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Sussex Industries: New Products or New Markets?

In early 2008, Cyril Nabarkin received a telephone call that sent shock waves through Sussex Industries. Both the U.S. Navy and U.S. Air Force had decided to cancel their longstanding contracts with Sussex for liquid oxygen (LOX) converters, the company's main product, favoring instead a new OBOGS (on-board oxygen generating system) technology, which extracts oxygen from engine air during flight. In less than six months, Nabarkin calculated, revenue would shrink by almost 90%. It was urgent, therefore, to identify new opportunities for the company.

Marketing had never been the strong suit of Sussex, however. Indeed, Nabarkin once joked that the company, being a government contractor, had a marketing department, which consisted of a secretary who sat at her desk waiting for the next military order. Nabarkin also worried that, with the technological switch in the market, its main activity might cease to exist in the near future. Could he identify new markets in which LOX could be used? And did Sussex have what it would take in order to play in these markets?

Sussex Industries was founded in the late 1960s in St. Louis, Missouri, triggered primarily by the 1967 formation of the McDonnell Douglas Company, which chose to locate its headquarters next to St. Louis Lambert International Airport. Sussex began producing yokes, valves, and other machined components for DC-8 and DC-9 aircraft, but switched to fighter jets when McDonnell Douglas began building military aircraft in its St. Louis plant. In the 1980s, Sussex developed a LOX converter in collaboration with McDonnell Douglas, a converter which won approval with the government. Soon after, the company diversified into two products, control grips and LOX converters, the latter of which became its cash cow.

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As any aircraft flies higher, the weight of the atmosphere demands that the cabin be pressurized and, more importantly, the thinness of the atmosphere requires that oxygen content be regulated. Otherwise, serious physiological consequences, including hypoxia, altitude and decompression sickness, and barotrauma, can occur. In the case of commercial aircraft, the pressure and oxygen in the content cabin are maintained, for pilots and passengers alike, through a combination of airtight fuselage and oxygen generation system. In jet fighters, cabins are pressurized and oxygen is fed to pilots through masks. Until the technological change to OBOGS, this oxygen was provided by a LOX converter.

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