

11. SOFTWARE

The design and creation of software is as basic an activity to the 21st century as the laying of the track was to the 19th and the building of roads to the 20th. Computers will be the driving force of the next century, and it is the people who design and write computer software who will define the path of progress.

Oregon has a young software industry that is a natural complement to the high technology hardware manufacturing already established in the state. During 1987 Oregon's software industry had estimated gross receipts of \$276.6 million, the majority from out-of-state sales. This compares with gross receipts of \$46.4 million in 1982. From 1980 to 1986 Oregon's employment in software increased at a brisk annual rate of 34.3 percent, which compares with a national software employment growth rate of 17.4 percent. During the same time, Oregon's total employment increased at an annual rate of only 0.96 percent. The firms tend to be small, often with an average size of ten employees, and are located throughout the state.

The software industry pays salaries that are significantly higher than the state average. This runs counter to the trend in Oregon toward lower paying jobs. The 1987 average overall payroll in Oregon was \$18,885; the average payroll in the software industry was \$32,973.

While Oregon's software industry has grown rapidly, it has not expanded nearly to its full potential. Oregon's high quality of life and West Coast location can draw the creative talent to the state that is essential for industry growth. Oregon has an opportunity to become a leading center for software development. Until now the industry has been fragmented. Its members have lacked vital connections to each other; they have lacked sufficient connection to the state's schools, to the hardware industry, and to high technology centers outside the state.

To become a major software center, hundreds of small and medium sized firms must grow rapidly here, addressing a wide variety of software applications. These firms must be nourished by responsive schools which are able to educate creative and well-trained professionals, and by financial institutions which understand the unique characteristics of the industry (the industry typically does not have physical assets upon which loans can be secured).

Vision

Oregon will be a center for the software industry. Oregon firms will share information, develop opportunities for joint ventures, and publicize the industry through a well organized industry association, and through a less formal set of relationship among the firms. The industry will work cooperatively with schools,

financial institutions and the state's hardware industry.

Strategy To Achieve the Vision

The key to developing Oregon's software industry is to build a strong association among the dozens of software companies located throughout the state, which can articulate the industry's needs to schools, financial institutions, high technology companies and other institutions that can facilitate the industry's growth. Such an organization could also communicate Oregon's quality of life and other advantages to software professionals and firms outside the state. Building an industry association to connect with other institutions is the critical need in this stage of the industry's development.

Actions To Implement the Strategy

- The Economic Development Department should provide strategic reserve funds for staff to support the Oregon Software Council's effort to develop a statewide software industry association, which would become self-supporting after its startup phase. The functions of the association will include:
 - Development of a statewide directory of the software industry
 - Coordination and information within the industry including seminars, electronic bulletin boards, or newsletters, or any other information of interest
 - Articulation of industry interests before the state's education, financial and other institutions
 - Promotion of Oregon as an exciting place for the software industry.
 - Assistance in recruiting out-of-state software companies.
- The Software Council should set up a task force, with the assistance of the Office of Education Policy and Planning, to communicate industry needs to university, community colleges, and secondary schools. Needs to be addressed include the following:
 - Strengthen the computer science and computer engineering programs at the state's universities and colleges
 - Establish university-software industry cooperative programs in computer science (involving students working in software firms for six months at a time)

- Include the participation of the software industry in the Oregon Advanced Computing Institute.

- The Software Council, with the assistance of the Economic Development Department, should develop a presentation to take to Oregon's financial community explaining the characteristics of the industry and its unique financing characteristics, in order to facilitate the development of a responsive financial services sector in Oregon. As part of this exercise, the Economic Development Department's Business Development Fund and the Oregon Resource and Technology Development Corporation should review the applicability of its financing programs to the industry.