

AWARE

AERO WASTE ASSESSMENT WITH THE USE OF ROBOTICS EQUIPMENT

ABOUT

VERTLINER is a pioneering field robotics company specializing in the development of autonomous robotic aerial platforms for indoor assessments. Our newest pilot, AWARE, leverages a semi-autonomous UAV equipped with advanced sensor modalities. The software's purpose is to detect materials frequently met on construction sites. By identifying and quantifying these materials, we aim to significantly improve waste management processes.

CHALLENGE

Effective waste management in construction sites necessitates precise identification and location of various materials. Traditional methods can be time-consuming and often inaccurate. Through the use of High-Performance Computing (HPC) services, the AWARE pilot seeks to harness the power of AI by training a Neural Network based on the DIH cloud resources such as GPUs, CPUs, RAM, and disk space. This enabled us to develop an efficient AI model for accurate material detection, ultimately enhancing VERTLINER's information-gathering capabilities regarding objects in areas of interest

HOW THEY ARE USING EOSC SERVICES

AWARE made use of the AI4EOSC platform for training of the models and of the computing resources. It also received Training and Support and Visibility opportunities, and information on funding opportunities.

RESULTS

The main achievement of the AWARE pilot under the EOSC DIH initiative has been the successful establishment of a foundational neural network for material detection in construction sites. Utilizing the advanced resources available at the DEEP training facility, we have effectively developed a proof of concept for our initial hypothesis. This accomplishment has been pivotal in transitioning from theoretical design to practical application, offering us a robust testbed to evaluate both the potential and limitations of our AI model. Through this pilot, we have gained invaluable insights into the complexities of material identification in dynamic construction environments, enabling us to refine our approach towards developing a more accurate and efficient system.

IMPACT

Achieving a TRL 5 at the completion, the AWARE pilot has positively impacted VERTLINER's business by adding a practical and marketable feature to VERTLINER's UAV technology. This development, focusing on material detection in construction sites, offers a new dimension to VERTLINER's product line, potentially increasing its appeal to clients looking for practical solutions in construction management.

COUNTRY: GREECE

SECTOR: WASTE MANAGEMENT

TRL 5

1 2 3 4 5 6 7 8 9



BUSINESS PARTNER



VERTLINER™

EOSC SERVICE PROVIDER

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SUPPORTING PROJECT

