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Right at the museum entrance hall you will find an English steam engine, built by Thomas Horn in 1860 and used for grinding flour. Now the power it supplies is used to turn other machines.

The words Full Steam Ahead were first said in England, the country where steam engines were invented.



!

In the mines, children used flat pushcarts to carry coal for the first steam engines.

You can push the replica of a mine cart.



!

Press the button on the "Rocket" showcase and see what happens.

! Now walk up the stairs to the Engine Sheds.

On the first platform, around the corner to the left, there is a model of one of the world's first locomotives. George Stephenson devised this steam engine on wheels in 1829. He called it "The Rocket".

An 1859 steam engine from the Borsig factory at Moabit. Today, it is the site of [Turmstrasse](#) underground station.



?

Can you make out the parts that belong to a steam engine?

Steam power was also produced in Berlin, chiefly by the Borsig family.

Nearly 200 years ago, August Borsig and his workers built the first quality steam engines and locomotives in Berlin.

?

Can you see what is left of these in the Museum? You will find everything right here, at the beginning of Engine Shed 1.

The Borsig family built a large mansion for themselves. This painting hung in their summer house. It is called "Vor der Vollendung – Eisenbahnbau bei Borsig (Before Completion – Railway Construction at Borsig)" by Paul Meyerheim, 1873–76.

?

Which of the people shown in the picture are building the locomotive?



Borsig's first factory was located in Chausseestrasse, on the site of the modern-day [Naturkundemuseum](#) underground station. In 1847, Borsig built the iron roof for Hamburger Bahnhof railway station around the corner. Today, this railway station is an art museum, and the [Central Railway Station](#) is located next door.

!

You can look inside the model of Hamburger Bahnhof railway station. It has been set up in front of the steam engine.

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Can you see Borsig's iron girders?

A capable entrepreneur and a deserving worker

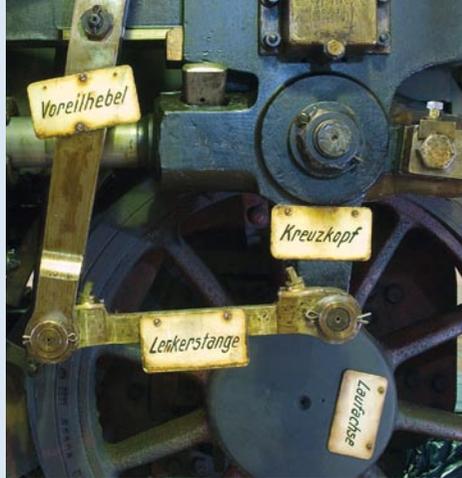


?

How do you think the fitter felt when he received the coin?



Bust of August Borsig and an anniversary present for a Borsig fitter.



?

Can you read what the labels say?

Steam-powered engines at the former Anhalter Bahnhof railway station and how to work them.

A driver's cab on Platform 8 at the beginning of Engine Shed 2. Here, the engine driver and fireman worked side by side. Goods engine by Henschel & Sohn, 1939



!

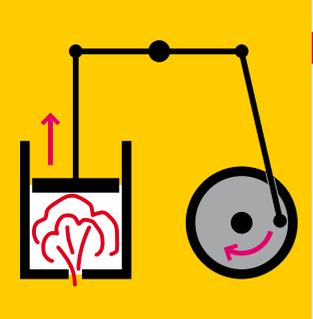
You can go up and enter the driver's cab.



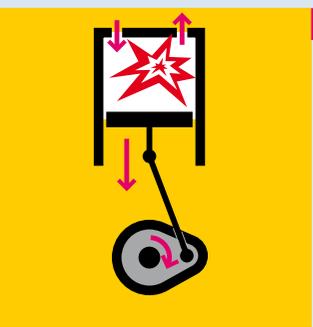
Water and coal to make steam. A filling station is outside, behind the turntable at Engine Shed 2.

?

Where is the coal, and where does the water come from?

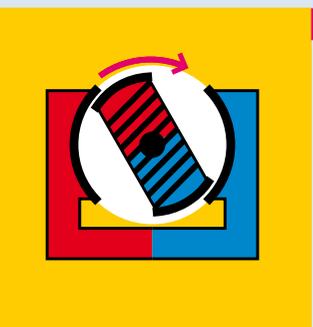


! **Steam engine.** Water is heated by burning coals. Hot steam flows into a cylinder where it pushes a piston up and down. A piston rod transfers this movement via a balancer to a crankshaft on the other side. The crankshaft turns a flywheel.



! **Diesel engine.** In a diesel engine, a piston compresses air in a cylinder until it is hot. Diesel oil is injected into the hot air where it burns. The heat of combustion forces the piston down the cylinder. Then the piston ejects exhaust gases from the cylinder by means of a crank.

Steam engines, diesel engines and electric engines – what is the difference?



! **Electric engine.** In an electric engine, a powered coil – an electromagnet – sits on an axle inside a permanent magnet. When power is supplied, the north and south poles of the electromagnet and permanent magnet attract, turning the electromagnet. As soon as the north and south poles come together, the two poles of the electromagnet change their polarity, and the process is repeated in the opposite direction. The coil continues to turn.

The Engine Sheds also contain engines that run without steam. They were invented later. They run on ...



! This diesel engine stands on Platform 15 at the end of Engine Shed 2.

... diesel oil
V 200 diesel locomotive, Maschinenbau Kiel, 1957
V means combustion engine. This engine drives the wheels by means of an oil pump or electric power. Diesel engines replaced steam engines until power lines for electric engines were installed everywhere.

... electric power
F 44 electric locomotive, Henschel & Sohn, 1942
This engine is the most important of the first electric engines in Germany. It was industrially manufactured from 1930 onwards. An overhead power line supplied the electricity for the engine.



! You will find the electric engine on Platform 4 at the beginning of Engine Shed 2.



...and again, electric power
Replica of a Siemens electric locomotive (originally built in 1879)
The original of this small electric engine, the first to function properly, took guests across the site of an exhibition at Berlin-Moabit. The electric power was supplied by a rail at the centre of the tracks. This engine became the precursor of the tram.

! Go back to the Borsig family in Engine Shed 1 to find this small engine.

! You may sit on the trailer of the electric engine while solving the puzzle.

A puzzle.

1 What do we call the garage for train engines?

.
(6 letters, 4 letters)

2 What liquid is needed to make steam?

.
(5 letters)

3 What does a fireman get when he uses coal?

.
(4 letters)

4 In which country was the steam engine invented?

.
(7 letters)

5 What do we call a steam engine on wheels?

.
(10 letters)

Solution:

What happens when the tracks stop?



! You can see ships that run on steam in the Shipping exhibition located in the new building.



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Full Steam Ahead.

This tour for children can be booked by school classes or birthday parties. For advice call +49/30 90 254-165 or visit fuehrungen@sdtb.de

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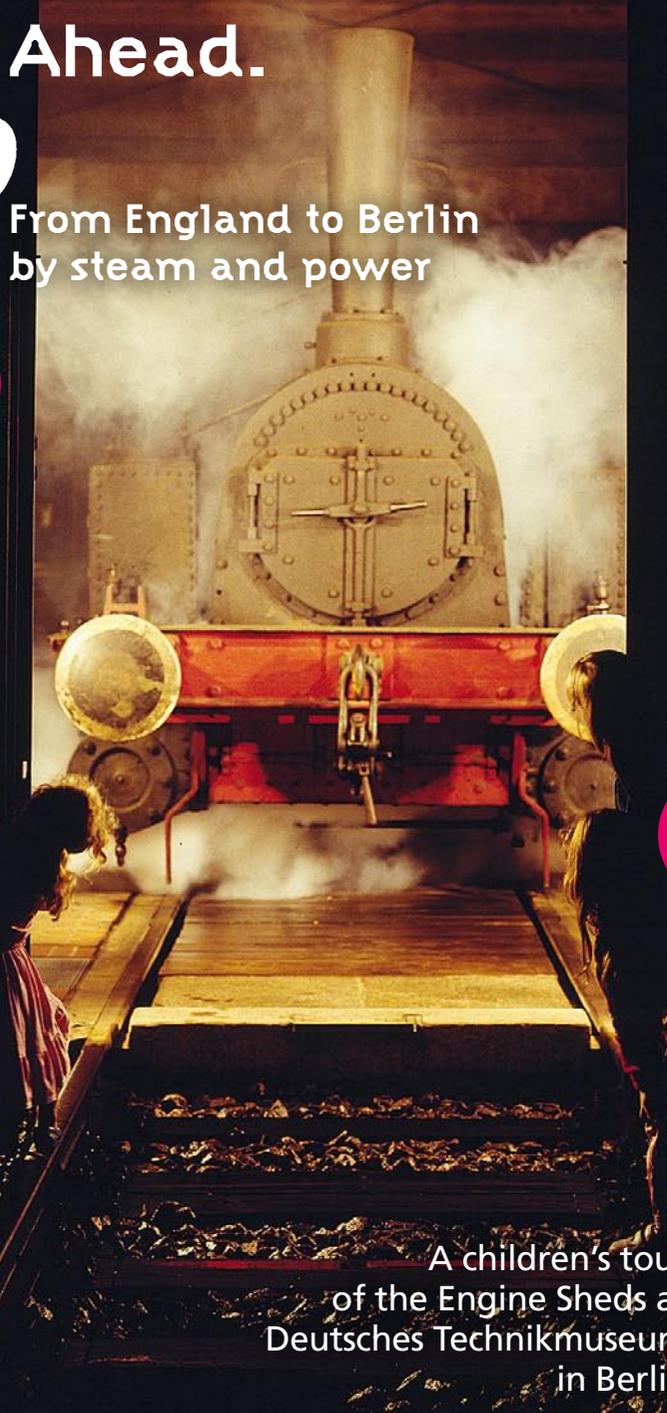
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Full Steam Ahead.

From England to Berlin by steam and power



A children's tour of the Engine Sheds at Deutsches Technikmuseum in Berlin

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