

# VANTAGE

## **Coding Challenge #1** **“The Urban Environment”** **15 - 26 November 2021**



### Announcing the first VANTAGE Coding Challenge

In the first of 3 coding challenges, we are calling for EO coding enthusiasts to use the VANTAGE platform to demonstrate innovative ways to exploit satellite videos of urban scenes.

This could include looking for movement on roads, looking for specific objects or features such as buildings, or creating a 3D model by exploiting the different viewing angles in the video.

The competition is open to all EO algorithm developers and enthusiasts. See over for more details and how to join!

There will be future coding challenges in January and April 2022 – around industrial facilities and the rural environment.

### **What is VANTAGE?**

**VANTAGE** is a new, online, cloud-based platform for analysis and exploitation of **video from space**. It includes a repository of high-definition videos captured from EO satellites, and a suite of analytical tools for extracting value and insight from the videos, plus support for user-defined workflows and algorithms.



**Cash Prizes will be awarded for the best solutions!**

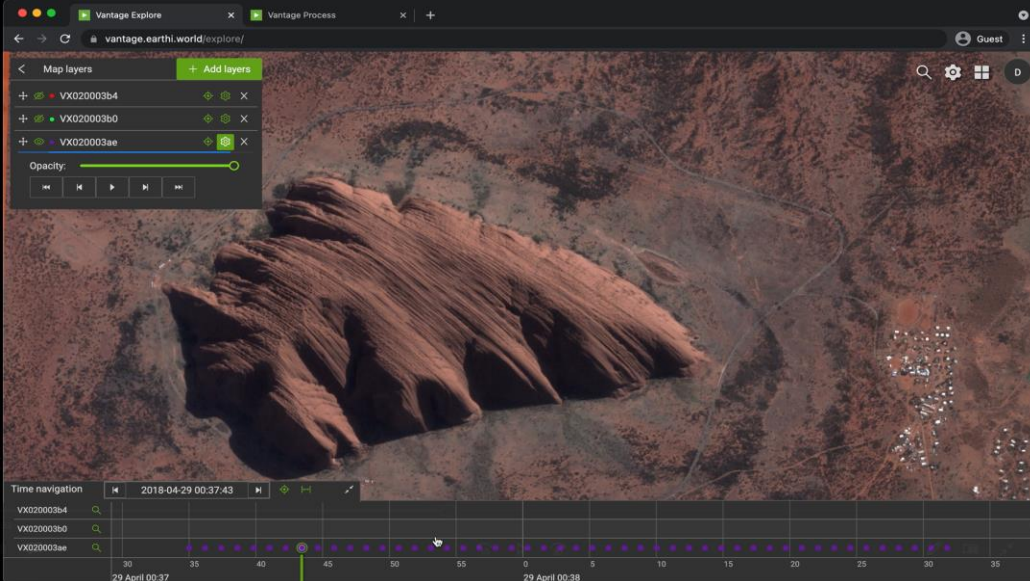
**1<sup>st</sup> Prize: €1500**

**2<sup>nd</sup> Prize: €750**

**3<sup>rd</sup> Prize: €500**

For more information – [earth-i.space/vantage](https://earth-i.space/vantage)

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The competition runs over a period of two weeks, including the weekend in between if you wish to use it, with technical support available from Earth-i and CGI during normal European working hours on weekdays. You may enter as an individual or as a team.

You will be given access to the VANTAGE platform, a selection of satellite videos, and example code for processing the videos.

Winners will be selected by a panel including Earth-i, CGI and ESA representatives. The evaluators will be looking for:

- innovation** in terms of new methods for processing satellite video;
- optimisation** in terms of algorithms that are fast and efficient;
- quality** in terms of the accuracy/reliability of the output products;
- value** in terms of potential for commercial end-user applications.

## Event Timetable & Registration Details

### Registration Deadline: **Extended to Thurs 11 November 2021**

Register by email to [info@earth-i.co.uk](mailto:info@earth-i.co.uk) including details of any resource/library requests you may have. You will need a Google or LinkedIn account in order to register and access the platform.

### Competition Opens: **Monday 15 November 2021**

Briefing & Tutorial Webinar: 15 November, 10:00-11:00 CEST  
 Tech Support Available: 15-19 November, 10:00-17:00 CEST  
 Tech Support Continues: 22-26 November, 10:00-17:00 CEST

### Closing Sessions: **Friday 26 November 2021**

Individual 15-min Presentation Slots: 10:00-14:00 CEST  
 Winners Announced / Awards Ceremony: 16:00-17:00 CEST

**What we will provide to all participants:**

**A dedicated workspace on the VANTAGE cloud platform (in AWS)**

**Access to 280+ satellite videos from the VividX2 mission**

**Access to predefined video processing algorithms and services in VANTAGE**

**Access to Jupyter Hub with key Python libraries (FFMPEG, OpenCV, PyTorch, TensorFlow, Keras – others may be available on request)**

**Access to example Jupyter notebooks on GitHub (how to read/write video data, format/structure of the data, daisy chaining services in VANTAGE)**