

**DB System**  
Digital.  
Empowered.



# Digital.Trend.Radar

Translated by AI

**HIGHLIGHTS**  
December 2024



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# Welcome to the new Digital.Trend.Radar

## Dear trend enthusiasts,

As in previous years, we have reviewed, revised and supplemented our assessment of the major digital megatrends to ensure they are up to date. You will find the results in the new Digital.Trend.Radar in the tried and tested form.

Those readers who experienced the beginnings of our Digital.Trend.Radar will remember: four years ago, we took the bold step of switching from a multi-page PDF brochure to DB Planet, Deutsche Bahn's intranet. A step that has brought us forward in terms of provision and accessibility.

Given the current challenges facing our Group, we also need to become more efficient and streamlined. We have migrated our Digital.Trend.Radar to the DB Innovation Platform so that timeliness and quality do not suffer.

This platform offers new possibilities in terms of collaboration, evaluation and

interactivity. But don't worry, access remains simple for all Deutsche Bahn Group employees.

A click on the [🚀 radar display](#) or a trend on our [🚀 Foresight@DB Systel](#) page takes you directly to the new platform.

As in previous years, there is a brief summary of each of our digital trends in this document. Deutsche Bahn employees have the opportunity to find out more about a topic in more detail.

The QR code or web link printed next to the trend will take you directly to the online trend portrait on the new DB innovation platform.

The world is in a state of upheaval. Digitalisation is fundamentally changing our daily lives. Digital tools and applications form the basis for information procurement, decision-making, our everyday working lives and our leisure time.

At the same time, the digital world is becoming increasingly volatile and vulnerable against the backdrop of geopolitical developments and new block formations. To enrich our lives with digital possibilities, we need fundamental digital resilience. We have included this trend in our Digital.Trend.Radar.

As in the previous year, generative AI in general and ChatGPT in particular dominated the discussion among digital and trend experts in 2024. With BahnGPT, we now have the opportunity to have our everyday work supported by AI.

But we are thinking one step further: how can AI be made more accessible and usable? A question that we explore in our current [🚀 Digital.Trend.Impuls on Digital Humans](#), among other things.

In addition to the findings from the trend impulses and trend studies published last year, the continuous

observation of the digital world has been incorporated into the update of our Digital.Trend.Radar.

We look forward to a lively exchange and valuable discussions.

**Your Digital Foresight team on behalf of all participating trend sponsors**

# Trend portraits provide orientation

## Actuality

The [↗ trend mentors](#), who you will find on every portrait, are required to keep abreast of new developments relating to a trend. This works even better if you also provide feedback.

If one or two things seem out-dated to you or if you disagree with a portrayal: get in touch with us! Any feedback is very valuable for all those interested in trends!

## Orientation

At the beginning of each trend portrait, we describe what we understand by the trend. As usual, the trend portraits contain our assessment of the value contribution for DB and its degree of maturity. You are already familiar with the opportunity/risk analysis that we integrate into every trend portrait.

## Practice

There are already activities at Deutsche Bahn for each of our trends. We want to make it easier for interested parties to access these diverse initiatives and projects and describe them in the trend portraits.

Where available, we have included links to DB Planet pages. However, given the diversity and size of our Group, we are not aware of every activity. If your project is not included, please contact us at any time!

## Experts

In addition to the trend sponsors, many experts have once again contributed to updating the Digital.Trend.Radar. You can find them in the trend portraits below. One click will take you to the relevant contact.

We are happy to include interested parties in our circle of experts. Get in touch with us if you are particularly interested in a trend.

## Discussion

You can also post news or opinions on our assessment directly on the respective trend portrait. To do this, click on „Discussion“ at the top of the trend portrait and submit your contribution. For general ideas and suggestions for improvement, you can of course continue to use our open Microsoft Teams group [↗ Digital Foresight Trend Community](#).

We look forward to your contributions!

# The new Digital.Trend.Radar

## New platform

Since 2020, one of the first port of call for digital trends has been our DB Planet page „Digital.Trend.Radar“. Here we described our trends in detail. In the background, the creation and maintenance of the radar and the portraits involved a lot of work for the trend sponsors and trend experts.

In order to further improve the quality of the Digital.Trend.Radar and at the same time make the effort for trend sponsors and trend experts more efficient, we have decided to move our Digital.Trend.Radar to the DB Innovation Platform.

For interested readers, little will change. Simply click on the [🚀 radar display on our DB Planet page Foresight@DB System!](#)

## Two become one

Previously, we published our trend portraits on DB Planet and posted interesting articles and news in our Digital Foresight Community teams channel in the respective trend channels. With the move to the DB Innovation Platform, we now have the opportunity to publish current articles on the respective trend in each trend portrait.

Under the menu item „Discussion“ you can post news, but also questions, ideas or suggestions on the respective trends. Even better: We take the title of the menu item literally and discuss our trends in a thoroughly controversial manner: Will spatial computing really change travel behaviour? Will future computing take the railway a quantum leap forward? Will AI fulfil its promise of efficiency? You can be informed about news and contributions to a trend by „following“ it.

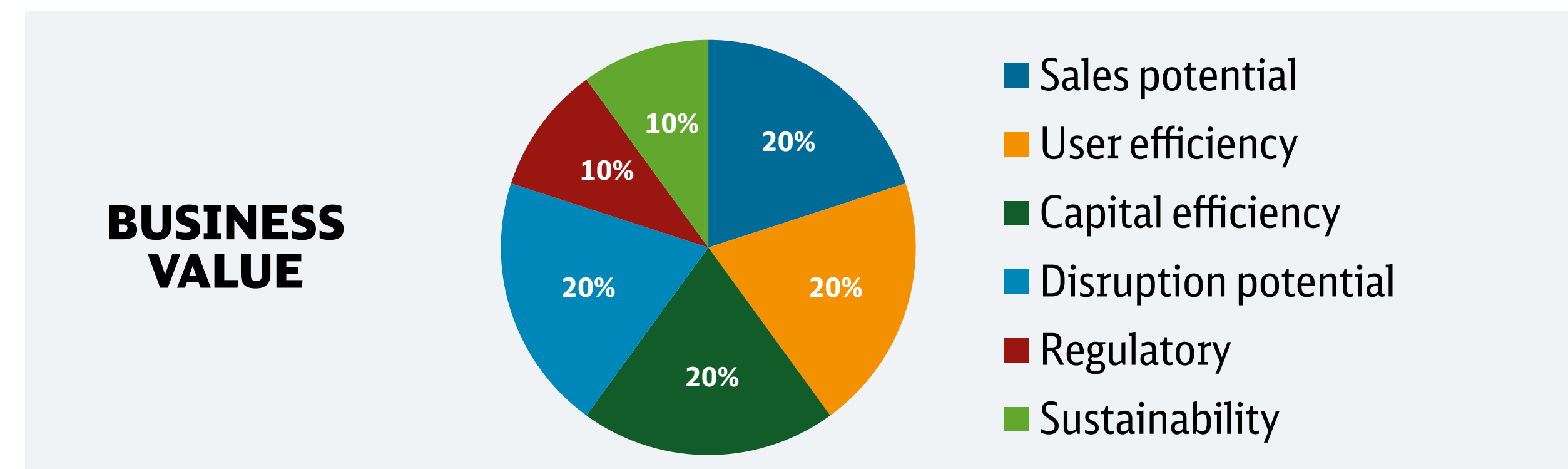
## Change in the valuation weighting

Since the publication of the first Digital.Trend.Radar, we have been evaluating not only the growth opportunities and disruption risks of a trend, but also the efficiency gains that can result from new technologies. In recent years, we have weighted growth more heavily than efficiency. In light of the challenges facing Deutsche Bahn, we have adjusted the weighting of our criteria this year.

Under the overarching strategy of Strong Rail, the S3 turnaround programme places a clear focus on efficiency. We are following this with the adjustment of our trend weighting!

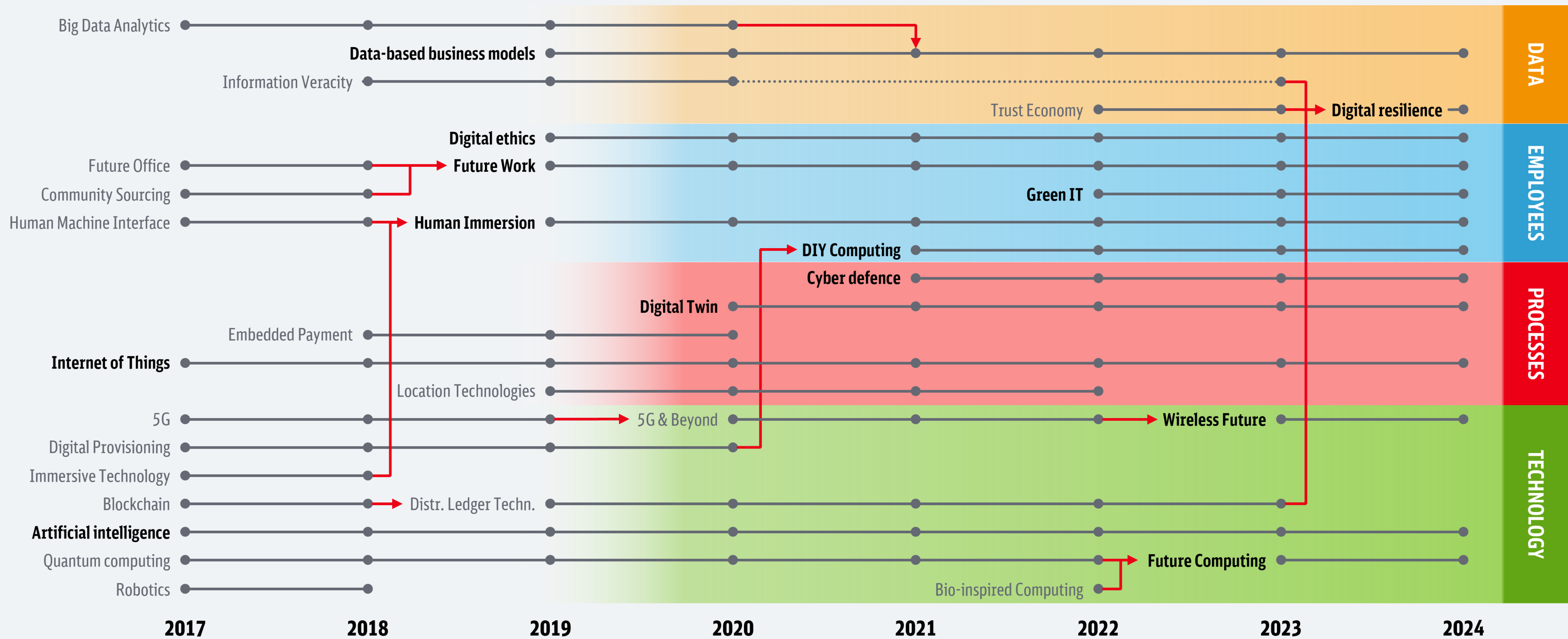
## New evaluation criterion

A major advantage of Deutsche Bahn is the provision of sustainable mobility. Not only mobility, but also digital trends have consequences for sustainability. Increasing digitalisation can become a challenge, for example the high energy consumption of AI, but also an opportunity for sustainability, e.g. through reduced energy consumption of new computer systems such as neuromorphic chips. Sustainability is also firmly anchored in our corporate strategy, which is another reason to assess sustainability in terms of business value.

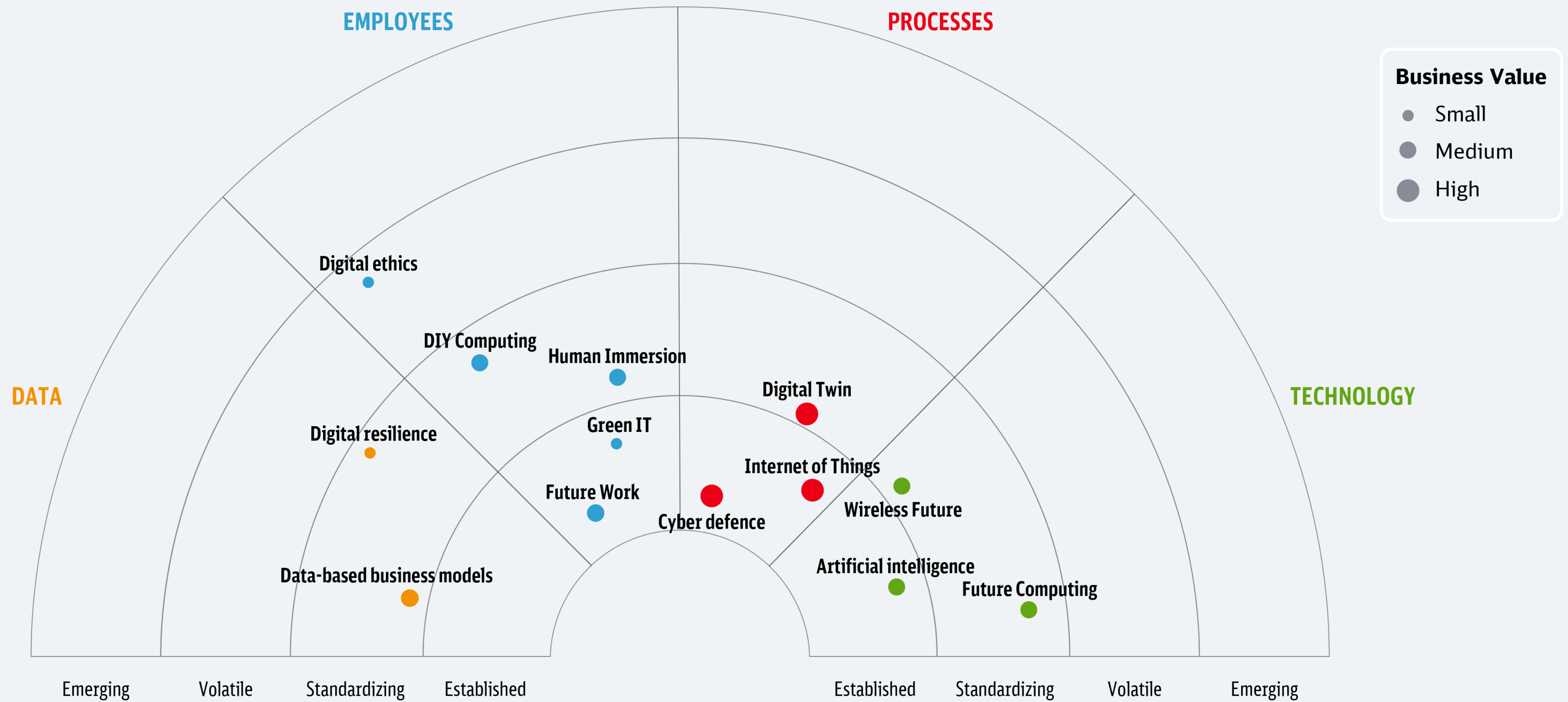




# Our Digital Trends since 2017



# The current Digital.Trend.Radar



# Trend highlights



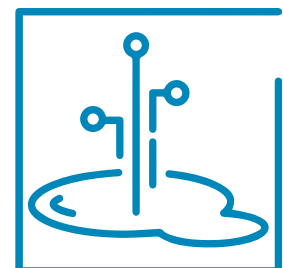
## ➤ Cyber defence

As a critical infrastructure, DB is an increasingly attractive target for cyberattacks in times of growing geopolitical blockades. Within the broad spectrum of attackers, business models have developed for preconfigured malware or ransomware that have professionalised attacks. A new trend is that artificial intelligence (AI) is being used by attackers to exploit security vulnerabilities in software more quickly.



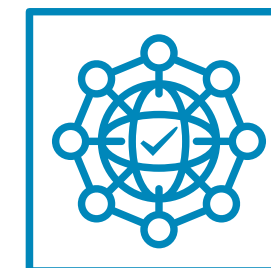
## ➤ Digital ethics

Advances in the field of AI have raised public awareness of the impact of digitalisation on our everyday lives. There are regulatory developments: With the AI Act, the EU has laid the foundation for a comprehensive legal framework. At the same time, large digital companies are increasingly voluntarily committing to ethical principles. These developments are helping to increase the maturity and importance of digital ethical standards.



## ➤ Data-based business models

Generative AI significantly increases the impact of data-based business models on the economy: companies can use it not only to analyse existing data, but also to create new content, products or solutions. However, the use of generative AI and the use and analysis of large amounts of data also place high demands on data protection and ethical standards, particularly in terms of transparency, copyright and privacy.



## ➤ Digital resilience

In a digitally networked world characterised by uncertainty and complexity, digital resilience encompasses the ability to respond quickly to change and manage risk while ensuring the security and reliability of digital systems. The new trend on our radar replaces the three trends „Distributed ledger technologies“, „Trust economy“ and „Information veracity“, which are archived with the publication of this trend radar.



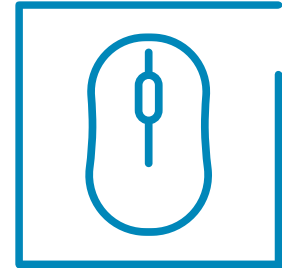
## ➤ Digital Twin

Digital twins continue to gain in importance. Originating from industry, their field of application extends to other areas such as healthcare or urban planning, including railway stations and infrastructure. Digital twins support smooth processes with real-time data. As a simulation environment, they form the basis for more than just AI projects. Lighthouse projects such as „KI am Zug“ are laying the foundations for a comprehensive digital railway in German rail operations.





# Trend highlights



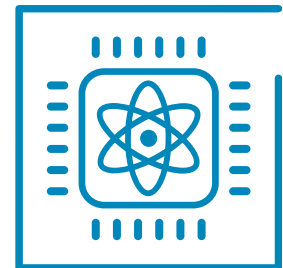
## ➤ **DIY Computing**

Digitalisation permeates every workplace. This is causing a major staff shortage, especially in the STEM fields. Intuitive tools make it possible for employees who are inexperienced in programming to develop digital helpers in their working environment. In addition to simple graphical user interfaces, the use of AI minimises market access barriers. ChatGPT has shown in initial approaches what will be possible in the near future.



## ➤ **Green IT**

Our trend study on „Green IT“ laid the foundation for a DB Systel initiative that promotes sustainable practices in the IT industry. The aim is to significantly reduce the ecological footprint of IT. The measures range from increasing energy efficiency and using renewable energy to resource-conserving hardware and processes. Green IT combines environmental and climate protection with economic benefits.



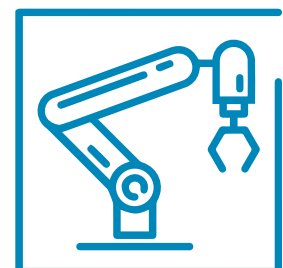
## ➤ **Future Computing**

Advancing digitalisation and the associated demands on computing power and storage requirements call for ever more powerful information technology. The evolutionary development of classic (high-performance) computer systems alone will not be enough. The breakthrough in quantum computing, but also approaches to bio-inspired computing that are not yet fully developed, such as neuromorphic chips or DNA memory, promise solutions.



## ➤ **Human Immersion**

The development and convergence of human immersion technologies continues unabated. Apple and Meta in particular are driving progress in spatial computing. Developments in AI, such as ChatGPT, are improving the possibilities for communicating with the digital world. A great deal of dynamism can be observed in the field of neuro-machine interfaces. Neuralink reports the first successful implants in humans.



## ➤ **Future Work**

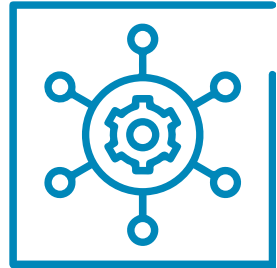
Our world of work continues to change dramatically due to the consequences of the pandemic and the influence of AI tools. Productivity is already being greatly increased by AI in many areas, and by 2060 around half of today's work could be automated.

Working from home and modern digital workplaces will continue to be expected by new entrants, which is important for attracting skilled workers.





# Trend highlights



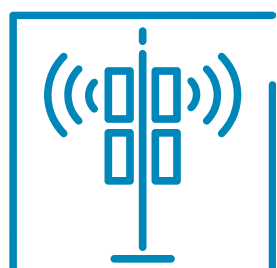
## ➤ Internet of Things

The number of networked devices in the Internet of Things continues to grow rapidly. This is being driven by the increasing availability of 5G networks and more cost-effective components. The result is more affordable end products in the IoT sector. The focus is on data protection and security, while innovative applications, from autonomous vehicles to AI-controlled household appliances, are shaping everyday life.



## ➤ Artificial intelligence

The ground-breaking success of generative AI is reflected in its exponential use in business solutions, education and creative processes. The potential for automation through specialised AI models remains high. As its use becomes more widespread, trends such as adaptive and sustainable AI as well as higher ethical standards are coming into focus in order to strengthen trust and efficiency.



## ➤ Wireless Future

5G has reached the operationalisation stage. Network expansion is progressing and, not least, the commissioning of the first campus network at Deutsche Bahn points the way to the future. 6G is currently being standardised. Communication via near-earth satellite networks represents a supplement in regions with poor terrestrial network coverage. The challenge from the user's point of view remains the uninterrupted use of the technologies.





## About us



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**Do you have any questions, suggestions or would you like more information on a specific trend topic?**

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Come to the

➔ **Digital Foresight Trend Community**

Numerous colleagues, both from the specialist departments and from the CIO, innovation and digitalisation departments of many DB Group companies and the DB Group, supported each trend assessment.