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Chapter II

Big-Bang ERP Implementation at a Global Company

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EXECUTIVE SUMMARY

Dead Sea Works is an international multi-firm producer of Potash and other chemicals whose sales for 1998 were about $500 million. In 1996, the Information Systems group convinced top management to pursue a big-bang ERP implementation of SAP R/3. To reduce project risk, risk management was practiced. First, only modules that matched the functionality of the then-existing systems were targeted, avoiding as much as possible software modifications and process reengineering. Second, a steering committee was set up to handle conflict resolution and set priorities throughout the project and top users were given responsibility with implementing modules within their respective functions. R/3 went into production on July 1, 1998, six months ahead of schedule and without exceeding the $4.95 million budget.

BACKGROUND

Dead Sea Works Ltd., one of 15 member companies of Israel Chemicals LTD, is a producer of Potash and other chemical products from the mineral-rich Dead Sea, Israel's greatest natural resource. Situated at the lowest place on earth, it lies in a valley whose southern part is suitable for evaporation pans and enjoys ample sunlight for most of the year. This combination of chemical riches and topography that is amenable to practical use fired the imagination of Theodore Herzl, the father of modern Zionism. After hearing of a plan to extract minerals from the Dead Sea, during his 1896 visit to Palestine, Herzl described in his book *Alt Neuland*, a Jewish State whose economic strength would be derived from the treasures of the Dead Sea.

Moshe Novomeisky, chemical engineer, came from Siberia to Palestine at the beginning of the century inspired by *Alt Neuland* to turn this vision into a reality. In 1930, he obtained from the British Mandatory authorities a concession to extract minerals from the Dead Sea, established the Palestine Potash Company LTD, and constructed a plant in the northern part of the Dead Sea. In 1934 evaporation pans and a chemical plant were constructed in Sodom as well. This became the foundation for today's Dead Sea Works (DSW) which, since it was reestablished in the 1950s, has increased production steadily to its current level of close to three million tons of Potash per year. In addition to Potash, DSW produces Magnesium Chloride Flakes and Pellets, Salt, Bath Salts, Magnesium Metal, Chlorine and Bromine.

Instead of mining, as do most of its competitors, DSW extracts Potash from the Dead Sea. The production process begins with the pumping of Dead Sea water to 105 square-kilometer salt pans, where the solution is concentrated. An additional 40 square-kilometer pans are then used to crystallize materials, which after settling on the pan floor, are pumped by harvesters directly into refineries. In this process, DSW takes advantage of the energy of the sun, another important natural resource in the region. Artificially, these drying processes would require 10 million tons of oil per year.

Wherever Potash is produced, transportation is a major expense, as was the case for DSW because of the 900-meter altitude difference between the factory at Sodom, the lowest point on earth, and the nearest railway terminal. Since this gradient rules out the possibility of a direct rail link and the remote location makes road transportation expensive, DSW chose to build from Sodom to the railway an 18-km conveyor belt, whose incline at some points reaches 18 degrees. Since its completion in April 1987, DSW's transportation costs have declined substantially.

Currently, the multi-firm DSW Group (see Figure 1) is distributed internationally (e.g., Europe, and China) and within Israel (e.g., Sodom, Beer-Sheva, and Eilat). In Europe, DSW has been involved in several joint ventures. In 1996, DSW established Dead Sea Magnesium LTD., investing with Volkswagen (65%, 35%) close to $500 million. Yearly production capacity at the new plant has already reached 25,000 tons and, by the end of 1999, is expected to grow by 50%. In 1998, DSW has partnered with Eurobrom B.V. in Clearon Holding Corporation and acquired from the Spanish-Companies Authority, jointly with two Spanish partners, Grupo Potash, a producer of one million tons of Potash per year sold mainly to the Spanish and French markets. In late 1998, DSW joined the Chinese government in building a Potash production plant that will eventually produce 860 thousand tons every year. This joint venture is expected to increase DSW's sales to China, a market whose Potash consumption per year grows at a rate that exceeds the world's rate.