JABIL

U-EARTH

COMPANY

U-Earth

INDUSTRY

Environmental Services

COUNTRY

Italy

EMPLOYEES

35

WEBSITE

www.u-earth.eu

CHALLENGES

- Biotech company U-Earth made significant progress in air particle research, testing, and purification technology but required a manufacturing partner to scale up volumes.
- U-Earth faced challenges evolving its offering into a new air quality standard that required a full suite of products to meet customer demand for a 360° air purification service and sought a strategic partner with design expertise to develop the new devices, sensors, and UVC lamps.
- Being based in Italy, U-Earth needed a partner who could produce and adapt their products for the Italian market and eventually take their efforts global.

SOLUTION

- Jabil made U-Earth's air purification device more compact, sustainable, and efficient by incorporating eco-friendly materials.
- Jabil developed a new sensor that uses a computer module to improve the air monitoring capabilities of the air purifier.
- Jabil's presence in Italy allowed U-Earth to produce air purification devices locally, streamlining the process, and paving the way for future expansion to other locations.

BENEFITS

- Entities like UNICEF recognize U-Earth's enhanced air purifiers for contributing significantly to sustainability.
- The improved air quality suite provide users with enhanced air quality and access to data via U-Earth's app.
- Jabil's mass manufacturing capabilities and local market expertise benefit U-Earth by offering them more efficient and sustainable production solutions.

U-Earth and Jabil Advance Air Purification Technology and Support Environmental Sustainability

Tackling Manufacturing Challenges and Improving Air Purification for Cleaner Air Worldwide

Air pollution negatively impacts human health, causing respiratory diseases, heart attacks, and strokes. The toxins that create this pollution also poison our soil and water, unbalance fragile ecosystems, and endanger plant and animal life.

U-Earth, a biotech company at the forefront of air purification technology, emerges with a promising solution to this complex and pressing issue. Concentrating their efforts on spaces where air quality is vital for human health and safety — such as hospitals, offices, and industrial facilities — U-Earth strives to improve air quality by increasing access to and refining the functionality of their air purification products. Through dedication and innovation, the company aims to create a cleaner, healthier future for everyone, making clean air a human right.

U-Earth's products offer a multitude of advantages in areas with high foot traffic, such as:

- Reduced Cross Contamination: Minimizes the spread of infection and disease
- Improved Energy and Cost Savings: Lowers operational costs through more efficient design
- Accelerated Patient Recovery: Enhances patient care in hospitals with superior air quality
- Ensured Medical Safety: Minimizes risks for all with purified air
- Enhanced Productivity: Reduces fatigue and respiratory concerns
- Mitigated Legal Risks: Prevents lawsuits through proactive air quality management
- Improved ESG goals and higher visibility as a sustainable brand

> **"The value of our cooperation lies in the fact that U-Earth is highly skilled in the chemical and scientific aspects of our work, while we at Jabil are experts in designing, engineering, and manufacturing products. By combining our areas of expertise, we are able to rapidly scale and grow together, creating a synergy that benefits both partners."**

ROBERTO FERRI
Chief Sales & Marketing Officer, Jabil

A Comprehensive Approach to Air Quality

With the impact of COVID-19 and escalating climate change concerns, the demand for advanced air purification solutions has become more urgent than ever. To address the growing global concerns for cleaner air and healthier environments, U-Earth partnered with Jabil to refine the functionality of their air purifier and enable large-scale production. With Jabil's solutions, U-Earth was able to produce an effective air purifier that contributes to improving air quality and promoting healthier environments.

"Air quality is a very complex matter, so it needs to be solved by an ecosystem of products," said Betta Maggio, CEO and founder of U-Earth. "Whether you're cleaning a manufacturing site, a hospital, a school, or an office building, you need different technologies in various spaces. The key to everything, besides having technology, is that it can capture and destroy tons of pollution and monitor the air quality."

U-EARTH'S AIR PURIFIER WORKS IN FIVE STEPS:

1. The unique biological device captures contaminants in the air.
2. By using a nature-inspired process called bio-oxidation, pollutants are digested and transformed into water, carbon dioxide, and base elements, such as nitrogen.
3. Through the U-Lamp, viruses and bacteria that are threats in crowded spaces are specifically neutralized even before being captured by the bioreactor.
4. Air quality in a space is tracked in realtime via U-Earth's Sensor-X.
5. This air quality information is indexed during the purifying process, showing the Pure Air Zone accreditation, featured on the Pure Air Zone App.

By optimizing the device's internal components using cutting-edge technologies and materials for peak efficiency and performance, Jabil has contributed to making U-Earth's air quality suite more effective. Moreover, Jabil's expertise in supply chain management, logistics, production planning, regulatory requirements, and quality control processes will be instrumental in scaling U-Earth's future devices.

For additional information, visit jabil.com

> **"Sustainability partnerships are very important. And if we don't do it together, it's not going to happen."**

BETTA MAGGIO
CEO / Founder, U-Earth

Breathing Easier: A Look at the Redesigned and Refined Air Purification Device

Jabil has revolutionized the industrial scalability of U-Earth's air purification device — the bioreactor — by minimizing its size, enhancing its capabilities, and incorporating recyclable materials. All of this paves the way for a more sustainable and efficient air purification solution. These improvements fulfilled U-Earth's technical needs and imparted more refined functionality to the bioreactor, making it versatile, safe, and appealing for any environment.

U-Earth's objective for their next-generation air purification technologies was twofold: to enhance air quality in any environment and to monitor the air in real time. Jabil has helped to industrialize enhanced air quality monitoring by employing a sensor that links to an air purifier, allowing the transmission of air quality data to end users via the U-Earth app or a computer. U-Lamp, a safe on the skin germicidal light (UVC at 222 nm), is a complementary accessory that enhances the Pure Air Zone performance against viruses and bacteria in crowded space. This integrated approach provides users with accurate and dependable information on the cleanliness and safety of the air they are breathing.

U-Earth's engaging app enables users to effortlessly access an extensive list of verified Pure Air Zones in their vicinity, while also providing a valuable educational platform for exploring an array of sustainability and climate change-related resources, including insightful news articles and in-depth reports. This interactive approach empowers individuals to become advocates for better air quality, ultimately leading to a cleaner and healthier environment.

Enhancing Air Quality Through Connected Sensors

To ensure that U-Earth's sensor was intuitive, a user-friendly human machine interface (HMI) was developed. The sensor tracks five critical parameters and displays the air quality status using a traffic light system on the monitor: green for good, yellow for average, and red for bad.

"Our monitoring systems constantly track air quality, ensuring your air remains clean. When the light is green, you know the air is clean. We designed this approach for user-friendly simplicity, even though the development process is quite complex," explained Maggio.

The HMI represents a crucial element in communicating air quality information to end users. However, seamless transmission of data from anywhere to the end user requires an additional layer of complexity. In order to implement these essential connectivity features in U-Earth's air quality sensor, Jabil used a cutting-edge System-on-Module (SoM). By leveraging the advanced capabilities of the SoM, Jabil was able to seamlessly provide the sensor with a range of connectivity options, including Wi-Fi, Bluetooth, and Ethernet. These options allow for the transmission of real-time air quality data to a cloud service for further analysis or to the app.

The final sensor, later named Sensor-X, was co-developed for U-Earth's air purification device and has demonstrated impressive capabilities in effectively monitoring air quality and providing comprehensive data to end users. It also showcases the importance of using innovative design and technology to tackle air quality issues.

Collaborating for Cleaner Air

For U-Earth to make a significant impact on air quality, it also needed to scale operations efficiently, all while staying true to the core principle of their business: to create cleaner air for all. Achieving this balance can present challenges, but with Jabil as its strategic partner, U-Earth has the support and resources to continue its commitment to environmental stewardship.

"Our sustainability partnership holds significant value in two ways," stated Ferri. "First, it aligns with our core beliefs and values surrounding sustainability. Second, it enables us to leverage a powerful partnership to make sustainability more cost-effective to implement. Through this collaborative effort, we can effectively achieve our shared goals and drive a positive impact on the environment."

The Jabil-U-Earth sustainability partnership has been a success thanks to effective communication, resource allocation, and transparency. By openly discussing their strengths and areas for improvement, the companies were able to focus on a common goal of reducing air pollution. U-Earth brought research expertise, while Jabil contributed manufacturing know-how, allowing for greater environmental impact. Transparency is also a key component of their partnership, with specific goals and performance indicators agreed upon and regular feedback shared to ensure accountability and progress toward sustainability objectives.

When organizations that prioritize sustainability work together, the progress toward a future with cleaner air is accelerated, and the impact can be much wider.

For additional information, visit
jabil.com

About Jabil

Jabil (NYSE: JBL) is a manufacturing solutions provider with more than 250,000 employees at over 100 facilities in 28 countries. The world's leading brands rely on Jabil's unmatched breadth and depth of end-market experience, technical and design capabilities, manufacturing knowhow, supply chain insights and global product management expertise. Driven by a common purpose, Jabil and its people are committed to making a positive impact on their local community and the environment.

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