ESA's science programme will fail without Britain

- Britain: not a penny more
- Twenty-year timescale critical

Paris

IF Britain continues to veto a 5 per cent annual increase in the mandatory basic science budget of the European Space Agency (ESA) beyond 1989, the entire Horizon 2000 science programme could be doomed, says Professor Roger Bonnet, ESA's director of science. Since the addition of three new member states last year — Finland, Norway and Austria — it is not so much Britain's financial contribution that is crucial, says Bonnet, but the fact that the UK veto overrides the otherwise unanimous support for the increase from the remaining 13 members.

At ESA's ministerial meeting in the Hague last November, Mr Kenneth Clarke, Britain's Minister of State for Trade and Industry, said that Britain would give "not a penny more" to ESA (see *Nature* 330, 195; 1987). Having seen Britain confirm its stance at the ESA Council meeting in December 1987 (see *Nature* 330, 594; 1987), the Science Programme Committee met on 22 March to look for ways to save Horizon 2000.

Rather than maintain the current 5 per cent annual increase in the science programme budget, Clarke suggested that the programme's activities could be spread over a longer period, but a Science Programme Committee memorandum unanimously endorsed at last week's meeting — Britain abstained — argues that the 20-year timeframe corresponding to "one generation of scientists", is critical.

Horizon 2000's "minimum balanced plan" of mission sizes and disciplines, established in 1984, received unanimous approval from member states, including

Britain, at the 1985 ministerial meeting in Rome. "Horizon 2000", says Bonnet, "has become a reference plan for space scientists both within and outside Europe."

But the original 1985 timetable was upset by the loss of both the US Challenger shuttle and of Europe's Ariane

ESA's Roger Bonnet, who played a key role in the 1986 Giotto mission to study Halley's comet, named 1987 Science Personality of the Year by an international committee of previous recipients.

rocket launcher in 1986. The Ulysses solar power mission and the Hubble Space Telescope, which rely on the shuttle, have both to be postponed until late 1989 or 1990. And the Hipparcos space astrometry mission, originally due to be launched by Ariane 4 in July this year, will now have to be kept in storage until spring 1989.

The delays will cost ESA an estimated 918 MAU (million accounting units; 1 AU

Cluster and Soho go-ahead

Paris

IF the European Space Agency (ESA) Horizon 2000 science programme is down, (see below) it is not yet out. At last week's meeting of the agency's Science Policy Committee the go-ahead was given for a new Solar Terrestrial Science Programme (STSP) to be financed two-thirds by ESA and one third by the National Aeronautics and Space Administration (NASA).

STSP is made up of two space missions, involving "an armada of satellites" and around 500 scientists in Europe and the USA. "Soho" — the Solar and Heliospheric Observatory — will orbit the Sun at a constant distance of 1.5 million kilometres from the Earth in order to record observations of the solar surface, corona and solar wind, and will be able to study the effects of solar activity on Earth's magnetosphere.

The second programme, "Cluster", will involve four identical spacecraft orbiting in formation to investigate interactions between the solar wind and the plasma environment of the Earth.

Both missions will be launched in the mid-1990's, one each by ESA and NASA, and are expected to operate for over two years.

Peter Coles

= £0.63 at 1986 exchange rates) by the end of the 20-year duration of the programme.

If the shortfall is not made up, says Bonnet, "two of the main missions will have to be excluded from the 20-year programme. If the X-ray mission is delayed by 5 or 6 years it will lose its competitiveness and will set back the whole domain of X-ray astrophysics... The statement by Mr Clarke that Horizon 2000 can be extended without damage is simply not true — it will be destroyed."

The Science Programme Committee is determined not to let this happen and last week resolved to "urge the council to take the necessary political steps to ensure that the Long Term Plan Horizon 2000 is preserved". But what are the options?

It may be possible to use the recent addition of contributions from Finland, Norway and Austria (which total about 5 per cent of the budget) to offset current losses caused by the delays, but, so far, this has been agreed only for 1987 and 1988. In 1989, the extra contributions would normally be offset by a corresponding decrease from other members.

The 5 per cent annual increase from Britain amounts to only £1.1 million. "If Britain were to leave ESA and the other member states increased, we would be better off", says Bonnet, "but she is a key member. This is not what we are asking".

Peter Coles

Pan American satellite gains access to UK

Washington

THE UK Office of Telecommunications (OfTel) has cleared the way for the US company Pan American Satellite to offer services to British customers. PanAmSat had petitioned OfTel for relief, claiming that British Telecom was unfairly refusing to provide downlinks for PanAmSat to tap into the UK market.

Earlier this year, PanAmSat launched a media campaign to highlight its problems in gaining landing rights in the United Kingdom (see *Nature* 331, 294; 1988). International telephone switching services are the exclusive province of Intelsat, but companies such as PanAmSat wish to offer

other services, such as data transmission and dedicated video and audio lines that lie outside Intelsat's jurisdiction, and must get local telephone companies to provide downlink and ground-based services.

Professor Bryan Carsberg, OfTel's director general, in response to a PanAmSat complaint, ruled that British Telecom was obliged to provide downlink services to PanAmSat so long as there was no breach of its licence conditions. PanAmSat praised the ruling, calling it the first breakthrough to a European market.

PanAmSat's satellite PAS I is scheduled to be launched by an Ariane rocket on 23 May this year.

Joseph Palca