EUROPE IN SPACE

Taking off without the Public?

Dirk Lorenzen

German Public Radio, Hamburg, Germany

ABSTRACT

Europe is doing great in space, scientifically and technologically—but for some reason, this is not communicated. Can we change the attitude of scientists and agencies towards public communication?

January 4th 2004: The Mars rover Spirit has just landed on the surface of Mars. It transmitted the first colour images from the Gusev crater, presented in near real time at a major press event, headed by NASA administrator O'Keefe.

January 19th 2004, 16:30 h CET: The first image of Mars taken by the ESA spacecraft Mars Express is published: It pops up on the internet without any special treatment, despite an eager public anxious to see Europe's first Mars image and unappreciative of the delays. The spacecraft had already been in orbit around the red planet for several weeks. An official event with high level representatives from ESA and politics followed four days later.

November 2005: The Cassini spacecraft has been in orbit around Saturn for almost 18 months, publishing new and beautiful images from Saturn daily. More than 500 Cassini images are now online, but after almost two years of operation a mere 50 images from ESA's Mars Express are available online.

The Hubble Space Telescope—a joint NASA/ESA undertaking with a largely unsung 15 per cent share for Europe—publishes marvellous pictures almost on a weekly basis. Europe's premier organisation for astronomy, the European Southern Observatory (ESO), which operates the Very Large Telescope (VLT) in Chile, considered the world's most powerful astronomical instrument, published just five "Hubble class" VLT pictures in 2004.

These are just a few random examples of the lack of proper science communication in Europe. Europe is doing great work in astronomy and space flight, but is not communicating it well. The bottom line is quite obvious: American scientists are more enthusiastic about communicating their research than most of their European fellows.

The big question is: Why? Is it a cultural difference? Is there more political pressure in the US to get the next project funded by communicating current activities? Are there more staff in outreach departments in the US than in Europe? Do US scientists enjoy sharing their work with the public more than most of their European colleagues? Is it an issue concerning the public perception of science—are US citizens more science minded than most European citizens, many of whom naturally consider Mozart, Voltaire and Michelangelo as culture, but not Kepler, Galileo and Newton ? It could be a mixture of all of these.

It is surely the scientists‘ job to leave their ivory towers and to spread the news of their achievements. Science matters, but if science doesn‘t matter to the public, the public will lose interest in it, which might even result in a decrease in funding in the long term. Linking funding to public perception could present a severe problem for important science with a boring image, but it should be a great opportunity for astronomy and space flight activities. Both are easy to communicate. Astronomy and space flight fire the imagination, they deal with extreme conditions and extreme numbers and are producing beautiful images (yes, just show them!)—a combination enough to fascinate anyone. But it seems that not many European scientists and engineers in these fields have realised it—or are hampered by political structures that constrain public relations work.

In a stroke of genius the team of the Hubble Space Telescope has devoted about one percent of its observing time to the Hubble Heritage Project. Its only purpose is to produce beautiful images that are presented primarily as artwork, not necessarily in the proper scientific orientation etc., but in the way that appeals most to the public. But is Hubble wasting valuable observing time? Would it be “better” to use this time for “real” science (even though most of these beautiful images do have some scientific value)? Hubble is the most famous scientific instrument in history today. To a

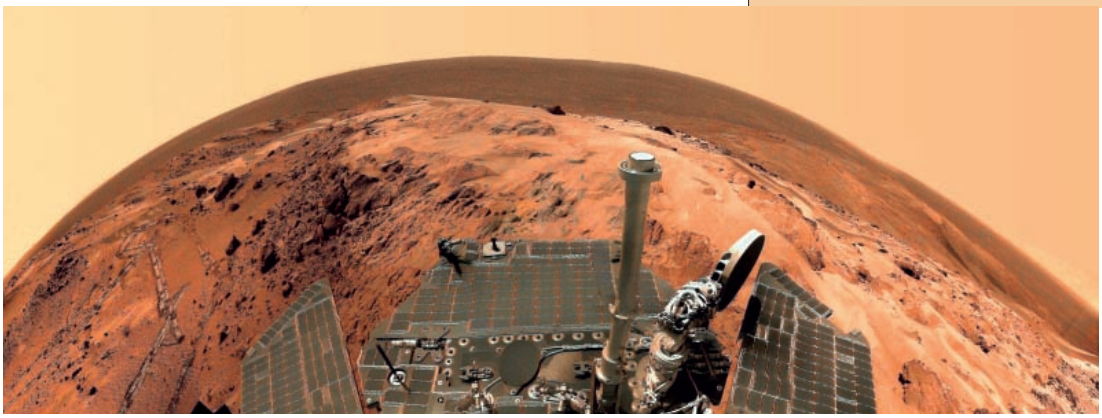

Fig. 1 *Mars as seen from rover Spirit. Credit: NASA/JPL/Cornell & Marco Di Lorenzo et al, Aviation Week*

great extent this is due to its almost perfect communication activities (carried out by a huge team, counted in dozens at times).

And Europe? The four VLT telescopes are used mostly in spectroscopic mode—splitting the light into different colours rather than taking conventional images. Spectroscopy is certainly more meaningful scientifically, but if we assume the four telescopes can be used 80 percent of a year on average, there are well over 1000 VLT observing nights. What would it really cost to devote ten nights per year for imaging just for PR purposes? ESO might end up with a few publications less in peer-reviewed papers. So what? Is the 115th article in a scientific journal really more important than a good picture that makes the front page of newspapers throughout Europe? There are many astronomical pictures taken by HST that are familiar to almost everybody. Many people will not know what the image shows or even that Hubble has taken it. But many of these pictures are almost scientific icons or symbols of our time. Where is ESO? There are very few well-known VLT images—and many people refer to them as Hubble pictures. HST will be history within the next five years. Astronomy will lose its picture machine. Is Europe willing to take over? A few dedicated nights per year could make all the difference, generating an avalanche of public outreach data, and enhancing public perception and reputation.

Communication is visual, mostly. Communication uses images, but it is made by human beings, i.e. PR officers and scientists. What's the pay off for scientists? Is it of any use to invest time in public outreach activities? Well, it may be in the spirit of science, but, a scientist doesn't benefit from any of his own outreach work immediately. However, in the long run outreach may increase his visibility and the public awareness of this particular research area. Is this something, a scientist should care about? Young scientists should. When applying for an academic position, everyone is expected to supply a publications list. However, if an applicant admits to fewer peer-reviewed publications because they have talked to journalists for two hours per week on average, have given public talks and have written a popular book, nobody is impressed. It doesn't count in the academic world. What's wrong with our science system?

The Principal Investigator of an instrument flying on a European satellite is in a very strong position. They virtually own the data in most cases. They decide whether specific data can be used for public outreach or not. They decide what to show the public early in the mission (later all the data are usually made public). How is it possible that a great deal of public money is spent on space and astronomy, but the scientists responsible for the projects are ultimately the ones to decide how much the public should see of it? Is scientific equipment the private toy of the responsible re-

searcher? The press officers of various institutions can suffer from the ignorant behaviour of some scientists.

Why isn't public relations work an integral part of any project financed by the European taxpayer? FP6 public relation activities are mandatory according to all contracts granted by the EU, but nobody seems to really care about it. Nor is a certain share of the budget allocated for outreach purposes. Does anybody check how and even whether a specific project is communicated? It is quite hard (next to impossible) to judge whether PR activities have been done well or not. Success depends on many factors the players have no control over. But isn't it possible to ask any applicant for examples of their outreach activities and press coverage in former projects? We need a shift in attitude. Scientists need to realise that communication is necessary and that it has its benefits.

Astronomy and space flight have much more appeal to many people than many other areas of science and engineering. Space events have the potential to attract kids to follow a professional career in science and technology. There is a whole Apollo generation of scientists and engineers (and not only astronomers and space flight engineers!). In the era of the Lisbon process we can't afford to waste this potential any longer. We need action taken now. Excellent science and efficient event-driven communication are not mutually exclusive. A major discovery can turn out to be a hot shot for communication too. Superb pictures are excellent tools for communications even without any scientific value.

Europe is doing a great job in space. But its achievements rarely make headlines. Scientists, public outreach officers and journalists need a sound basis on which to live and work together. They need to collaborate and establish clear guidelines for their respective tasks. Europe may be surging ahead in space—but we all need a completely new attitude towards the communication of science.