

Top 7 IoT trends for 2023



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Key Points

- IoT continues to play an increasingly essential role in the transformation of the digital landscape
- With the Fourth Industrial Revolution underway, IoT will be one of the leading technologies driving it forward
- Top trends include: 5G technology, edge computing, IoT as a support system for sustainable development, smarter homes and cities, increased interoperability, increased adoption in healthcare, improved fleet management
- The latest estimates predict a sharp increase in worldwide connected devices. With it comes an increased risk of security threats as the majority of these devices are consumer-based and generally more vulnerable to cyber attacks
- This presents both an opportunity and challenge to ensure that security keeps pace with the speed with which digital technologies are developing

Is your business ready to harness the potential of IoT? Our expert team can help design and implement bespoke IoT solutions. Reach out to us now to kick-start your IoT journey.

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As digital technologies continue transforming almost every industry, from healthcare and fitness to retail and the environment, the internet of things (IoT) will play an increasingly essential role. Regardless of whether we are familiar with the term, most of us have, in some way or another, experienced how beneficial it is to have devices connected to each other via the internet (e.g. energy efficient offices, body sensors that track health and fitness). IoT trends for 2023 [\[1\]](#) [\[2\]](#) will see these benefits becoming more widespread – specifically as it relates to:

1. 5G technology
2. Edge Computing
3. A support system for sustainable development
4. Smarter homes and cities
5. Increased interoperability
6. Increased adoption in healthcare
7. Improved fleet management

IoT trends we've featured in the past

If you've been following [our work](#) and the [industry-related insights](#) we share, you will have noticed that IoT factors into just about every digitally oriented technology. A quick recap for those new to our page: The [IoT ecosystem](#) consists of web-enabled smart devices that use embedded systems (e.g. processors, sensors and communication hardware) to collect, send and share information without needing a person to initiate the conversation.

Some of the most interesting uses for IoT that we looked at included:

- [Smart kitchen appliances](#) to reduce household waste
- Whether an [IoT ecosystem for plastic](#) would make recycling more effective
- How [IoT and biomimicry promote sustainable development goals](#)
- IoT applications across a wide range of industries, from [oceanography](#) and [farming](#) to [forestry](#), [healthcare systems](#), and [medical devices](#)

Understandably, we're interested to see where the IoT trends for 2023 are headed and their impact on the digital technologies landscape, more importantly, how businesses will leverage IoT's power to improve their operations and gain a competitive advantage.

What is the Fourth Industrial Revolution, and how does IoT factor into it?

Also known as Industry 4.0, the Fourth Industrial Revolution ^[3] is characterised by a fusion of technologies that blur the line between physical, digital and biological spheres and will fundamentally change and disrupt how we live, work, and relate to one another. Compared to previous industrial revolutions (i.e. steam power and mechanised production, electricity and assembly line production, electronics and automation), the Fourth is evolving at such an exponential rate that the speed of current breakthroughs has no precedent.

For example, digital twins (virtual models of physical objects) were first developed in 2002 to optimise the manufacturing processes and the product life cycle. Once this application entered the medical field circa 2021, the concept of people having their own health digital twin (HDT) disrupted precision medicine, clinical trials, and public health. The [digital twin applications in healthcare](#) are groundbreaking: a patient's response to medication could be accurately predicted, surgical procedures can be simulated on a patient's digital twin first to predict outcomes, and HDTs could also be used to optimise the performance of medical device implants before being used on real-life patients.

IoT - along with others such as AI, robotics, blockchain, and biotechnology - is one of the [technologies driving this revolution](#). Because Industry 4.0 is so data and analytics-driven, IoT is uniquely placed to offer businesses, governments, and organisations the opportunity to leverage connected devices' potential to improve outcomes.

IoT trends for 2023 to keep an eye on

1. 5G technology: By offering faster speeds and lower latency than previous generations of mobile networks, 5G networks will play a significant role in IoT. According to a recent [report published by Ericsson](#), 5G networks are forecasted to cover more than 40% of the world's population by 2024, with cellular IoT connections exceeding 4 billion by 2030. This will open up new [possibilities for IoT applications](#) such as self-driving cars, augmented and virtual reality environments, and Cobotics (robots used in manufacturing that have computer vision and machine learning applied to their operating systems).

2. Edge computing: Rather than sending data to a centralised location for processing, edge computing allows data to be processed at the source. This helps reduce the amount of data transmitted over a network and makes it possible to analyse it in near real time. This, in combination with IoT devices and 5G technology, will make applications such as Autonomous Vehicles (AV) and cloud gaming more widespread

3. A support system for sustainable development: The [International Declaration on the Internet of Things for Sustainable Development](#) presented a strategy and vision for how IoT can be used to promote the UN's Sustainable Development Goals. Because IoT allows for analysing a wide range of contextual data (e.g. temperature, wind strength, humidity) and dynamic data (e.g. energy and water consumption), environmental performance is improved in real-time, operational costs are optimised, and management is simplified ^[4].

Using IoT to create an ecosystem for environmental monitoring and sustainable development is becoming so integral that it now has its international standard - [ISO/IEC 30179:2023](#).

4. Smarter homes and cities: With the help of AI algorithms, smart home IoT networks will be able to automate tasks that make our lives more secure, comfortable and energy efficient (e.g. visual alerts for unauthorised home entry, automated lighting). Cities can also implement IoT technologies such as smart streetlights and smart traffic management.

5. Increased interoperability: This is the essential ability for different computerised devices (even if they have different operating systems, manufacturers, or regulations) to communicate seamlessly without restriction. As we saw in our article on [medical interoperability](#), this is essential for adopting digital technologies in industries such as healthcare.

6. Increased adoption in healthcare: Although the transformational benefits of IoT in healthcare (e.g. wearable devices, remote patient monitoring) aren't anything new, the adoption and adaptation of IoT devices in healthcare will continue to rise as the [internet of medical things](#) (IoMT) continues to prove its usefulness for both patients and practitioners.

7. Improved fleet management: Shipping discrepancies, equipment maintenance and monitoring, logistics, and supply chain management are proving to be considerably easier to manage thanks to IoT. With additional benefits, which include less downtime, less money spent on repairs, and improved efficiency, this is undoubtedly an IoT trend for 2023 worth following.

Where could IoT in 2023 go wrong?

A concern that prevails - regardless of which digital technology happens to be the subject matter - is cyber security. The [latest estimates predict a sharp increase](#) in worldwide connected IoT devices from 15.14 billion in 2023 to almost 30 billion by 2023. As they often come in the form of customer-focused gadgets, these devices are generally more vulnerable and appealing to cyber attacks.

Although IoT security threats in 2023 will impact the digital technology landscape, these threats are manageable. Unpatched vulnerabilities that hackers can find and exploit (e.g. weak code and customers who use weak passwords or don't check that their devices are up to date) are issues that can be addressed to improve IoT device security.

A final word on the latest IoT trends

As the Fourth Industrial Revolution continues to run its course - especially with technologies such as

IoT, which have a seemingly endless array of applications - now is the best time to be an innovator and product developer. Because most of the technologies driving this revolution forward can be combined (e.g. IoT with AI and edge computing), the boundaries on what's possible are constantly shifting, and we're excited to see the other trends which will emerge!

What are your thoughts on this year's IoT trends? Do you have any favourites? Please send us a comment and let us know!

References

1. Warzecha, L. (2023, January 17). IoT Trends for 2023. ITSG Global.
<https://itsg-global.com/iot-trends-for-2023/>
2. All, I. F. (2023, March 13). How IoT Will Change in 2023. IoT for All.
<https://www.iotforall.com/podcasts/e270-how-iot-will-change-in-2023>
3. The Fourth Industrial Revolution: what it means and how to respond. (2020, September 22). World Economic Forum.
<https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>
4. Humblot, N. (2021, December 2). IoT and sustainable development. Ryax Technologies.
<https://ryax.tech/iot-and-sustainable-development/>

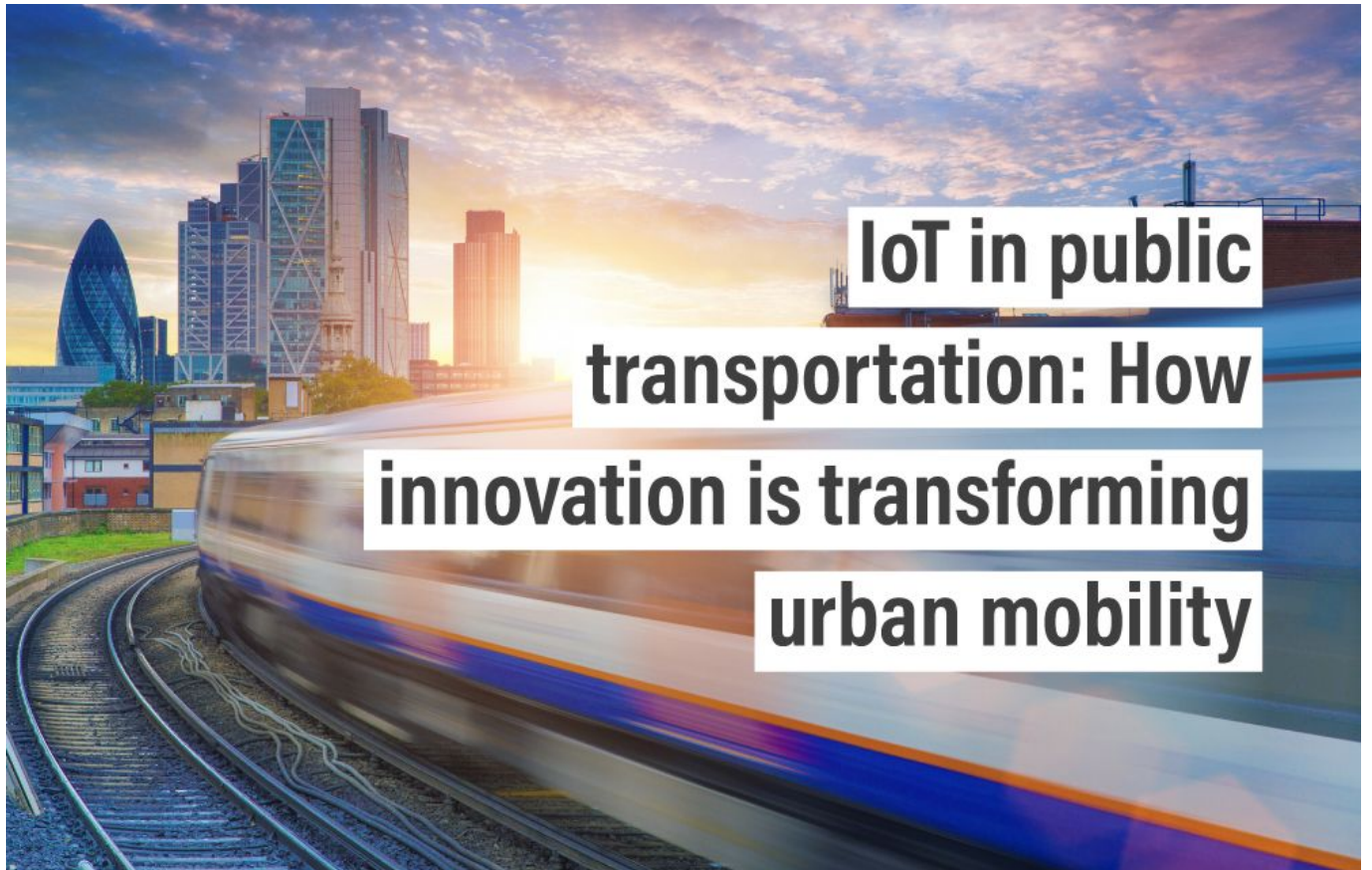
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