

## **Chapter 11.**

### **Case Example:- Surrey Satellite Technology Ltd (SSTL).**

Surrey Satellite Technology Ltd., is probably the World's leading pioneer of small satellite applications and technology. It was founded in 1985 by Professor Sir Martin Sweeting, OBE, as a University spinout and by 1998 had won the Queen's Award for Technological Achievement, the UK's most prestigious award for technology, in recognition of its international standing as a centre of excellence in the research, development and application of small satellites.

Apart from being a member of the University's Faculty, Sweeting is one of its alumni. Having been offered a place at the University of Manchester Institute of Science and Technology in 1970, Sweeting happened to visit the University of Surrey with a friend who lived locally and bumped into the then Head of the Department of Engineering, Professor Lovering. On discovering Sweeting's interest in radio, Lovering persuaded the young scientist to transfer to Surrey where, on graduation, he embarked on a Ph.D into antennas. During his doctoral research, Sweeting spent his evenings building a satellite receiving station and in 1976 proposed to the then Vice Chancellor that the University should build its own microsatellite. This was at a time when satellites were getting bigger not smaller and many were sceptical of the concept, but the Vice Chancellor offered him £10,000 if he could raise the other £250,000, according to Sweeting, "to get me out of the office". However, within 4 months he had raised the money and persuaded Racal to provide, on indefinite loan, one of the first computer-controlled printed circuit board lay-out machines.

He was now in a position to build his first satellite UoSAT – 1, so he set about the task using microcomputers and emerging technology available in the high street. "Not only is it cheaper", says Sweeting, "but the development time is reduced as a dedicated space technology component can take fifteen years to make the journey from drawing board to shopfloor". By 1981, UoSAT – 1 had been built and successfully launched, believe it or not free of charge by NASA!

Despite the cancellation of the British government's National Space Programme, Sweeting could see the commercial value in developing his satellite technology and buoyed by the success of UoSAT – 1 he embarked on the development of UoSAT-2. At the same time he persuaded the University to set up, in 1985, Surrey Satellite Technology Limited as a wholly-owned subsidiary in order to exploit the academic research of the University's Space Centre through the development and marketing of cost-effective small satellites for rapid and affordable commercial access to space. With base funding of £700,000 between 1984 and 1988 from the Science and Engineering Research Council, SSTL has generated some £60 million in export sales and has an order book of over £35 million for 2002/3. 20 satellites have been successfully built and launched, the venture has over a hundred staff and hundreds of "students" have been trained, including 22 Ph.Ds. SSTL does not just build microsatellites but it trains others to build them, also. "Every year we take in a dozen engineers who spend eighteen months with us to build a

satellite and to learn how to do it commercially”, says Sweeting, “Conventional wisdom is that we are cutting our own throats. But I think it will take them a decade to reach our current position, and by then, of course, we will have moved forward ourselves. Industry at large is scarred stiff of technology transfer, but my belief is why not sell it because the customer will eventually develop it themselves”.

From a university and Government perspective, therefore, SSTL is a signal success. Not only is it a commercial success, ensuring the continuance of research into satellite technology at the University, but it attracts students. However, as Sweeting recognises, SSTL “would never be the darling of the Stock Exchange. It’s a long-term game with steady growth in terms of value. So it’s not a natural for venture capitalists either.”

### Case Example Exercise

Why has SSTL been so successful? What are the challenges facing SSTL at this stage in its development?