LEO I delivery list.

There was only one LEO I computer. It was first working in elementary form in February 1951 *(see reference 1, in section L1X5).* It was finally switched off in January 1965. LEO I is believed to have been the world's first business computer. In other words, it was the first stored-program, general-purpose, digital computer to have been built to support a range of business applications.

Arising out of the successful operation of LEO I (see below), LEO Computers Ltd. was founded in November 1954 to build & sell a new computer, LEO II. A third design, LEO III, followed. LEO Computers Ltd merged with the computer interests of English Electric in 1963 to form English Electric LEO, and later, English Electric Leo Marconi (EELM). Subsequent mergers eventually found LEO incorporated into ICL in 1968, whilst the Bureau operation combined with Barclays to form Baric. For more on the LEO story, see: https://www.leo-computers.org.uk/ and: *LEO: The First Business Computer*. Peter J Bird. Hasler Publishing, 1994. ISBN: 0952165104.

LEO I.

LEO stands for *Lyons Electronic Office* and, as the name implies, the machine was built by J Lyons & Co., a London firm of caterers and bakers established in the last quarter of the nineteenth century. J. Lyons & Co. became one of the largest catering and food manufacturing companies in the world. In 1978 the company was sold to Allied Breweries. For more details, see: *An electronic history of J Lyons & Co. and some of its 700 subsidiaries,* at: http://www.kzwp.com/lyons/

LEO's basic processor was a direct development of the Cambridge University EDSAC. However, LEO I had more primary memory (2048 18-bit words, compared with EDSAC's 512 36-bit words) and comprehensive facilities for bulk data input and output by means of independently buffered input and output channels linked to punched card and paper tape readers for input and to punched card punches and line printers for output. For more on LEO I architecture, see section L1-X2.

Here are some highlights from the development of LEO I, taken from reference 1 *(section L1-X5)*. Two managers from the clerical side of J Lyons & Co., (T R Thompson and O Stanningford) visited Princeton University in May 1947 and Cambridge University in July 1947. Following their recommendations, the Board of J Lyons decided in November 1947 to proceed with the implementation of a data-processing computer based on the Cambridge EDSAC design. Having failed during 1948 to find a contractor to build the machine for them, the company decided to do the task themselves. John Pinkerton was recruited in January 1949 from Cambridge to lead the engineering design. In March 1949 an electronic workshop was set up in part of Lyon's Cadby Hall premises, west London. In February 1951 LEO I ran a simple test program.

The first of its many business applications was the valuation of the weekly output of bread and cakes from Lyons' bakeries, on 5th September 1951. Other applications followed. A successful trial of a payroll program was carried out on 1st January 1953. By December 1953 LEO I was felt reliable enough to undertake the regular payroll job, a task that had to be performed to time because most staff were paid weekly. The calculations per employee had previously taken an experienced clerk eight minutes to perform manually; LEO did it in 1.5 seconds – see: http://www.kzwp.com/lyons/leo.htm

LEO I was also used as a service bureau serving a wide range of data-processing and technical applications for clients external to the J Lyons company. The external applications included a part of the Ford Motor Company's Dagenham payroll, technical calculations for the aircraft industry, ballistic calculations for the military, meteorological forecasting, actuarial calculations and calculating the minimum station to station distance for all British Rail stations in order for them meet statutory requirements for the calculation of fares.