

Lucent Technologies
Bell Labs Innovations

AT&T divides to prosper

The former AT&T Bell Laboratories is emerging strong in the wake of the dramatic restructuring earlier this year that split the corporation into three publicly traded companies, cutting several thousand jobs in the process. The breakup is seen by many to exemplify the changing face of industrial research over the last decade, as well as the corresponding need for more broad-based training of Ph.D. physicists to enable them to compete in a tight job market.

The benefits the former corporate giant hopes to achieve with its new strategy are threefold. As individual companies, each new business is expected to have a sharper focus on its market and clearer strategic intent, greatly diminishing conflicts inherent in the integrated AT&T, such as one unit selling equipment to another's competitor. In addition, simplifying the corporate structure should accelerate decision-making,

enabling each business to better take advantage of market opportunities. Third, the creation of separate companies could better highlight the value of components that may have been overlooked or underappreciated as part of the larger enterprise.

The latter is already evident in the physical sciences divisions of Lucent Technologies, which incorporated AT&T's manufacturing divisions, network systems, microelectronics, and most of its research operation. "A great deal of what we contribute in the physical sciences is much more appreciated in the new company, because it is more focused on products and not on services," said William Brinkman, vice president of research, who sees continued strong support for R&D in the physical sciences from the top executives of the company. Lucent is currently spending about 11% of revenues on R&D, with plans to increase that

amount to 12% in the near future.

However, most of this funding is being used to support existing business units, along with selected fundamental research projects. In recent years, AT&T has been less successful in taking relevant ideas out of the laboratory and creating new business units to exploit them, according to Richard Gottscho, a physical chemist who headed Bell Labs' flat panel display R&D effort before joining the staff of Lam Research Corporation in Fremont, California.

Despite the downsizing, there are still employment opportunities for physicists, according to Brinkman, especially in the areas of photonics, silicon processing, and wireless communications. They are needed to invent new processes, materials, and techniques. Physicists also continue to play important roles in the development of various optical and electronic devices. 