

# SUSiEtec – The Application Ready IoT Framework

*Create your path to digitalization  
while predictively addressing  
your business needs*

# Industry 4.0 trends and vision

Transform every aspect of the manufacturing process with the integration of digital and physical systems with digitization. Digitization offers the opportunity for manufacturing organizations to improve visibility, increase efficiency, add flexibility, thus lowering risk and cost.

## Our initiatives

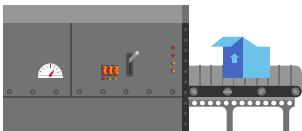
**Based on our understanding of your priorities, we see an opportunity to help you with:**

- Gain insights that you can use to make your manufacturing operation faster, more efficient, and more flexible
- Conduct connected-equipment simulations to help you explore your options in a low-risk environment
- Implement a solution which allows you to connect equipment without taking it offline and at your own pace
- Gain real-time visibility into performance indicators that is readily available through intuitive, visual dashboards which enable better, faster decisions both at the plant and corporate levels
- Optimize tasks such as anomaly detection, benchmark and performance monitoring, as well as staffing and training processes through improved data collection and visibility
- Expand your project – from a new assembly line to the entire plant, and beyond
- Provide secure access for employees anytime and anywhere

## Your business transformation in Industry 4.0

To remain competitive, manufacturers need to continue to innovate with cutting-edge technologies, but they also need to ensure they are protecting their valuable IP. In this era of digital transformation, manufacturers across industries as diverse as the automotive, aerospace, industrial and high-tech sectors are evolving to stay competitive while offering the best possible products to their customers.

By digitally transforming your business, you will:



Monitor performance, optimize operations and solve problems remotely.

Experiment with simulated data without disrupting production.

Detect anomalies and enact operational changes.

Seamlessly scale and extend the solution according to evolving needs.

Work with the existing equipment and capabilities, saving time and money.



# Power the next generation of Intelligent Devices

Bringing together all your people, devices, data and services is no small task. Using Microsoft's Internet of Things (IoT) platform together with SUSiEtec can leverage existing IT investments while starting down the digital enterprise path.

## Windows 10 IoT: Powering the Internet of Things

Windows 10 simplifies the Internet of Things by powering smart devices that bring intelligence to the edge and the cloud for deeper insight. Now you can harness data that empowers employees, drives customer engagement, unlocks new products and business models, and streamlines operations in the most secure way.

From small devices like gateways to powerful industry devices like robotics and specialty medical devices, Windows 10 IoT offers a converged platform for devices and systems to natively connect, enabling powerful machine-to-machine and machine-to-cloud scenarios.

### Why choose Windows 10 IoT?



#### Secure, manage and control

Control your device environment with robust built-in management and security tools, supported by the world-class **Microsoft update infrastructure**.



#### Fast track your innovation

Innovate and get to market faster with powerful and familiar Windows development tools. With a modern application platform, you can streamline your development cycle and maximize investments with **Universal Application Platform (UWP) apps** and reusable code.



#### Optimize your edge and cloud intelligence

Leverage Microsoft edge intelligence for optimal balance across networks and device environments. There is an option to **add the power of cloud intelligence to build an end-to-end IoT solution**.

### Bringing IoT to life with two options

#### Windows 10 IoT Enterprise

Windows 10 IoT Enterprise is a full version of Windows 10 that delivers enterprise manageability and security to IoT solutions. It is designed for powerful industry devices used in retail, manufacturing, healthcare, and other industries. Note: Windows 10 IoT Enterprise is a binary equivalent to Windows 10 Enterprise



#### Windows 10 IoT Core

Windows 10 IoT Core is available to all device builders and ecosystem partners. It is optimized for small & low cost IoT devices and supports a single UWP App experience.

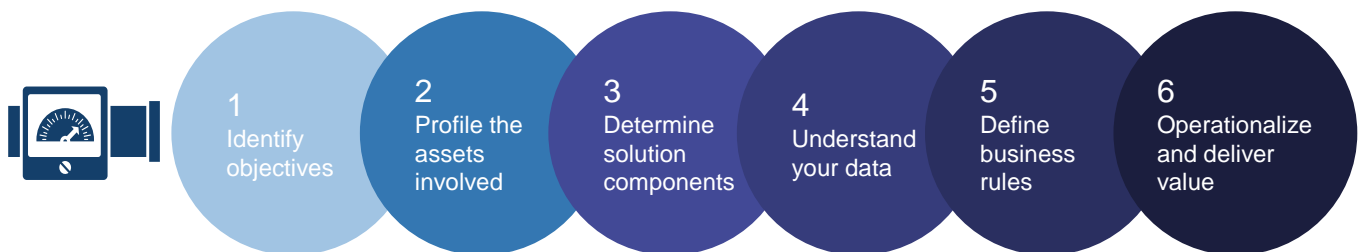


# Monitor thousands of devices located around the world without physically inspecting them

Imagine your assets had eyes and ears and could talk to you in real time. That's what IoT-driven remote monitoring offers. It involves collecting data from assets and using that data to trigger automatic alerts and actions, such as remote diagnostics, maintenance requests, and other operational processes.

## Transform your business with remote monitoring

Manual, time-intensive procedures can now be dynamic, rapid, and automated, and assets located nearly anywhere can be monitored from afar. With live data from smart sensors and devices, you get better visibility into operational status, and can quickly automatically respond to current conditions.



## What are the benefits for manufacturing in Industry 4.0?



The introduction of the Internet of Things (IoT) in the manufacturing and resources environment is ushering in the Industry 4.0 era. While the first three human revolutions took place due to advancements in mechanization, electricity, and IT, we are now poised at the beginning of a digital revolution - Industry 4.0. **There is new opportunity for business leaders to drive efficiency and process improvements by converging physical and digital systems.** The integration of physical assets with people, data, and business systems will fuel a digital transformation and become the catalyst for digital business.

By leveraging Industrial IoT, you can **transform your operations** by gathering information, analyzing data, and setting up KPIs. As a next step you can leverage machine learning and predictive analytics to identify patterns and make intelligent, proactive decisions.

**Driving your business with insight can lead to delivering operational excellence, faster innovation, and creating new sources of revenue.**



# Key innovations fueling Digital Transformation

It has been over a decade since the cloud started dominating the IT industry and is now part of the standard repertoire for every IT executive. The miniaturization drives for higher computing power, the Internet of Things' exponential growth of data volumes, and the further spread of Ethernet and web standards are moving traditional IT – and with it, the cloud – even closer towards industry and manufacturing: Information Technology (IT) and Operational Technology (OT) are merging.



Industrial IoT applications often control expensive equipment, essential to the operation of a business. Safety of both employees and the public is paramount. Decision-making at the right place with the right and reliable information available in real-time reduces inefficiency and increases profitability.

With everything connected in today's industrial IoT applications, the boundaries between an information technology (IT) and operational technology (OT) network become physically non-existent. Security, availability, and scalability are achieved by integrating IoT capability into IT best practices, virtually managing devices and configurations while maintaining real-time awareness.



# Edge Computing and its growing importance

For many companies it still feels safer to store most of their data in-house, so instead of “Everything in the Cloud”, the motto “Only what is necessary in the Cloud” applies much more.

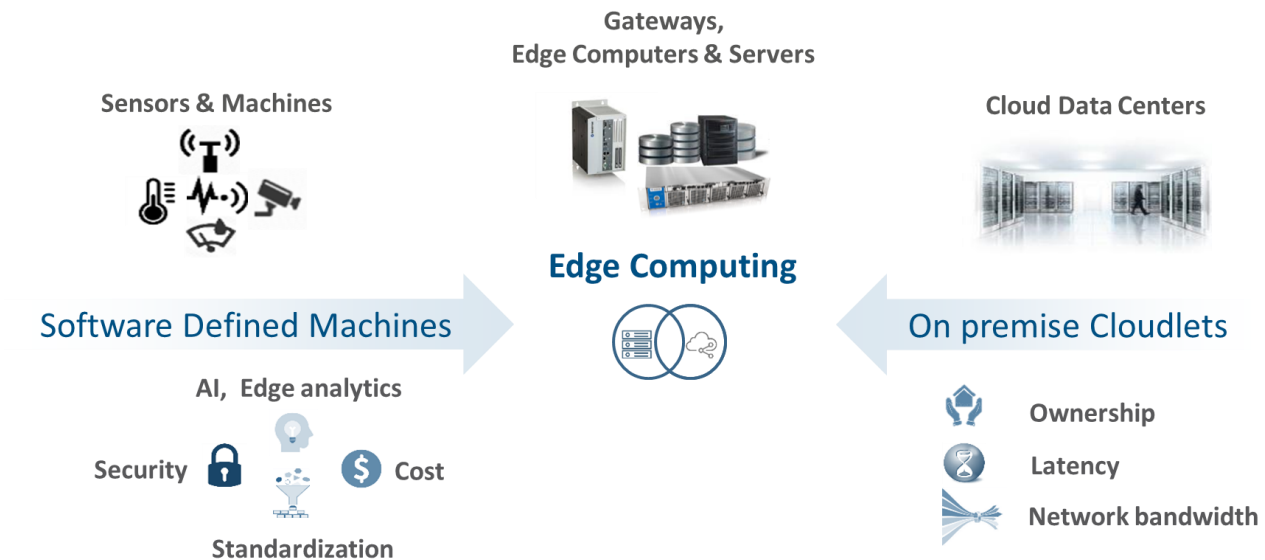
## On the clouds’ physical border

There are physical limitations that even modern IT and the cloud cannot ignore: **latency times** foremost among them, which preclude machine control in real time, as well as **data volumes**: their cloud-based transmission, evaluation, analysis, and retransfer to their point of origin just takes too long.

In addition, this raises the question of securely **available bandwidth for transmitting data** into the public cloud as well as the general availability not only of cloud infrastructure but of transmission channels as well.

Finally, the **security aspect** is another one to take into consideration when deciding for or against public cloud solutions. In Industry 4.0 settings, the protection of personal data is less of a concern, but still many companies deem it critically important that their data doesn’t leave the premises to be transferred into a cloud subject to foreign legislation.

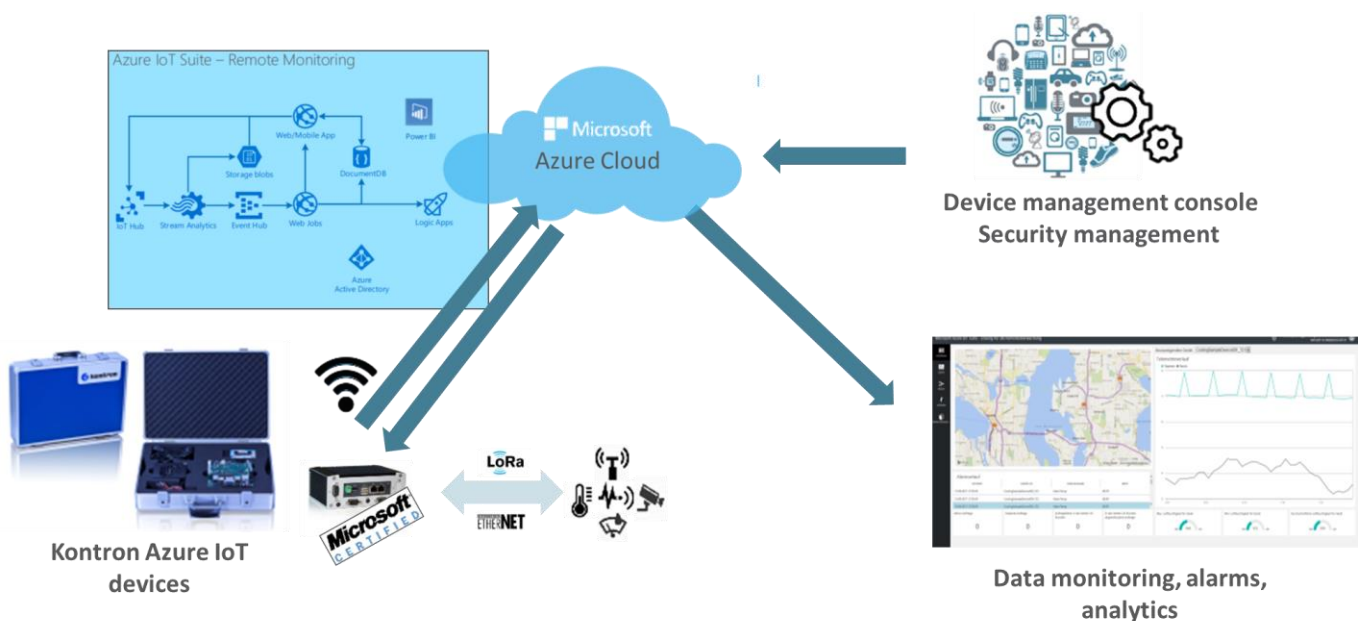
Despite all of this, the advantages of moving IT including cloud concepts closer to the machines outweigh the problems. To this end, new architectures have been developed, which offer the advantages of the cloud on one hand, while on the other meeting “edge of the net” industrial requirements. This is the birth of **Edge computing**.



Edge computing means providing computing- and storage capacity by intelligent IoT devices prior to the entry into the network, close to the data’s point origin, and enables the rapid collection, storage, processing, and analysis on-premise. If necessary and as required, filtered and less time-critical data can be moved to a public cloud.

# Piecing together the Edge and Cloud puzzle

There is a frantic effort to update IT standards to suit machine- and manufacturing requirements; the ultimate goal is to realize the vision of seamless connectivity from the factory floor to the office door, from the machine operator all the way to the chief executive.



## Where the cloud enters the factory

One of the new challenges arising through the use of edge-, fog-, and cloud architectures is the connection of components to each other and to the public cloud.

An important element of developing a solution capturing all pieces is the **IoT Framework SUSiEtec**. Within Industry 4.0 applications, it connects all the components and provides analysis and processing of the data generated. **SUSiEtec dissolves the traditional border between data generation, processing, and provision, enabling the fusion of IT and OT.**

**SUSiEtec Edge computing uses the local network's processing power to control time-critical processes right on site.** Data gets buffered locally, compressed, and handed off to the cloud according to pre-defined rules. This enhances process security, reduces bandwidth demands, and lowers operating costs, thus meeting the real-time demands of industrial IoT.

SUSiEtec enables companies to adopt a **hybrid, scalable approach** to their IoT scenarios combining the advantages of an on-premise solution with professional cloud infrastructures.

To meet this end, **SUSiEtec is completely integrating Edge devices (Microsoft Azure-certified), Gateways, Fog Computing and Server products with the cloud infrastructure.**

# Create and Digitalize the Internet of Your Things with SUSiEtec and Azure

SUSiEtec and Azure IoT bring the Internet of Your Things to life. Connect your devices, analyze previously untapped data, and integrate business systems. Most of all, transform your organization by uncovering new business models and revenue streams.

## Key capabilities offered

### Connect and scale with efficiency

Quickly get started and scale your IoT project to your business needs. With worldwide availability of the Microsoft Cloud Platform, you can be confident that SUSiEtec will meet your needs - no matter the size or location of your IoT project.

### Analyze and act on new data

Analyze and mine disparate data to create new insights and predict future outcomes. Analyze data that has been acquired over a long period of time to find patterns and correlations to uncover trends that offer new insights about how your products are used or how they behave under certain conditions.

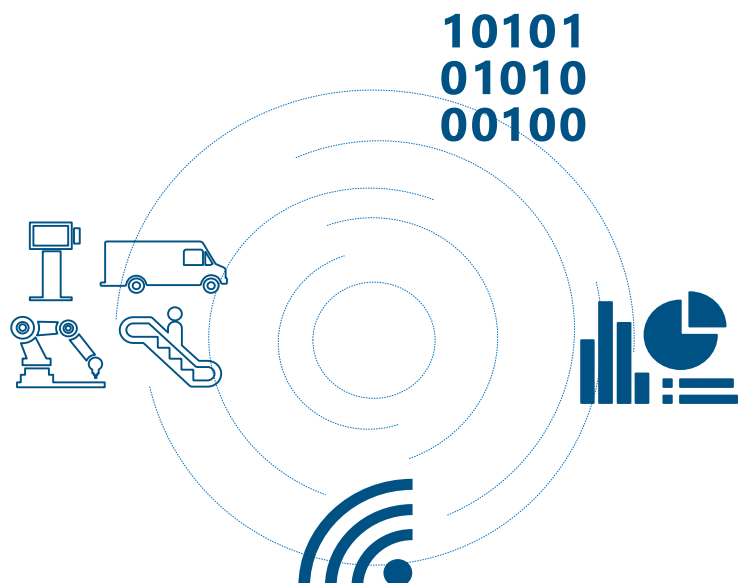
### Integrate and transform business processes

SUSiEtec is designed to integrate with your existing processes, devices, and systems to enable you to automate common workflows and unlock new value by making the best use of both existing and new data sources. You can connect your people, processes, assets, and systems to create opportunities to innovate and transform your business.

## The Internet of Things starts with your things, connectivity, data, and analytics

Our focus is to provide you with the best platform to build an enterprise-grade IoT solution and help you to:

- Enable connectivity to both existing and new devices.
- Facilitate new insights by harnessing power of untapped data.
- Realize value faster with a quick and easy solution development.





# Transform Your Data into Intelligent action

Speed up the data-to-insight process with the end-to-end IoT Framework SUSiEtec

**Information management:** manage all your on-premises and cloud data.  
Connect, prepare, orchestrate, and monitor information at scale with data from websites, apps, and devices.



**Big data store:** scale to petabytes on demand.  
Centralized repository of structured and unstructured data with elastic scale for enterprise-wide analytics.



**Machine learning and advanced analytics:** predict outcomes and prescribe decisions.  
Powerful machine learning and Hadoop-based advanced analytics for driving action in real time.



**Dashboards and visualizations:** bring your data to life.  
Transform data into rich visuals for you to organize and share so you can focus on what matters to you.



**Intelligence:** interact in natural ways with agents and cognitive APIs.  
Augment your users' experience, customize responses, and drive appropriate actions with intelligent agents.  
Enable your solutions to see, hear, speak, and interpret the world around you.



# IoT projects can be complex - We can help

You want to leverage the Internet of Your Things to improve efficiency, enable innovation, and transform your business? However, IoT projects are complex; they often extend over long timelines, they are hard to scale, and they can be difficult to customize.

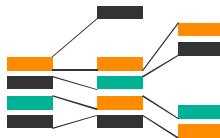
## Partner with Kontron S&T for your IoT Digitalization strategy

We can help you overcome these obstacles and ensure a successful IoT strategy with our proven technology and diverse ecosystem of partners and solutions.

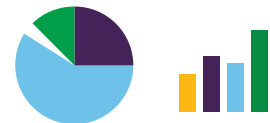
Connect and manage all of your devices, on any platform, with efficiency.



Analyze and act on existing and new data with real-time analytics solutions.



Deliver real-time insights to the users and business systems that use them to transform processes.



## Reduce complexity and transform with SUSiEtec and Azure IoT Solution Accelerators

### Utilize a comprehensive solution

With our end-to-end IoT Framework and the Azure Solution Accelerators, we give you a very comprehensive solution that's designed to help you connect your devices, whether a few hundred or millions across the world, analyze all the data coming from these devices and take action from the insights by integrating with your back-end systems.

### Accelerate time to value

One of the biggest areas of value we provide is helping you develop your IoT solutions faster. This will not only allow you to do more PoCs and pilots, it will also help accelerate the long project cycles.

Our commitment is simple – to help you improve operational efficiency, enable innovation, and transform business processes by helping you implement a comprehensive IoT strategy faster and with lower investment but customized to your needs.



Learn more about SUSiEtec  
[www.kontron.com](http://www.kontron.com)



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