An easily processed version of a heat-resistant plastic should find new high-temperature industrial and commercial applications, as well as promote more use of advanced composites in such aerospace products as aircraft, engines, and supersonic missiles. The new Hughes Aircraft Company polyimide, which withstands temperatures of 600°F for long periods and much higher temperatures for short periods, can be processed in existing equipment. It uses a simple one-step curing process very similar to state-of-the-art epoxies. By comparison, plastics with equivalent strength and heat resistance require complicated and expensive curing procedures. The new material will be produced and marketed under the trade name Thermid® by National Starch and Chemical Corp. of Bridgewater, N.J.

Two weather satellites are being readied to monitor the Western Pacific through the end of the decade. Under contract to Nippon Electric Company of Japan, Hughes will refurbish one Geostationary Meteorological Satellite (GMS) and build another. The GMS-2 protoflight spacecraft, in storage in Japan since 1981, will be updated and renamed GMS-3a. It is scheduled for launch in August 1984, and will replace GMS-2. The new spacecraft, GMS-3b, will serve as a back-up. The satellites will provide pictures every 30 minutes, and gather other data.

NASA's space shuttle gets off the ground with support from Hughes. Astronauts train for missions on a simulator that uses a Hughes liquid-crystal projector to show what they will see outside cockpit windows. The pictures are brighter and sharper than home projection TV because the projector contains an exclusive device that draws on some of the technology used in liquid-crystal watches. Other Hughes support includes: technicians who adjust and repair flight instruments, test equipment, and ground support equipment; an instrumentation amplifier carried by chase planes; and a unique radar and communications unit that soon will serve as the space shuttle's eyes, ears, and voice.

In what may be the world's biggest aerospace cost reduction program, Hughes and its customers, including the U.S. government, have saved $1.8 billion during the past 25 years through the ideas and ingenuity of company employees. The savings were documented by the Hughes Cost Improvement Program, in which employees are encouraged to submit cost-reduction or cost-avoidance ideas on prepared forms. Last year 6,931 employees submitted ideas that saved over $250 million. One novel suggestion was to replace old vacuum pumps, used to hold semiconductor wafers in place during testing, with inexpensive fish tank pumps modified to reverse their air flow. The annual savings was $100 per pump.

Hughes Research Laboratories needs scientists for a whole spectrum of long-term sophisticated programs. Major areas of investigation include: microwave devices, submicron microelectronics, ion propulsion, lasers and electro-optical components, fiber and integrated optics, and new electronic materials. For immediate consideration, please send your resume to Professional Staffing, Dept. SE, Hughes Research Laboratories, 3011 Malibu Canyon Road, Malibu, CA 90265. Equal opportunity employer.
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