By 1940, NRC was engaged in almost every field of war research, and peacetime operations had been reduced to a minimum. There were scores of major achievements: in medicine, in aeronautical engineering, in the chemistry of supplies and substitutes, in biological warfare, in tropicalization of equipment for use in jungles, in protective clothing, in nutrition, in packaging and transportation of foods, in atomic energy -- to say nothing of innumerable devices such as predictors, gun sights, chronographs, sound ranging, and anti-mine and anti-submarine equipment.

Canada's connection with radar started in March, 1939, when an NRC scientist went to England on the invitation of the Air Ministry and was given full information about the top secret device for detecting aircraft. On his return, he brought a few men together, but little money could be obtained for the work and progress was slow until war broke out in September. During 1940, the first operational set on this side of the Atlantic was part of the defence works of Halifax. From then on, progress was rapid: the Council group had 300 men by late 1941. Research Enterprises Limited, among other vital activities, built the sets and, by the end of the war, Canada had designed over 30 types of equipment, and the war-time production had a gross value of over $300 million. Most of this equipment was developed in the Council's radio laboratory.

Canada made no pretence of covering the entire radar field but, in co-operation with her British and United States Allies, undertook certain specific tasks for the common pool. The Canadian effort, of course, was not as large as that of the other two countries but it was an important contribution. Canada-made radar gear was used to defend the Panama Zone in 1942, Canada designed and made all equipment used to protect its own shores and the Gulf of St. Lawrence, Canada designed most of the gun-laying anti-aircraft sets that defended the cities of the United Kingdom during the last part of the war, and Canada provided the Commonwealth's navies with two of the most important types of radar gear used in the last years of the war.

Civilian scientists operated with front line troops from the battle of El Alamein to the end of the war. A Council scientist was on the Rodney during her successful battle with the Bismarck. Council scientists were in the front lines in New Guinea, checking up on equipment under tropical conditions; on bombing raids over enemy territory; in the fighting zones in Europe, Australia, Burma, and North Africa -- in addition to working with new and untried explosives, lethal gases, poisonous substances, and spending many hours in experimental aircraft looking for the dangerous icing conditions that normal aircraft avoid as one of the greatest dangers in aviation.

Just as the Canadian Corps during the First World War established Canada for the first time as a significant military power, Canadian scientists during the Second World War won recognition for Canada in the field of science.

After the Second World War, most of the military research -- still necessary in an uneasy world -- was transferred to the then newly organized Defence Research Board of Canada. They took over the defence laboratories that the Council had operated at Valcartier, Halifax, Ottawa, and elsewhere.