Martyn F. Roetter, Ph.D

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Areas of Expertise and Experience

- **Business strategy and market and technology due diligence for suppliers (services and hardware/equipment) and financial institutions operating in the sectors of telecommunications, information systems, consumer electronics and components**

- **Extensive experience in markets and competitive analyses in Europe, Asia/Pacific, and Latin America as well as North America**

Until April, 2002 Dr. Martyn F. Roetter was a Vice President and Director in the Technology and Innovation Directorate of Arthur D. Little, Inc. (ADL), within which he specialized in consulting and other professional services for firms in the TIME (Telecommunications, Information, Media, and Electronics) industries. He has over 20 years of experience in consulting on business strategy and technology-related issues for companies in the telecommunications, electronics, and information systems industries, including equipment and components vendors and service providers, as well as financial investors in these industries. His activities have had extensive international and global components, covering markets and competitors in the three principal regions of North America, Europe, and Asia/Pacific. He has also dealt with basic questions of organization and management in the context of global businesses and markets.

Some of his most recent consulting and advisory activities include:

- Development of a business plan and marketing initiatives for the new MEMS (micro-electromechanical systems) facility in Taiwan. This ongoing work has involved investigation of opportunities in diverse sectors of consumer electronics, cellular handsets, and optical communications, among others, as well as the identification, assessment and initiation of negotiations with potential manufacturing partners in the US.

- Review of alternative globalization strategies and tactics among European-, Japanese- and U.S.-based multinationals in a variety of business sectors on behalf of a French manufacturer. As a result, recommendations were developed that are now being implemented to help this client achieve a more balanced approach between centralization of responsibility and authority and encouragement of regional initiatives and influence to allow it to anticipate and influence critical standards issues and government regulations that affect its business in its major markets of Europe, North America, and Asia.

- Assessment of the opportunities, key success factors, and risks of a VoIP (voice-over- Internet Protocol) services and network strategy for a competitive fixed network operator in Japan.

- Assessment of the market opportunities and competitive situation for small form factor (SFF) laser transceivers for a semiconductor company planning to develop an optical communications business.

- Market and technology due diligence on behalf of a potential buyer on a business providing machine-assisted language translation services.

- Development of a technology and market plan for a major ISP in the US to exploit opportunities being offered by imminent wireless spectrum auctions to implement an access strategy that would reduce its dependence upon the facilities provided by local telephone companies.

- Assessments for the Microelectronics Division of a major information technology manufacturer of product development, marketing, and sales plans and targets for MPEG-2 and associated semiconductor products. This work took account of competition, forecasts of digital video platforms such as multimedia PCs, Digital Versatile Disks, set-top boxes for cable television and DBS systems, and digital cameras. Recommendations were developed for redirecting the client's product development path and reinvigorating its sales channels and resources so as to secure key design wins in major market segments and build a long term position in the marketplace.

- Guidance to the "mirror" entrant into long-distance telecommunications in Brazil, which commenced service in January 2000. This work included due diligence of the operator's business plan and network design and roll-out, to obtain approval for its investment plans from the owners of the company who include US, French, and British participants.

- For a US cellular operator, development of a model to analyze the economics of its transition from AMPS to a hybrid analog/digital network under various assumptions of traffic, competitive market share, and the costs of new digital infrastructure and handsets. This model has since been used by the operator to plan the capacity and coverage of its digital systems, and to assess the value of acquiring additional spectrum in both its existing and adjacent service areas.

- Assistance to a major Asian network operator in assessing its R&D strategy and organization, developing recommendations for the future mission of its R&D operations in an increasingly competitive market, and identifying the technologies where it should maintain or build internal competencies.

- For a US telephone company, preparation of an issues analysis of the driving forces and obstacles to the growth of wireless data markets, to help them establish realistic expectations and decide what to do with a wireless data services subsidiary whose performance was well below plan.

- A technical and market due diligence of a new transatlantic submarine optical fiber cable proposed by an international US/UK consortium, on behalf of the lead lenders seeking to raise financing for this project. The technical due diligence focused on the very aggressive timetable for construction of this cable system (two and one-half years from inception to operation), and its use of wave division multiplexing, while the market assessment concentrated on the growth of Internet traffic which was the major demand driver behind this initiative. The necessary financing was obtained, and this cable system has now been constructed.

- A major strategic review of the competitive strengths and weaknesses, opportunities, and threats confronting a major Asian broad range semiconductor supplier. We identified market, technology, distribution, and organizational issues which the firm would have to address to develop a sustainable, high growth business for the 21st century. We formulated specific recommendations for technology developments, market and sales initiatives, and partnerships to achieve an ambitious growth objective.

- Participation in a project on behalf of the Ministry of Communications of a major Latin American country to define a vision and development path for the telecommunications sector, and to formulate a set of policies and guidelines to enable this vision to be achieved. Particular emphasis was laid on the introduction of greater competition into telecommunications services markets, and the attraction of private sector investment to stimulate innovation in, and a more rapid expansion of, this sector. Recommendations were prepared to help manage the transition from the current state of monopoly and very limited competition, taking account of short-term growth issues and potential long-term changes in telecommunications such as the development of Internet telephony.

- Review of the product portfolio, development and design, manufacturing, and sales operations of a specialist supplier of semiconductors for telecommunications applications. We recommended a target portfolio of products to aim for in the three to five year time frame, taking account of the evolution of networks towards SONET and SDH transmission and the growing importance of wireless systems, as well as significant changes in their distribution and sales networks to establish closer relations with major customers.

- For a major computing and networking systems and services supplier, an external review of their progress and competitiveness in meeting a goal of achieving leadership in the networking arena. Our first step was to review and redefine their definition of leadership, and then to apply this definition against their actual product

and service offerings and perception in the marketplace. We developed a set of recommendations for reordering their priorities in terms of networking product and service offerings and development emphases, as well as for ensuring that the activities of their other business divisions did not interfere with their objective in networking.

- For a Japanese equipment supplier, a review of the competitive and market status and trends in North America regarding the applications of speech and voice recognition technologies in services and features provided by, and over, both fixed and wireless networks. The scope of this work covered automated operator services and voice-activated dialing, information services and security and fraud control. Suppliers assessed included the large telecommunications equipment vendors as well as voice processing specialists.

- For a North American telecommunications equipment supplier, assessment of the conditions of success and causes of failure of a variety of alliances between U.S. and Asian firms, to assist the firm to prepare itself for expanded participation in Asian markets.

Dr. Roetter's earlier positions included co-managing Arthur D. Little's Global Communications and Information Technology Consulting Practice, and founding the European arm of this practice from a base in Paris. He was also responsible for developing the international business of the UK-based software and services company PA Computers and Telecommunications.

Dr. Roetter was educated in England, Germany, and the United States and holds a doctorate in physics from the University of Oxford. He has lived in the United States and several European countries, and speaks English, French and German. He speaks and publishes regularly, is widely quoted in the business and trade press on issues affecting the communications and information industries, and has co-authored several books on the uses of information technology. He is a member of the IEEE and the IEEE Communications Society, and serves on the Board of Directors of Allen Telecom, Inc., where he is Chairman of the Compensation Committee.