

Telescope design promises to revolutionize amateur astronomy

July 20 2017



Unistellar's telescope will be available in Fall 2017 for its presales crowdfunding campaign. Credit: SETI Institute

The SETI Institute and French startup Unistellar announced a partnership today to commercialize a new telescope that promises to deliver an unparalleled view of the cosmos to amateur astronomers, and provide the opportunity to contribute directly to cutting-edge science.

Unistellar's new eVscope leverages "Enhanced Vision" imaging technology and now provides three unique features never before offered in a compact mass-market instrument thanks to this partnership:

- Enhanced Vision produces extremely sharp, detailed images of even faint astronomical objects by accumulating their light and projecting it into the [telescope](#)'s eyepiece. Enhanced Vision technology mimics the light gathering capability of significantly larger reflector telescopes, thus delivering unprecedented views of night-sky objects previously inaccessible to [amateur astronomers](#).
- Autonomous Field Detection (AFD) powered by GPS, enables the eVscope to pinpoint celestial objects of interest without complicated alignment procedures or expensive equatorial mounts. Thanks to AFD intelligent pointing and tracking, astronomers from novice to expert, can spend more time observing and always know precisely what they are looking at. This system is also able to name any [object](#) the user is observing, thanks to a coordinates database of tens of millions of celestial objects.
- Campaign Mode, a revolutionary and exciting feature developed at the SETI Institute, takes advantage of the telescope's advanced imaging technology and allows users around the world to participate in observing campaigns to image and collect data on objects of special interest to researchers. In Campaign Mode, image data is automatically sent to a data repository at the SETI Institute's headquarters in Silicon Valley. The international scientific community can then access unprecedented volumes of image data for specific objects, from thousands of telescopes around the world, at different dates and times. This in turn, can enable new discoveries and enhance our understanding of the universe around us.



From left to right: Franck Marchis (CSO and SETI Institute astronomer), Arnaud (Chairman and CTO), Laurent (CEO) and the demo prototype shown at Aix-en-Provence, France in June 2017. Credit: SETI Institute

"Classical high-end telescopes are wonderful tools for observing the four main planets. But they are generally disappointing for viewing fainter and more distant objects, which remain inaccessible to amateur astronomers," said Laurent Marfisi, Unistellar CEO. "Our telescope will revolutionize amateur astronomy by allowing people to see in real time, [celestial objects](#) that until now have only been available as images in books or online. Our compact 4.5-inch telescope allows observers to see objects fainter than Pluto and achieve sensitivity equivalent to a one-meter telescope!"

"We are extremely excited to partner with Unistellar to bring advanced

imaging technology to amateur astronomy and thus enable impactful new research through global citizen science," said SETI Institute President and CEO Bill Diamond. "Images collected from the worldwide network of telescopes will be automatically downloaded to our database and analyzed by researchers using the latest machine-learning algorithms to facilitate new discoveries and detect new events."

Franck Marchis, Senior Scientist at the SETI Institute and Chief Science Officer at Unistellar, shares that excitement: "Unistellar's eVscope is a powerful new instrument that can generate important data about transient events of interest to astronomers, including supernovae, near-Earth asteroids, and comets. There is much to be gained from continuous observations of the night sky using telescopes spread around the globe, and by coordinating observations and sending alerts to users in order to study faint objects like comets or supernovae" said Marchis. "Another exciting feature of our Campaign Mode, is that our users will be able to witness the phenomena they are collecting data for, in real time," Added Marfisi.

A prototype of the Unistellar telescope has been delivered to the SETI Institute for testing and development of the Campaign Mode data network. Amateur astronomers will have a chance to help fund further development of the device by purchasing it for less than \$1000 in a crowdfunding campaign set to launch in the Fall of 2017.



Observations of Dumbbell Nebula Messier 27, Whirlpool galaxy Messier 51 and the Eagle Nebula Messier 16 using a Unistellar telescope from Observatoire des Baronnies Provençales, France. This observation can be seen by the user directly in the lens and an image can later be generated for storage in the Unistellar database at the SETI Institute. Credit: SETI Institute

Provided by SETI Institute

Citation: Telescope design promises to revolutionize amateur astronomy (2017, July 20) retrieved 19 April 2024 from

<https://phys.org/news/2017-07-telescope-revolutionize-amateur-astronomy.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--