Alan Turing: Breaks the Enigma code

Video transcript: Clip from *Horizon: The Hunt for AI.*

MARCUS DU SAUTOY:

This is the incredible machine that Turing and his colleagues created and it's called the Bombe. And it's from the mesh of cogs and switches, held together by over 10 miles of wire, that finally came the ability to crack the Enigma code on a daily basis – something that no human had become close to being able to do.

What this machine did changed the course of the war and many regard as crucial to the Allied victory over the Germans.

In one sense, this machine was just a collection of cogs and wheels. But it could do something that some of the finest minds in Britain couldn't. It was an unsettling moment. Was this machine cleverer than a human?

That is an incredibly satisfying sound. And it must have been an amazing moment when they switched it on for the first time – see the cogs clicking through all the different possibilities, getting a possible setting in 10 minutes what would taken humans weeks to try and find.

And to see this machine solve a problem that many regarded as impossible – it must have really fired Turing's imagination. I mean, this machine was built to crack the Enigma code, but Turing must have begun to think about, well, what was the limit of what machines could do.