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CAMBRIDGE SOCIETY FOR THE APPLICATION OF RESEARCH

'Less is More'

The benefits of microsatellites

(For this lecture, we shall be joined by the Cambridge Philosophical Society)

Professor Sir Martin Sweeting OBE, FREng, FRS
Director, Surrey Space Centre, UK
Chief Executive, SSTL

Monday 3rd March, 2003: ***7.30 p.m. - 9.00 p.m.***
The Wolfson Lecture Theatre, Churchill College, Cambridge
(Note: transposed with Prof John Parker's Lecture, which will now take place on 17th February)

Chair: Sir Sam Edwards FRS, President of the CSAR
Vote of Thanks: to be confirmed

About the Speaker:

Martin Sweeting pioneered the concept of microsatellites for 'affordable access to space'. In 1985, he formed a University company (SSTL - Surrey Satellite Technology Ltd) which has designed, built, launched and operates in orbit a total of 21 nano, micro, and mini-satellites. SSTL is now the world's foremost microsatellite company having built satellites for France, Portugal, USAF, ESA, UK-MoD, Thailand, Chile, Korea, Malaysia, Algeria, Nigeria and PR China. As Chief Executive, he has been responsible for the leadership and management of the Company - which by 2001 has grown to 115 commercial staff; achieved a total export sales of over £50M; an annual turn-over of £10M million; and a forward contract order book of £34M.

In 1995, Professor Sweeting was awarded the OBE in HM Queen's Birthday Honours and the Royal Academy of Engineering Silver Medal - both in recognition of his pioneering work in small satellites. In 1996, he was elected a Fellow of the Royal Academy of Engineering. SSTL won the Queen's Award for Technological Achievement for their innovative design of modular microsatellites that has become a world-wide standard.

In July 2002 Professor Sweeting received a knighthood for his valuable contributions to

space and education.
Sir Martin's writes:

"Like computing, space has become accessible to the consumer. Space is no longer the preserve of a few 'super-powers' with the ability to commit enormous sums to grandiose projects in order to achieve economic, military or cultural advantage over less wealthy adversaries -- or, indeed, friends. The rapid advancement of low-cost, mass-produced commercial and consumer micro-electronics has catalysed the use of smaller and more computationally capable satellites to provide a faster, cheaper, and more flexible means of realising space missions. Nowadays, rather than space providing the leading edge technology, it is often the terrestrial consumer & leisure markets that drive advances in technology - indeed, 'space qualified' components are becoming very scarce and impose 20th century capabilities on 21st century missions. In particular, microsatellites have revolutionised Earth observation from space -- now providing a capability similar to LANDSAT & SPOT but at 1/50th the cost and now making EO constellations economic. The microsatellite has truly revolutionised access to space and is poised to have the same impact on space as the Personal Computer (PC) has achieved for computing."

Organising Secretary's Notes

These are the logos of Sir Martin's companies! We originally scheduled this talk for 17th February; then I was told he couldn't be available on that day! Fortunately, Professor John Parker of the Botanic Garden was able to swap dates, so you've got **Prof. Parker's lecture on 17th February** instead of the 3rd March, and *vice versa*.

The CPS made an error by transposing these two speakers when advertising the title of the joint lecture with the CSAR to their members - but this error has magically been repaired by the imposed swap! Clearly, they have friends in very high places!

I used to do things in space myself; or tried to. I had a protein crystallisation experiment booked for STS 27, back in 1986. Then STS 25 exploded on launch (Challenger), and everything was changed.

Microsatellites are a very good idea; you pack them in around the big, multi-ton satellites, a bit like polystyrene beads! In other words, they go along as hitch-hikers, and get a launch for very little cost. Wonderful idea! See http://www.sstl.co.uk/ for more details

Richard Freeman
CSAR Organising Secretary