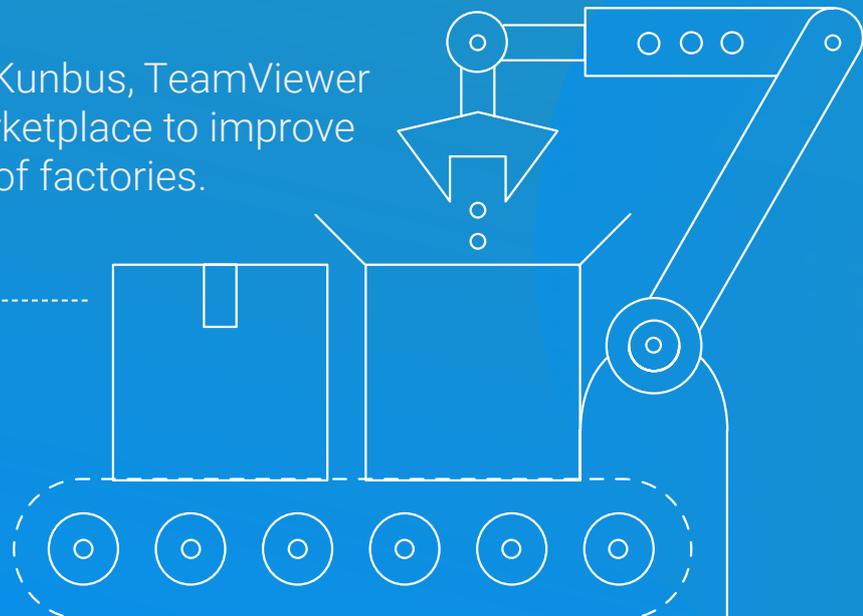
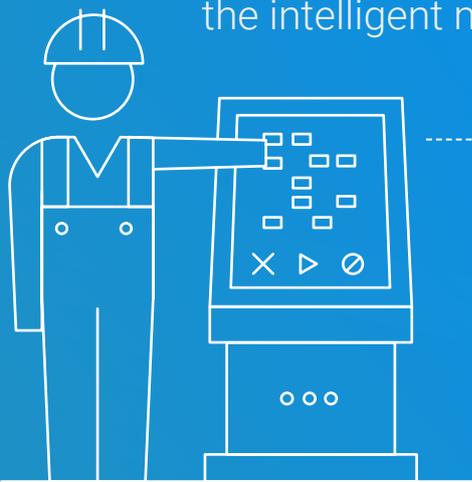
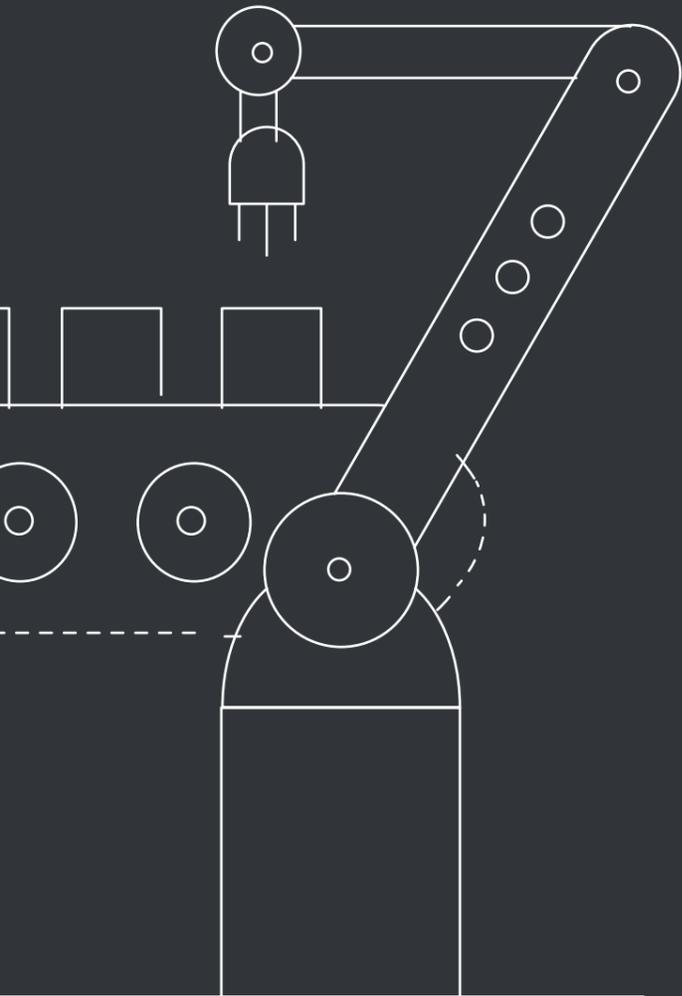


Making factories **smarter** with **TeamViewer**

Working in partnership with Kunbus, TeamViewer is extending into the IoT marketplace to improve the intelligent management of factories.



INTRODUCTION



Smart factories could add between

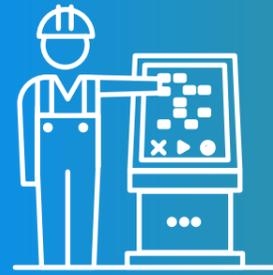
\$500 billion to \$1.5 trillion

in value added to the global economy in the next five years¹.

Manufacturers today need to focus on achieving higher levels of efficiency, productivity, reduced costs and finer accuracy. But how are traditional factories transforming into intelligence centers of innovation?



DECREASED REVENUES, FUTURE-PROOFED FACTORIES



We're now entering the fourth wave of industrial revolution, thanks to greater business demands and the power of data.

In answer to the decreasing revenues of building machines, the manufacturing industry is under pressure to innovate. New ideas are needed to generate revenue streams, keeping the industry competitive in the digital age. Digitization, in short, is the solution to this urgent requirement.

We're now entering the fourth wave of industrial revolution, thanks to greater business demands and the power of data. New business objectives, automation and the Internet of Things (IoT) are the driving forces behind this new focus and are opening up

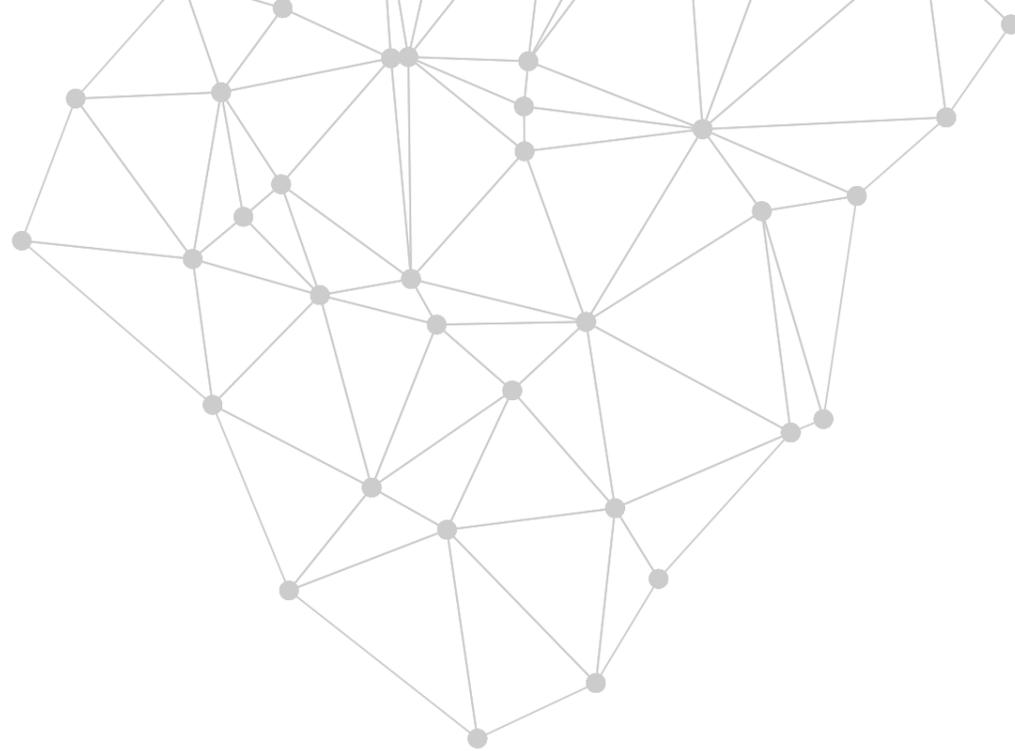
opportunities for increased profitability, better quality goods and faster production.

Factory IoT involves sensors, actuators and whole machines. By connecting these to the internet, large amounts of data – whether from local locations or more globally dispersed origins – can be collected. This big data provides analytical and actionable insights, giving rise to creativity around agile business models.

Keeping digital and automation at the heart of a factory will certainly future-proof it, but integrated solutions need to be put in place to make sure all devices and machines, inside and outside of the factory, are connected and communicating effectively.

MAXIMIZED SERVICES, VALUE-ADDED FACTORIES

Factories are no longer about single sales of hardware or software. Instead, it's about creating recurring revenues and adding services. The value of smart factories doesn't just come from connected machines and an improved human-to-machine interface. It also comes from the manufactured products themselves.



Smart factories, with the right IoT solution, play a big role in the lifecycle of products. Gathering real-time, big data helps to inform decisions along the whole process from deciding what's being manufactured, what design it should have and how to service the device correctly after it has been dispatched. Smart factories are more than just the buildings themselves. Smart factories are about:

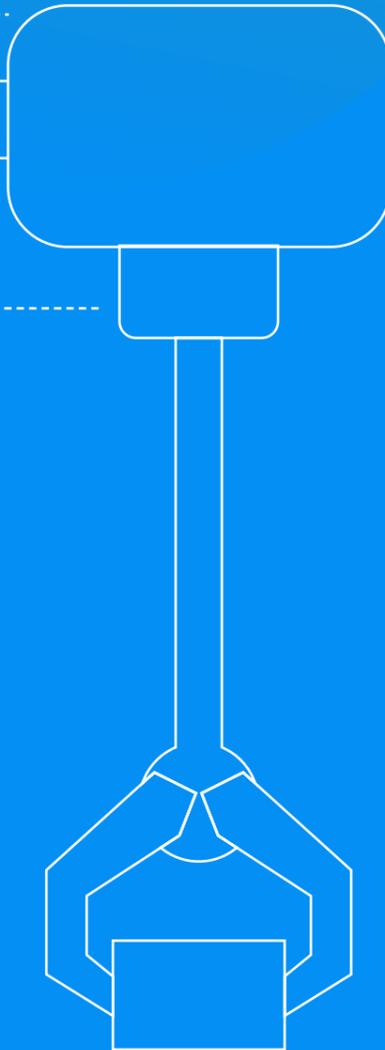


Delivering an excellent customer experience.



Creating a seamless device experience during its lifecycle.

MACHINE MALFUNCTIONS, ELIMINATED DOWNTIME



Factories belong as much to the past as they do the future. As the industry begins to turn its focus towards the role of IoT, it cannot leave old machines behind.

Replacing existing machines can drain profitability and drastically impact the operations within factories. Manufacturers must find a way to modernize the machines they have available.

Machine malfunctions can be even more problematic. In this event, a machine operator will have real-time access to the machine but is unlikely to have the technical knowledge owned by the manufacturer. The issue at this stage is unresolvable, hindering production and causing inaccuracies throughout the process. To get the machine up and running again, the operator will need to consult a third-party for the solution, causing further delays, business downtime and profit loss.

KUNBUS'S IOT CONNECTIVITY SOLUTION

So how can owners overcome this problem of 'retrofit'? Revolution Pi (RevPi) Core from Kunbus is an industrial controller which uses a built in web server as its user interface. It offers a

comprehensive connectivity solution to old machines and is the perfect solution for factories that need to retrofit IoT with older machinery and introduce automated intelligence.

The user interface can be used with browsers running on locally connected PCs. This gives customers the potential to start mining data from machines. Being an open source project, RevPi allows anyone in the manufacturing industry to contribute creative ideas to a wider community. Solving issues becomes a shared knowledge practice and the role of RevPi becomes even more central to smart factories.

This collaboration has become particularly useful in the face of globalization. Factories, and the processes happening within them, are often dispersed. An operator may need data from a machine on the other side of the world or they may even need to

fix an issue outside of their local area to keep the production line moving.

Data needs to be exchanged in real-time, problems need to be rectified quickly and this needs to be achieved with minimal human intervention. How? That's where IoT and the right support solution comes in.

The manufacturer or maintenance provider, with the correct permissions, can access data from the machine and intervene directly when something goes wrong or be proactively when it looks like an incident is about to occur. And they can do this with just a few clicks of a button, from wherever they are, on whatever device they're using.



WHY TEAMVIEWER?

Without TeamViewer, Kunbus's customers are only able to use the web server UI of RevPi Core.

The connectivity to browsers running on local PCs is not enough for customers looking to innovate their business models and benefit from new revenue streams. As a result, RevPi Core integrates with a remote monitoring and support solution that can offer reliable scalability.

This integration means customers can channel the web server UI to any place in the world, giving them to chance to remotely access, monitor and control machines. This enhances continuous and reliable communication between different industrial networks and systems. Operators and gateway managers can act more quickly, with the

right information, when an issue arises.

Even better, the partnership between Kunbus and TeamViewer empowers customers to act more proactively, thanks to:



Integrated dashboards providing instant access for control, data capture and support.



Advanced device behavior analytics such as dynamic thresholding.



Intelligent notifications, alerting and reporting.



Visibility of a machine's current and future states.

TeamViewer's ability to protect data exchanges from breaches, hacks and malware is a key takeaway for Kunbus.

This best-in-breed solution utilizes RSA 2048 public/private key exchange, AES (256 bit) session encryption end-to-end and access controls via trusted devices as well as black- and whitelists.

User management is a vital feature for use within factories as information is often shared throughout the supply chain and with other third party members. To ensure privacy is protected for the business and its customers, RevPi with TeamViewer offers user management, authentication and control features. With the right permissions

set, information is shared with and accessible only by the approved user.

The remote support solution offers overwhelming performance and security to Kunbus's customers. In tests carried out by the company there has been no visible time delay between a local connected browser compared to a remote browser connected via TeamViewer over the internet.

Already well known within its customer base, there is huge confidence in TeamViewer products and in the security of an IoT solution based on TeamViewer technology.

STRONGER PARTNERSHIPS, SMARTER TEAMS

Discover how you can confidently connect, monitor and control devices in the era of IoT.

[EXPLORE TEAMVIEWER](#)

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“We definitely benefit from the excellent coverage of the TeamViewer trademark. Our experience with the technical team is very positive. A minimum effort from our side was necessary to get a perfect result.”

*Dr. Volker de Haas, Project Manager Revolution Pi,
KUNBUS GmbH*

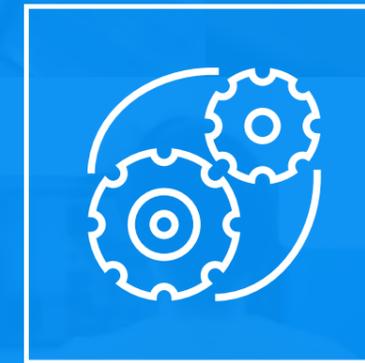
TAKEAWAYS



Smart factories, making use of IoT, could add \$500 billion to \$1.5 trillion in value added to the global economy in the next five years.



Kunbus, through its partnership with TeamViewer, can offer its customers the best in security, remote support and remote access.



Remote support applications can improve the operational processes within smart factories, giving operators the ability to resolve issues in a simple, secure and efficient way.

SOURCES

¹ Smart factories could add between \$500 billion to \$1.5 trillion in value added to the global economy in the next five years - https://www.capgemini.com/resource-file-access/resource/pdf/smart_factories-how_can_manufacturers_realize_the_potential_of_digital_industrial_revolution.pdf



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