

The Julius Totalisator

The World's First Operational Computer

GEORGE JULIUS built the world's first automatic totalisator here in Australia in 1913. The original machine, a totally mechanical device, was installed at Ellerslie Racecourse in Auckland, New Zealand. The second went to Gloucester Park, Perth, in 1916; and the third to Eagle Farm, Brisbane, in 1917. The Julius Tote in this museum was installed in 1948.



50 indicator drives and adding machines formed the 1948 Eagle Farm totalisator – 24 for win bets backed by 24 for place bets plus two for the grand totals

Brian Conlon

In the early 1900s, in Western Australia, George Julius devised a system of mechanically recording votes to prevent voting irregularities. Governments were not interested in his machine and so he developed it for the racing industry to replace existing fraud-prone manual totalisators. The **Julius Premier Totalisator** revolutionised the racing industry by enabling large crowds to place bets without holding up the start of races. This helped racing become a major industry and part of our social fabric.

The Invention

The Julius totalisator is an electro-mechanical machine which can receive large numbers of win and place bets from multiple points on the race course at the same time, record them, display win and place odds for each runner as betting proceeds, and issue a ticket for each bet. The totalisator in this museum provided for 24 runners with 128 betting ticket machines located around the racecourse. In the 1970s Julius electromechanical totalisators were replaced by electronic totalisators.

The 1913 Ellerslie Totalisator (left) could display totals for up to 30 horses as well as a grand total above

The man standing in front shows the size of the machine



The first Julius Totalisator installed at Eagle Farm in 1917 – the bets for up to 30 horses could be displayed in the windows along with the grand total wagered

Automatic Totalisators Ltd

Julius founded Automatic Totalisators Ltd (ATL) in 1917. With its factory in Sydney, it developed, manufactured, installed and operated Julius Totes. Between 1948 and 1955 equipment was installed in 99 race tracks around the world. By 1970 they could be found in 29 countries. One was still operating in Caracas, Venezuela, in 2005.

The Company developed and installed the world's first electronic computer totalisator for the New York Racing Club. It also designed and manufactured the first mobile computer unit for electronic totalisator operations.



World-wide Recognition

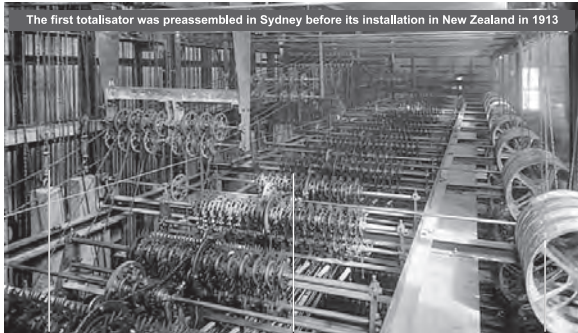
The Julius Totalisator with its automatic odds machine is the earliest on-line real time data and computation system to be identified by the London Science Museum. A Julius Tote shaft adder had pride of place in the entrance hallway of the Computer History Museum in California, while parts of the machine from Longchamps, France, were donated to a Paris museum. Sydney's Powerhouse Museum also has parts.



Tony Sharbisher

Sir George Julius

Sir George Julius (1873-1946) was born in England and raised in New Zealand. He became a prominent Australian engineer and won many engineering awards. He was a foundation member and President in 1925 of the Institution of Engineers Australia and the first Chairman of the Australian Council for Scientific and Industrial Research (later CSIRO). He was knighted for his contribution to technology in 1929 and inducted into the Australian Racing Hall of Fame in 2013. In his honour, each year Engineers Australia awards the Sir George Julius Medal for the best mechanical engineering publication.



The first totalisator was preassembled in Sydney before its installation in New Zealand in 1913

Powerhouse Museum

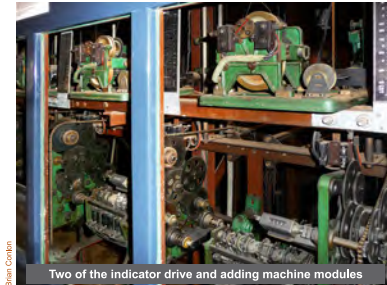
Before electric motors, the first totes were powered by falling weights

Operated by wires and linked by gears and chains, the shaft adders kept constant track of bets

The numbers on these wheels displayed the totals wagered on each horse

"although it looked like a giant tangle of piano wires, pulleys and cast iron boxes, and many racing officials predicted that it would not work, it was a great success"

– Brian Conlon, Engineer ATL



Two of the indicator drive and adding machine modules

Brian Conlon



Powerhouse Museum



Engineering Heritage International Marker placed on [date] 2015
Engineers Australia Queensland Division – Brisbane Racing Club

www.engineeringheritage.com.au

BRISBANE RACING CLUB



For more information about this project, please scan

