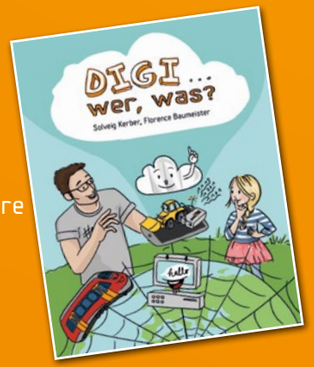
How well do you know the SchafbergBahn's digital steam locomotive?

Have you read everything? Then you must already be a real expert on the **digitised steam locomotive**. You can show that now!



If you answer the **questions** correctly, you will receive my book **'Digi... who, what?'**. In it, I explain to you in more detail what **digitalisation** means. Get it at the cash desk!

So here we go!

1. **What colour is the digital steam locomotive?**
   - ☐ **Blue** ☐ **Yellow** ☐ **Red**

2. **What is measured in the digitised steam locomotive?**
   - ☐ **Temperatures and pressures**
   - ☐ **The speed of the wind**
   - ☐ **The size of the passengers**

These are the locomotive digitisers. Together they have made the locomotive talk.

optiMEAS is a specialist in the digitalisation of industrial goods of all kinds. One focus are railway applications.

Zugkraft-kN
Digitalisierung nach Maß

Zugkraft-kN develops software that ensures efficient maintenance and servicing of rail vehicles.

SALZBURG AG

The Salzburg AG Tourismus operates the historic **SchafbergBahn** railway on Lake Wolfgangsee.

www.optimeas.de

optiMEAS

Digital steam locomotive

Digi steam... what is that?

If you answer the questions here correctly, I'll give you my book. 'Digi...who, what?'

Do you already know the digital steam locomotive?

It's called 'Z12'.
Come with me, I'll show you!

Did you know that the digital steam locomotive can talk?

No kidding!

As the **red locomotive** climbs the steep Schafberg, steaming and hissing, it talks the whole time about what it is doing and how it is doing.

For example, what **temperature the water** in the pump is at or how high the **pressure in the oil hoses** is that it needs to brake.

You can immediately see what the locomotive is saying on a computer or smartphone and check whether everything is OK.

To make this work, the old locomotive had to be 'digitised'.

Take a photo of the QR code and you can see how the steam locomotive is doing.

This works with clever technology.

The digital steam locomotive has sensitive sensors in all important places inside. They measure temperatures, pressures and much more throughout the journey, which lasts around 35 minutes. Like a clinical thermometer. Or a fitness watch. The locomotive's position is also tracked via GPS. All in all, this generates a huge amount of data.

There is a small, very clever device in the locomotive. It is called smartRAIL and connects the locomotive to the internet via mobile radio. This is where it sends all the data from the locomotive. The data is stored in a cloud where it can be viewed live on a kind of display board (QR code).

The collected data can also be analysed in more detail at a later date.

Take a photo of the QR code and you can see how the steam locomotive is doing.

The locomotive can now be helped more quickly.

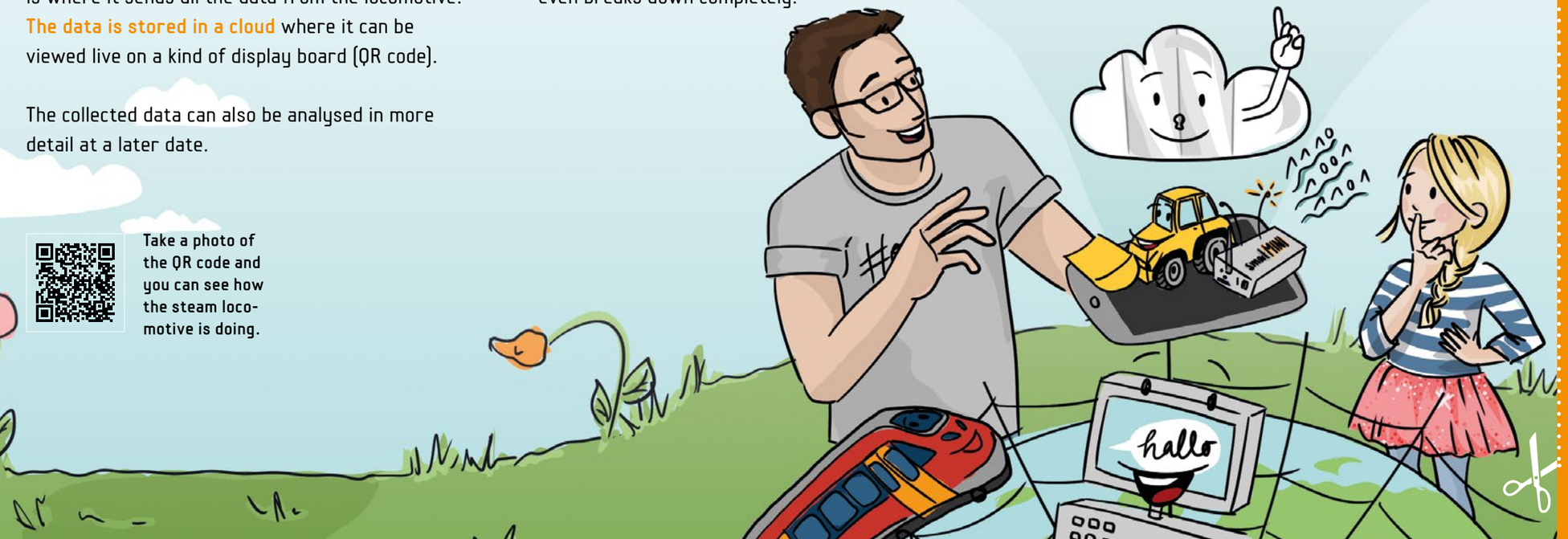
Because you now know the condition of the locomotive at all times, you can do a lot of things better: For example, recognising when parts are broken. Or save oil by changing the temperature of the water. Because you know, the water in the steam locomotive is heated with oil.

If the measured values are strange, the workshop uses the locomotive data to find out why. The technicians can then take targeted action before something worse happens and the locomotive possibly even breaks down completely.

This saves time and also helps the environment.

The SchafbergBahn workshop is getting to know the locomotive better and better over time thanks to all the measurement data. Soon, computers with AI, or artificial intelligence, will help predict when something will break down. Things like brake linings, valves and seals will then only need to be replaced when really necessary.

This not only speeds up locomotive maintenance. It also uses **less material and protects the environment.** Soon even more locomotives and the ships on Lake Wolfgangsee are to be digitalised.



3. How long does the journey to the mountain station take?

☐ 15 min. ☐ 20 min. ☐ 35 min.

4. What is the name of the digital steam locomotive?

☐ Z12 ☐ Z13 ☐ Z21

5. The water in the steam locomotive is heated with _____.

6. What does it mean when a steam locomotive is digitised?

☐ It can drive faster
☐ It gets sensitive sensors
☐ It gets a new colour

7. Where is the collected data stored?

☐ In a thick book
☐ In a cloud on the internet
☐ In the basement of the valley station

8. How does the digital locomotive help the environment?

☐ It transforms into an electric car
☐ It uses less material
☐ It plants trees on the journey

Ready? Great!
Then collect your winnings at the cash desk now.