Colossus codebreaking computer in operation, 1943

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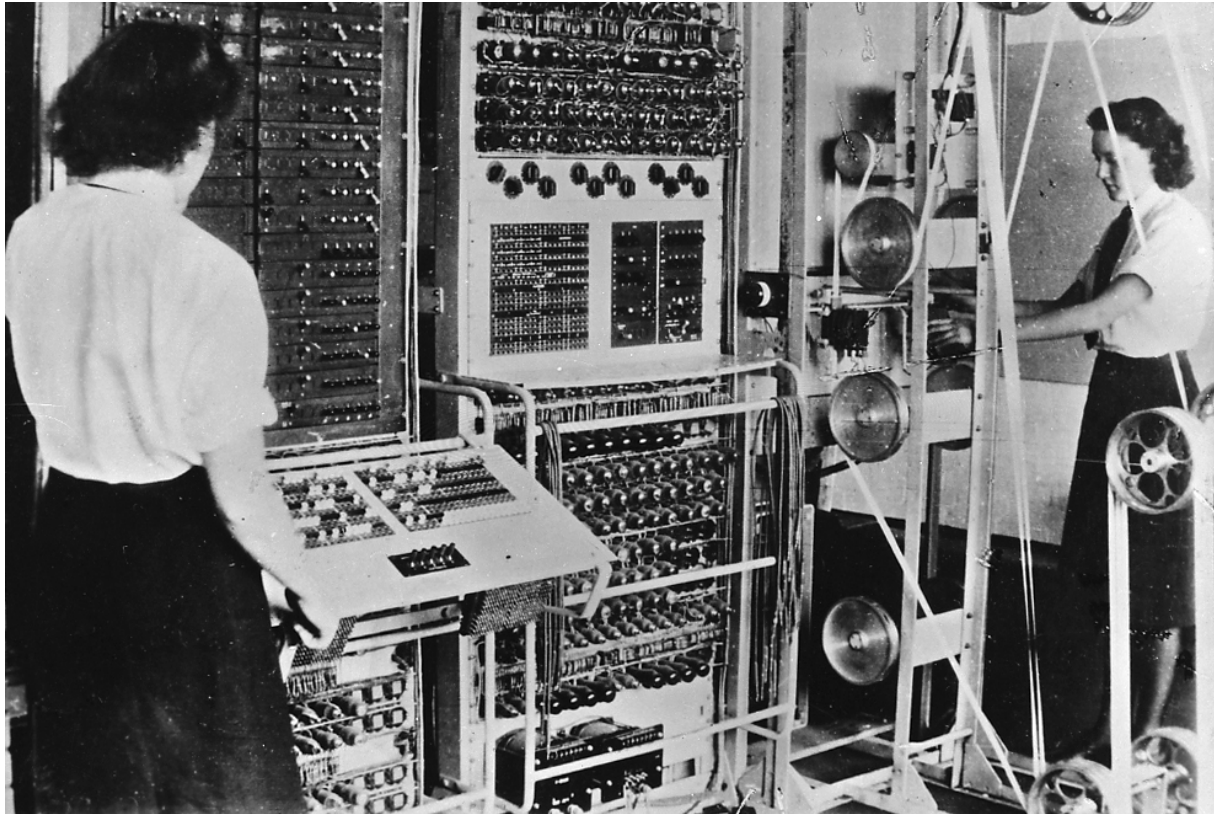
What is this source?

This is a photograph of one of the highly advanced codebreaking computers developed at Bletchley Park. The job of this machine, called Colossus, was to try out thousands or even millions of combinations of possible codes in order to try and decode German messages.

The first Colossus was probably the most advanced computer in the world when it went into operation but after the war every single one was broken up because the project was so secret. This photograph is one of fewer than a dozen that give any idea of what the machines were like.

ATLANTIC 1939–1945: THE BATTLE OF THE ATLANTIC

What's the background to this source?

From 1940 onwards the greatest danger for Britain in WW2 was that German forces could cut off supplies of troops, food, medicine and equipment from Canada and the USA. This was exactly what the Germans tried to do. This campaign became known as the Battle of the Atlantic. The Germans used submarines (U-boats), aircraft and surface ships to attack shipping bound for Britain. U-Boats received information about targets and also about where to meet up with supply ships by radio. The Germans thought that their messages were safe because they were sent using the Enigma code.

In fact, British code breakers cracked the code, helping convoys to avoid attack. It also helped Allied ships and aircraft to hunt down U-Boats. The key development in cracking Enigma came when a British ship captured a U-Boat in May 1941. A team of code breakers including most famously mathmematician Alan Turing based at Bletchley Park, near present day Milton Keynes, developed machinery like the Colossus to help do this.

It's worth knowing that...

The work of Turing and his colleagues played a key role in helping scientists and engineers to develop modern computers.

The Colossus machine itself was not used to break the Enigma code. It was used to crack a German army code called Lorenz.

How will you use this source?

1. Describe the Colossus machine. Are modern machines this complicated?
2. Does the Colossus suggest that the British government invested a lot of resources in technology and intelligence?
3. What do you notice about the operators of Colossus?
4. Is the Enigma machine a valuable piece of historical evidence?
5. Do these sources help you to explain why the Battle of the Atlantic was so significant?