

Impact Through Outreach and Education with Europlanet 2020-RI

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Abstract

Since 2005, Europlanet has provided a framework to bring together Europe's fragmented planetary science community. The project has evolved through a number of phases into a self-sustaining membership organization. Now, Europlanet is launching a new Research Infrastructure (RI) funded through the European Commission's Horizon 2020 programme that, for the next four years, will provide support, services, access to facilities, new research tools and a virtual planetary observatory. Europlanet 2020 RI's Impact Through Outreach and Education (IOE) activities aim to ensure that the work of Europlanet and the community it supports is known, understood and used by stakeholders, and that their inputs are taken into account by the project. We will engage citizens, policy makers and potential industrial partners across Europe with planetary science and the opportunities that it provides for innovation, inspiration and job creation. We will reach out to educators and students, both directly and through partner networks, to provide an interactive showcase of Europlanet's activities e.g through live link-ups with scientists participating in planetary analogue field trips, educational video "shorts" and through using real planetary data from the virtual observatory in comparative planetology educational activities. We will support outreach providers within the planetary science community (e.g. schools liaison officers, press officers, social media managers and scientists active in communicating their work) through meetings and best practice workshops, communication training sessions, an annual prize for public engagement and a seed-funding scheme for outreach activities. We will use traditional and social media channels to communicate newsworthy results and activities to diverse audiences not just in Europe but also around the globe.

1. Introduction

Europlanet 2020 RI's IOE activities are focused around three areas: outreach services and community support; dissemination to stakeholders; and development of outreach and educational tools. IOE is led by Science Office Ltd, a Portuguese-based SME, and will be implemented by a network of partners spread across nine countries including University College London, the University of Leiden, University of Latvia, Vilnius University, the University Of Athens, the Observatoire de Paris, CAB-INTA, NUCLIO and the Austrian Space Forum.

1.1 Outreach Services & Community Support

There is a huge amount of effort and investment across Europe by individuals and groups to engage various audiences with planetary science. Europlanet places the highest priority on ensuring that this community is supported and that the impact of efforts is maximised through efficient promotion, dissemination and implementation, and through sharing best practice. We will work strategically with outreach and education networks (e.g. EUSPACE-AWE, the Ecsite Space Group and the Galileo Teacher Training Programme) to ensure that outreach resources are promoted, disseminated and used most effectively across Europe. We will hold a series of workshops to share best practice and develop new ideas for effective engagement, targeting specific communications roles e.g. press officers, schools liaison officers, policy officers and social media managers. We will also hold training workshops to enhance the communication skills of scientists when engaging with different audiences, including the general public, policy makers, the media and educators. Priority will be given to representatives from research institutes in new EU member states. Europlanet 2020 will also carry forward its annual Prize for Public Engagement with Planetary Science, which is awarded to individuals or groups who have developed innovative practices in communication

and whose efforts have significantly contributed to a wider public engagement with planetary science.

We will work with the astroEDU open-access platform for peer-reviewed astronomy education activities to identify new collections of resources covering planets, moons, comets and asteroids. Innovative ideas for outreach and education projects will be supported through the Europlanet Funding Scheme and we will provide a professional-quality translation service for selected outreach and dissemination materials. In addition, we will identify an effective, user-friendly suite of evaluation tools, both for assessing the impact of its own outreach, engagement and dissemination programmes, and to offer to outreach providers in the community who wish to assess the impact of their activities.

1.2 Dissemination to Stakeholders

The new emphasis on impact and innovation in Horizon 2020 means that Europlanet must engage with a wide range of stakeholders, including policy makers and industry, as well as the media and the general public. Europlanet's IOE activities provide the planetary science community with a forum to identify key issues and policy areas affecting Europe's competitiveness in planetary science in the Horizon 2020 era. We will maintain and develop communication channels with Members of the European Parliament, representatives of European Commission, as well as high-level representatives of ESA, NASA and other space agencies, through individual briefings, themed dinner debates and exhibitions. We will assist the Europlanet community in engaging with policy makers at a national level and to highlight the importance of national contribution to this growing area of European expertise. We will proactively engage with industry and SMEs through social media platforms (e.g. LinkedIn) to highlight commercial opportunities arising from planetary science missions, calls and proposals, as well as build a community of interested parties. Under FP7, Europlanet built up comprehensive media distribution channels to highlight Europe's contribution to planetary science. Europlanet 2020 RI will expand on these activities to publicise newsworthy results from activities, including space missions, ground based observations, laboratory and computer modelling, technological developments and field analogue tests. Social media will be integrated into all aspects of Europlanet's outreach and dissemination programmes.

1.3 Outreach & Educational Tools

Not only will Europlanet 2020 RI's activities help us understand our Solar System, they will also provide context for us to understand our own planet and how life has arisen in some of the most exotic environments on Earth, such as Mars analogues in Morocco, Spain and Ethiopia, and Ganymede/Europa analogues in Iceland. We will make use of this inspiring area of science to develop education and outreach tools to engage students, teachers and the general public with Europlanet's activities. We will produce a series of short, animated videos (each lasting about 5 minutes), aimed at schools (and general) audiences, which will explain key topics related to planetary science and technology, as well as research emerging from Europlanet 2020 RI.

In addition, we will develop educational tools based around comparative planetology. The core of the project will be an Arduino-based kit for students to build climate monitors, which they will use to collect data for comparison with data from planetary analogue sites and from climate measurements by planetary missions e.g. the REMS instrument on the Mars Curiosity rover, Venus Express, and Cassini data for Titan. Activity plans and learning resources will be developed around core curriculum subjects including climate, weather, seasons, the position of planets within the solar system, conditions for life etc. The educational activities will be piloted with the aid of a core group of schools and science centres in the first phase. Following evaluation and adjustments, the kits will be disseminated via MakerSpace, Science Centres, teacher training groups and other partner networks. Scientists participating in Europlanet 2020 RI field trips will be encouraged to carry out at least one live social media event (e.g. Google Hangout, live-streaming experiments, Twitter Q&A etc) during their mission, as well as participating before and/or after their mission in link-ups with schools to discuss field results, data gathered by schools and careers in planetary science.

2. Summary and Conclusions

Europlanet 2020 RI's Impact through Outreach and Education activities aim to broaden the scope of previous Europlanet outreach efforts beyond the media, policy makers and general public, to engage with educators and students, industry and the wider research community.