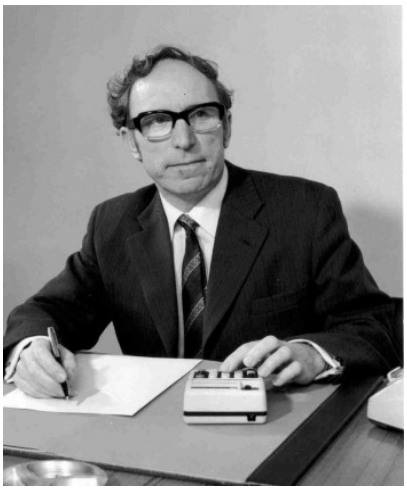
STL MANAGEMENT IN MATERIALS DEVELOPMENT

STL was, and still is, considered by many as a 'unique' research establishment. But what role did the management play in establishing its uniqueness?

- The founding fathers of STL showed immense foresight when they established within their new laboratories in Enfield research in both electronics engineering and materials.
- An example of the management contribution may be provided by looking at the career of **Dr Joe Evans**, who joined STL in 1951 at a time when transistors were in their infancy and he was involved in the development of germanium, silicon and other likely semiconductor materials for this purpose.
- **Joe Evans** was appointed Director of the Materials and Components Laboratory (MCL) in 1968, a post that he held until his death in 1981. MCL was formed to evaluate new materials suitable for component development and to undertake fundamental research into component design up to the prototype stage.



- Joe fostered good managerial and technical leadership but encouraged a degree of latitude for free thought, which impacted on the research activities. He also encouraged close liaison with the technical functions in STC and ITT manufacturing units.
- There existed an atmosphere/attitude which created a high degree of freedom:
  - Easy movement between laboratories and groups of engineers.
  - An all-inclusive canteen providing the ability to sit and talk with engineers and managers from other STL divisions.
  - Publication of papers in international journals, so that STL researchers became world-renowned experts in their field.
- The quality of the technical staff was exceptional at all levels and there were Research Engineers with BScs and PhDs and some with

no formal qualifications, such as **Henley Sterling**, but who made outstanding developments in their careers.

- The informal nature of STL and its open management led to a number of *serendipitous discoveries*, which needed intelligent observation, particularly in the development of materials and components:
  - Work on amorphous silicon followed the observation of a grey deposit in an apparatus used to melt silicon by radio frequency induction heating. The deposit had been formed by a glow discharge, and led to work on the plasma deposition of materials by **Henley Sterling and co-workers**, and **Rudolf Heinecke and co-workers** <*see display on Plasma Processing*>.
  - **Henley Sterling**, who had been involved with radar in WW2, applied his RF expertise to melting high temperature materials by micrco-levitation <*see display on Silver Boat*>.
  - **Peter Selway**, observed higher power from laser chips when an extra aluminium oxide layer had been accidentally deposited by **Doris Curtis** on the emitting (front) facet. This led to the use of anti-reflection coatings.
- Some of the serendipitous ideas which management encouraged were those that became known, perhaps a little unfairly, as the 'heroic failures'. Amongst these were Ferrodot printing, the solar eyeball, the radio lighthouse and negative resistance devices.

A personal view by Gordon Henshall,
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STL QCC web pages, provided by Vi Maile & Brian Prosser

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