In the knowledge economy, a firm's intellectual capital represents the only sustainable source of competitive advantage; accordingly, the ability to learn, and to manage the learning process are key success factors for firms. The knowledge management approach to learning in organizations has achieved limited success, primarily because it has focused on knowledge as a resource rather than on learning as a people process. Many world-class organizations, such as Procter & Gamble, Cisco Systems and Deloitte Consulting, are now employing a new breed of systems known as Learning Management Systems (LMS) to foster and manage learning within their organizations. This article reports on the deployment of an LMS by a major US multinational, CEM Corporation, and proposes a framework for understanding learning in organizations, which highlights the roles that LMS can play in today's knowledge-intensive organizations.

CEM Corporation is a world leader in the design, development and manufacture of Internetworking storage IT infrastructures. The company's core competencies are in networked storage technologies, storage platforms, software, and, also, in services that enable organizations to better and more cost-effectively manage, protect and share information. CEM was founded in 1979 and launched its first product in 1981 — a 64-kilobyte integrated circuit memory board developed for the then popular Prime minicomputer platform. CEM's sales passed the $3 million mark in 1982.
Beyond Knowledge Management

and reached $18.8 million two years later. In the mid-1980s, CEM launched a series of memory and storage products that improved performance and capacity for minicomputers made by IBM, Hewlett-Packard, Wang, and Digital Equipment Corporation. The company went public in April 1986; a year in which sales hit $66.6 million and a net income of $18.6 million was achieved.

In the late 1980s, CEM expanded strongly into the auxiliary storage arena, where it remarketed other suppliers’ magnetic disk drive storage subsystems, often coupled with its own controller units. In 1987, the company introduced solid state disk (SSD) storage systems for the minicomputer market and its headquarters moved to Hopkinton, Massachusetts. In 1988, its stock was listed on the New York Stock Exchange and in 1989 CEM accelerated the transition from a supplier of memory enhancement products to a provider of mass storage solutions. In 1997, more than 70% of the company’s engineers were dedicated to software development for mass storage technologies. Software sales rose from $20 million in 1995 to $445 million in 1998, making CEM the fastest growing major software company in the industry sector. In 2001, CEM was named as one of Fortune’s 100 best companies to work for in America. In the same year, the company launched a major new global branding initiative. CEM Corporation’s total consolidated revenue for 2002 was $5.44 billion.

**SETTING THE STAGE**

From its inception, CEM recognized the importance of learning within the organization: accordingly, it facilitated learning development and support for its employees, including: technical skills; business skills; IT skills; management skills; and individual personal development. Prior to 2000, learning development and support was facilitated through a number of training services, which included:

- A Corporate University, which provides training throughout CEM, including induction training for new staff, corporate guidelines, professional and project management guidelines, and computer skills.
- A Professional Global Services Training department, which supports field and sales staff at CEM.
- A Global Technical Training Department, whose main aim is to address the advancing technologies in the ever-evolving hardware, software products, and support applications and processes.
- Human Resources Training Centers, which support the soft skill training of managers, supervisors and individual employees.
- A Continuing Education Program, which provides financial support and study leave.

These diverse training services within CEM had, for some time, been successfully delivering training and learning support to a number of distinct areas within the corporation. However, by the year 2000, CEM recognized that it was facing a number of key challenges in relation to its organizational learning processes. These included the following:

- As a large multinational organization with a constantly growing global workforce of 20,000-plus employees, the overall management of the learning of all employees using multiple training organizations was becoming increasingly difficult. In particular, the management of course enrollments, training paths and individual competency levels posed a significant challenge.
- There was some duplication of effort across many of the training services and a distinct lack of consistency in how training was being developed and delivered. Specifically, there