



Bernard O'Kane

(1912-1997)

About Bernard

Bernard John O'Kane (1912–1997) was a British electronics engineer and radar pioneer whose work during the Second World War was pivotal to the development of airborne radar. Born on 20 July 1912, O'Kane studied light-current engineering (now electronics) before joining the General Electric Company (GEC) research laboratories in 1935, initially working on early television.

With the outbreak of war, television research ceased, and O'Kane moved into defence projects, notably Airborne Interception (AI) radar. At GEC he helped develop the helical scanner for 10 cm radar, an innovation later used in advanced AI systems. In 1940 he was seconded to the Telecommunications Research Establishment (TRE), then at Swanage, where he worked with Geoffrey S. Hensby on experimental AI and navigation radar. Their modified Bristol Blenheim Mk.IV flights in late 1941 demonstrated that centimetric radar could map ground features, revealing cities, rivers, and coastlines—findings senior TRE staff called “a turning point of the war.”

This work evolved into H2S, the first ground-mapping radar for bombers, designed to allow accurate target identification at night or in cloud. O'Kane's role bridged science and operations: he liaised with industrial partners such as EMI and worked alongside Alan Blumlein, Bernard Lovell, and Isaac Shoenberg to turn rough prototypes into production-ready systems. On 7 June 1942, tragedy struck when Halifax bomber V9977, carrying Blumlein, Cecil Browne, and other EMI engineers, crashed during a test flight from RAF Defford. O'Kane, who had been closely involved in the trials, narrowly avoided being aboard and later recovered the vital magnetron from the wreckage, a component essential to continued development.

Following the disaster, Churchill personally ordered H2S to proceed at maximum speed, demanding hundreds of sets within months. O'Kane trained Pathfinder Force crews, wrote operational manuals, and devised ergonomic improvements to radar controls, such as range-marker retention during scale changes. He also introduced H2S to Coastal Command for anti-submarine warfare, conducting trials off Llandudno and comparing British sets with American ASG-1 units.

His wartime work also touched on scanner design, PPI (Plan Position Indicator) orientation systems—earning him and a colleague £500 from the Royal Commission for Awards to Inventors—and adaptations of US SCR-720 radar for RAF use. Known for his practical ingenuity and ability to work across service, scientific, and industrial boundaries, O'Kane contributed directly to the radar technologies Churchill credited with securing Allied air superiority.

After the war, O'Kane returned to GEC, later donating his technical papers to the Imperial War Museum. These, alongside his oral history recordings, remain key primary sources on British airborne radar development. Bernard John O'Kane died in Harrow in October 1997, aged 85, leaving a legacy as one of the quiet but essential figures behind one of WWII's most decisive technological advances.