

## PRESS RELEASE

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### **Makeathon on Gran Canaria: Students develop future technologies**

Optima students take part at the Smart Green Island Makeathon on Gran Canaria

**Four Optima students took part at the Smart Green Island Makeathon on Gran Canaria from February 28 to March 2, 2024. They took on the challenges of the industry in international teams with other trainees and students. Together, they developed prototypes for smart agriculture, automated systems for warehousing and the sustainable use of batteries. At the Makeathon, the young talents were able to expand their knowledge and make new contacts. This year, 587 participants from 47 nations took part at the annual event.**

#### **OPTIMA packaging group GmbH**

Steinbeisweg 20  
74523 Schwaebisch Hall  
Deutschland

Phone +49 791 506-0  
Fax +49 791 506-9000  
info@optima-packaging.com  
www.optima-packaging.com

Managing Directors  
Hans Buehler  
Jan Glass

Commercial Register  
HRB 571090 Stuttgart  
VAT-No. DE145209170  
Tax No. 84060/09756

Member of





Haller tinkers in Gran Canaria (from left to right): Luca Mitrenga (dual student Electrical Engineering), Jannick Besler (dual student Electrical Engineering), Luisa Mebert (HR Manager at Optima), Jeremy Wolf (dual student Industrial Engineering), Shafira Andhinin Tiyan (trainee Sustainable Solutions). (Source: Optima)

Develop a functional prototype in the shortest possible time: The goal of a Makeathon is demanding. The three dual students Luca Mitrenga, Jannick Besler and Jeremy Wolf as well as trainee Shafira Andhinin Tiyan from Optima were curious about this challenge and decided to take part at the Smart Green Island Makeathon on Gran Canaria. For four days, they worked in international teams on a wide variety of solutions for the industry and ultimately developed sustainable solutions with teamwork, diligence and fun.

The four participants from Optima were able to choose from ten so-called "Industry Challenges". The challenges were set by various companies that supported the Makeathon and the projects as

sponsors. Topics such as sustainability, intelligent agriculture, automated systems, intelligent production, robotics and sustainable mobility were the focus.

## **An intelligent raised bed for the own four walls**

The two students Jannick Besler and Luca Mitrenga decided to take part in the "Smart Home Farming" challenge. One part of the challenge consisted of installing an automatic watering system for plants using PET bottles. People who live in the city and do not have their own garden should be able to create a raised bed within their own four walls using the automatic irrigation system. The team has developed a vertical system in which PET bottles are filled with plants and attached to the wall. The plants are sprayed with water through pipes from below.

The second part of their challenge was to develop an automated condition analysis system. To do this, a robot removes the plant from the PET bottle and places it on a linear transport system with a magnetic drive. An installed camera then recognizes the type of plant, whether and which fruits it bears and whether it is infested with pests. The automated system is therefore also suitable for agricultural processes.



For the "Smart Home Farming" project, the students have developed a raised bed with an automated irrigation system for your own four walls. Thanks to an additional system for automated condition analyses, the development is also suitable for agricultural processes on a larger scale. (Source: Optima)

## **Convinced sponsors and enthusiastic participants**

Student Jeremy Wolf and his team developed an automated system for intelligent warehousing with the help of a 6-axis robot.

"Compared to the other teams, we thought our chances of finding

an outstanding solution were rather slim. Nevertheless, we didn't let it get us down," he says. "In the end, the sponsors were so impressed by our idea and development that they recommended we take part in another contest of their company. They thought our chances of winning the main prize were high."

Shafira Andhinin Tiyan is studying sustainable energy systems and is completing an internship in Optima's sustainability department. At the Makeathon, she chose the challenge on a sustainable topic: Recycling batteries for the circular economy. Shafira and her team developed a prototype that reuses the residual energy from used batteries in a hydrogen station to generate hydrogen energy. After four days of intensive development, she describes the fact that her prototype worked and her team successfully mastered the challenge as her absolute highlight.

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Press contact:

OPTIMA packaging group GmbH  
Denise Fiedler  
Group Communications Manager  
+49 (0)791 / 506-1472  
pr-group@optima-packaging.com  
www.optima-packaging.com

## About OPTIMA

Optima supports companies worldwide with flexible and customer-specific filling and packaging machines for pharmaceuticals, consumer goods, paper hygiene and medical devices markets. As a provider of solutions and systems, Optima accompanies these companies from the product idea through to successful production and throughout the entire machine life cycle. Over 3,000 experts around the globe contribute to Optima's success. 20 locations in Germany and abroad ensure the worldwide availability of services.

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