

A question of trust

NASA's decision to renege on SOFIA project casts doubts over its reliability as a partner.

For sale: one flying observatory, barely used. Price: US\$1 million per night. That is essentially the advertisement just posted by NASA in a bid to save its Stratospheric Observatory for Infrared Astronomy (SOFIA) — a jumbo jet fitted with a 2.5-metre infrared telescope. The plea for cash comes in the wake of the space agency's surprise announcement last month that it would no longer pay the roughly \$80 million a year it had planned to spend on SOFIA.

The cancellation was a shock because SOFIA had only just reached full operational capacity (see *Nature* 506, 420–421; 2014). After more than a decade in development, and a bill of \$1.25 billion, the plane finally had a full suite of astronomical instruments in place. Plans were being laid for SOFIA to start increasing its flight schedule from its home in Palmdale, California, towards the goal of being airborne from dusk to dawn several nights a week, gathering science on key astronomical questions. Too little too late, NASA said — years of delays mean that SOFIA has missed its chance to overlap with other infrared space observatories and, the agency claimed, provide sufficient science return.

But there is a deeper issue: NASA is not the only participant in SOFIA. From the project's start, the German aerospace centre DLR has paid one-fifth of the cost, granting German scientists access to 20% of its observing time. When NASA pulled out, the DLR was left hanging high and dry.

What will happen next is far from certain, and will be dictated by complex financial negotiations between various branches of the US government. If NASA sticks to its plan, project managers must wind down all science flights and mothball SOFIA by 30 September, the end of the current fiscal year. But the \$12 million currently budgeted is not enough to do even that job, according to a 15 April report from the Government Accountability Office.

It is possible that the US Congress will restore some amount of money to the project, overriding NASA's request. Intense lobbying is now under way to sway the minds of key members of Congress, such as those who represent SOFIA workers in California. This may well succeed, granting the project some fraction of NASA's original budget, which could be enough to keep it limping along on a reduced schedule and with fewer staff.

A third option is that some as-yet-unknown partner might emerge from the shadows to pick up some of NASA's \$80-million-a-year share.

“NASA must expect other countries to ask some tough questions before they sign up to cooperative projects.”

Hence the offer to rent it out. *Nature* would be delighted to be proved wrong, but demand for that seems unlikely. Germany, for one, has already told NASA it cannot pay more than it is already.

What happens to SOFIA has ramifications far beyond the world of infrared astronomy. It has major implications for any country that might want to share scientific projects with NASA, and for the responsibility that NASA

has to honour those agreements. The deal between NASA and the DLR contains a clause that allows one partner to propose shuttering the observatory. German officials and scientists were understandably furious at NASA's unilateral decision to shut it down.

During its long and chequered history, SOFIA has come close to being cancelled before. And there are many valid reasons to question its scientific return per dollar spent — or whether it should be flying at all (see *Nature* 466, 413; 2010). But what is happening with SOFIA is circumventing the usual process for making hard decisions in tight fiscal times. NASA has ‘decadal surveys’ to set priorities for future missions, and ‘senior reviews’ to check the worth of operational ones and to halt those that do not make the cut.

For the moment, SOFIA continues to fly as normal. A NASA/DLR working group is outlining options for how to wind down the programme; its report is due by the end of April, and is likely to read like the order of service for a funeral.

No matter whether Congress — or some benefactor — steps in to help, the breach of trust with the DLR is irrevocable. NASA must expect other countries to ask some tough questions before they sign up to cooperative projects in the future. ■

Take care

The United States must tread carefully when building a health-data system.

With last year's revelations about the National Security Agency's intrusive spying practices, and the disastrous roll-out of the US health-insurance website HealthCare.gov, now may not seem the best time for the United States to establish a national network to collect and analyse health data from millions of patients.

Good luck, then, to the government-backed Patient-Centered Outcomes Research Institute (PCORI), which is trying to do just that.

In December, the institute in Washington DC launched the PCORnet project to collate medical records, physiological data and insurance claims from as many as 30 million US patients through 29 web networks — a dream cohort for any biomedical researcher. Last month, the organization began building the computer infrastructure that will tie these records together, allowing researchers to spot trends in how lifestyles affect health, which drugs are most effective for certain types of individual, and so on. If it works as advertised, these findings could save millions of dollars by allowing researchers to recruit the right participants for clinical trials and

doctors to prescribe the right treatments for individuals.

Designing a US\$94-million programme that draws big data from dozens of computer systems is an enormous challenge — just ask former Health and Human Services secretary Kathleen Sebelius, who resigned last week after months of technical problems with HealthCare.gov. But the ethical issues may prove an even higher hurdle. The United States would do well to watch the United Kingdom as it grapples with creating its own national database, care.data (see *Nature* 507, 7; 2014). Although the UK national health system is much more mature and cohesive than anything the United States has, the project's rollout has been delayed for months because of unanswered questions about informed consent and access to sensitive patient data.

Even if PCORI can solve its technical and ethical problems, it will be some time before the project measures up to systems such as Denmark's MedCom, which collates comprehensive patient data going back to 1977 and provides an indispensable resource for researchers doing longitudinal studies. The system seems to work, largely because of its transparency about how the data are used.

PCORI says that it will let patients help to determine research priorities, and promises that only anonymous data and no individual records will be available to researchers. It is crucial that the institute follows through, to maintain patients' trust. Without that, neither researchers nor patients will benefit. As the old saying goes, you make your own luck. ■

➔ **NATURE.COM**
To comment online,
click on Editorials at:
go.nature.com/xhunq