edge technologies to assist manufacturers in processing challenging materials. Key strategies include:

- **Ultrasonic-Assisted Processing Technology:** This technique improves the machining efficiency of hard materials while reducing tool wear.
- **CNC Grinding and Polishing Techniques:** Special processes are developed for high precision and superior surface finishes on CNC machines.

Workpiece Accuracy and Quality Testing

To ensure the highest standards, the alliance provides:

- **Accuracy Testing Services:** Rigorous protocols ensure manufactured workpieces meet precision standards.
- **Quality Testing:** Detailed assessments are conducted to evaluate the performance and overall quality of workpieces.

Real-Time Feedback and Support

A **real-time feedback platform** enables manufacturers to report machining issues and receive immediate technical support, minimizing downtime and resolving problems efficiently.



School-Industry Collaboration and Talent Development

NCUT fosters strong industry-academic partnerships through joint research projects, knowledge exchanges, and training programs. The alliance also offers internships and apprenticeships, providing students with hands-on experience in machining technologies. Additionally, it organizes workshops and seminars, promoting the exchange of ideas and best practices across the machining industry.

NCUT's alliance serves as a critical driver of innovation and excellence in machining technology, supporting manufacturers and helping them navigate the complexities of working with difficult-to-cut materials.

NCUT's Commitment to Combating Climate Change and Promoting Sustainable Development

NCUT is taking proactive steps to combat climate change, aligning its efforts with global trends and national policies on carbon neutrality and sustainability. The university's initiatives include establishing centers dedicated to carbon neutrality and ESG development, participating in international seminars, and forging strategic partnerships to advance sustainability.

Establishment of the Carbon Neutral Center

In August 2022, NCUT launched the **Carbon Neutral Center** to drive efforts in:

- **Carbon Inventory and Reduction:** The center conducts comprehensive carbon inventories and devises strategies to reduce emissions.
- **Energy-Saving Initiatives:** It actively promotes energy-saving measures across industries, supporting the government's carbon neutrality policies.

Launch of the ESG Sustainable Development Center

In January 2023, NCUT inaugurated the **ESG Sustainable Development Center**, which focuses on:

- **Supporting Carbon Reduction Initiatives:** The center works alongside the Carbon Neutral Center to drive sustainable development.
- **International Certification for Carbon Trading:** It facilitates the certification of carbon rights trading, providing businesses with access to global markets.
- **Talent Cultivation:** Specialized training programs are designed to develop professionals skilled in guiding corporations toward sustainable ESG practices and net-zero emissions.

Strategic Partnerships for Sustainability

NCUT signed a **sustainable cooperation memorandum** with **Bell International Inspection and Certification Group** and **Bangtai Group** in April 2023. This partnership aims to:



- **Develop Certification Courses:** Focused on sustainable practices and net-zero transformation, these courses equip professionals with the necessary expertise.
- **Support Companies in ESG Development:** By providing training and strategic guidance, NCUT helps businesses implement sustainable practices and achieve long-term environmental goals.

International Participation and Knowledge Sharing

NCUT's participation in the **ASHRAE Taiwan Chapter's** seminar on carbon neutrality reflects its commitment to staying informed on international trends. The seminar provided insights into global carbon reduction strategies and how to integrate them into local industries, enhancing Taiwan's competitiveness in addressing climate change.

NCUT's initiatives in machining technology and sustainability highlight its dual commitment to technological innovation and environmental responsibility. Through its research alliance, carbon neutrality initiatives, and ESG development programs, NCUT not only supports industry transformation but also contributes to global efforts to combat climate change. These endeavors ensure that NCUT remains at the forefront of sustainable development and technological advancement.