

NEWS RELEASE
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SIX FACTS YOU NEED TO KNOW ABOUT THE BOMBE MACHINES

These Alan Turing-designed devices changed the course of the Second World War, saving millions of lives in the process. Here is everything you need to know about the Bombes...



1. Why were the Bombes needed?

Bletchley Park was set up to decode intercepted Nazi messages, some of which had been encrypted using Enigma machines. These devices typically changed settings every 24 hours and with 159 quintillion possible combinations every day, the staff at Bletchley Park worked around the clock to break the settings by hand. A mechanical method for identifying the keys was needed and Alan Turing designed the Bombe to speed up the process.

2. How did the Bombes work and who operated them?

Enigma machines featured a set of rotors, as well as a plugboard, which helped create the millions of different settings. The electronic Bombe machines featured multiple drums

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representing these rotors, allowing for potential settings to be quickly checked. Hundreds of the machines were operated by Wrens. It was said to be boring and oppressive work, with the women running the machines during long shifts in dark, stuffy rooms.

3. Where were the Bombes located at Bletchley Park?

Huts 11, 11A and 11B were the home of Bombe operations at Bletchley Park. The very first machines produced were delivered to Hut 1 but, once the prototype Bombes were fully operational, more space was required. Hut 11 was built first, housing up to six machines from March 1941. Hut 11A replaced Hut 11 in February 1942, housing up to nine machines. It also contained the Bombe Control Room (this later moved to Hut 3, renamed Hut 23 in 1943). Hut 11B, a long timber-built hut to the south of Hut 11A, was used for training Wren Bombe Operators. Now demolished, its foundations have been exposed as part of the new exhibition project.

4. What was the impact of the Bombes?

By speeding up the process of breaking the day's Enigma settings, Turing's invention meant staff were able to decode quickly and pass on intelligence – often with enough time for it to be acted upon. Intelligence uncovered prior to the battle of El Alamein in 1942 contributed to victory in this Egyptian campaign, which proved to be a turning point of the war.

5. In which areas of the war did they have success?

The use of Bombes in intelligence gathering had a huge impact across many land, sea and air campaigns. The German battleship *Bismarck* was located with the assistance of Enigma decrypts and sunk by air and surface attack in 1941. Later, in 1944, Enigma decrypts provided details of German defensive preparations for, and reactions to the D-Day invasion.

6. What was the legacy of Turing's creation?

The Bombes represented the first mass production of a specially designed cryptanalytical machine. They heralded the industrialisation of codebreaking and the intelligence they provided was crucial to Allied success in WW2. They were a significant part of the Bletchley Park operation, which was so successful that the Germans remained unaware the information sent on their "unbreakable" Enigma machines had actually been cracked by the Allies.

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For further information, high-res images or to arrange an interview, contact Gemma Briggs, Media and Publications Manager, Bletchley Park 01908 272661 gbriggs@bletchleypark.org.uk

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About Bletchley Park

Bletchley Park is a place of exceptional historical importance, open to visitors throughout the year. It remains highly relevant to our lives today and for the future. It is the home of British codebreaking and a birthplace of modern information technology. It played a major role in World War Two, producing secret intelligence which had a direct and profound influence on the outcome of the conflict.

Over the past twenty years Bletchley Park has become an internationally renowned site, visited by people from around the world, which acknowledges the successes from the war and the people

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responsible for them. It celebrates their values: broad-minded patriotism, commitment, discipline and technological excellence. By presenting and explaining these achievements and these values, in the very place where they occurred, Bletchley Park brings together the dramatic history of the twentieth century with the challenges we face in the twenty first in our rapidly changing and technologically complex society.