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## CAREER OPPORTUNITIES IN TELECOMMUNICATIONS

### Description of the Field

Telecommunications is a rapidly growing industry that is becoming increasingly international in nature. The deregulation of the American market, combined privatization of state owned monopolies in Europe and other emerging market areas have increased competition and opportunities in the industry. The industry can be approached through various avenues such as service providers, equipment manufacturers, consulting agencies, investment banks, government agencies, and industry associations. Students without any telecommunications experience who wish to enter this field are encouraged to acquire a familiarity with the trends and extensive terminology in the region. On a positive note, technologies are relatively new and change so quickly that a person who devotes some effort to learning about the business will find that there are opportunities available.

### Career Paths and Entry Salaries

According to the Department of Labor, changes in technology, government regulation, and market conditions continue to transform the telecommunications industry. Whereas voice telephone communication was once the primary service of the industry, the transmission of a variety of information, including data, graphics, and video, is now commonplace. The widespread installation of fiber optic cables, which transmit light signals along glass strands, permits faster, higher capacity transmissions than those possible with traditional copper wirelines. In addition, networks of radio towers provide wireless telecommunications services.

Changes in government regulation introduced competition into an industry that was once dominated by a single company. Competition from outside the industry increased as cable companies and public utilities expanded their own communications networks. During the late 1990s, the growth of the Internet, advances in a range of technologies, the deregulation of the telecommunications industry, and rapid increases in demand for telecommunications services helped fuel rapid growth. Consequently, many new competitors entered the markets and built additional transmission capacity. The massive investments in additional capacity by new competitors and existing companies eventually caused supply to significantly exceed demand, resulting in much lower prices for transmission capacity. The excess capacity and additional competition led to either declining revenues or slowing revenue growth, which caused many companies to reduce employment.

Although the telecommunications industry employs workers in many different occupations, 56 percent of all workers are employed in either office and administrative support occupations or installation, maintenance, and repair occupations, according to the Department of Labor.

### Qualifications Necessary to Enter the Field

Most of the alumni who work in the field and provided input for this project emphasized that non-technical entrants should cultivate economic, finance, and quantitative skills. Specific courses that were mentioned include International Financial Markets, Accounting, Quantitative Issues, Econometrics, Advanced Macroeconomics, Monetary and Trade, and International Monetary Systems. These courses should supply the theoretical and quantitative skills necessary as a starting point to analyze markets and trends in the industry. Many alumni stressed that papers and concrete evidence of research into various aspects of the industry were helpful during the interview process.

In addition, expertise in regional studies and languages are some things that should be stressed when approaching companies moving into new markets. Many of those interviewed said that knowledge of regional studies and economics were the most notable of the unique skills that students bring to companies interested in expanding into emerging markets.

### **Future Challenges of the Profession**

One of the most important trends in the industry has been the shift to wireless communications. It is a priority market, especially in developing and under served countries that open entry to competitive players. It is a strategic imperative for all telecom companies to get involved. The networks developed by wireless companies are often less costly and quicker to implement than extending or upgrading landline networks.

Enhancements in satellite technology are driving new demand for broadcasting telephony and mobile services. Telephony by satellite is used principally in developing countries where there is an absence of infrastructure (both landline and wireless) and/or the terrain is an obstacle, such as an island nation. The new demand is making the satellite sector more competitive. Intelsat and other international consortiums that previously administered all launches are being challenged by a growing number of new players. Companies like LORAL and Motorola are driving the competition through ventures such as Globalstar and Iridium, which will provide services anywhere on the globe.