A Guide to Industry 4.0

An overview of Industry 4.0 and the importance of the SmartControl Touch
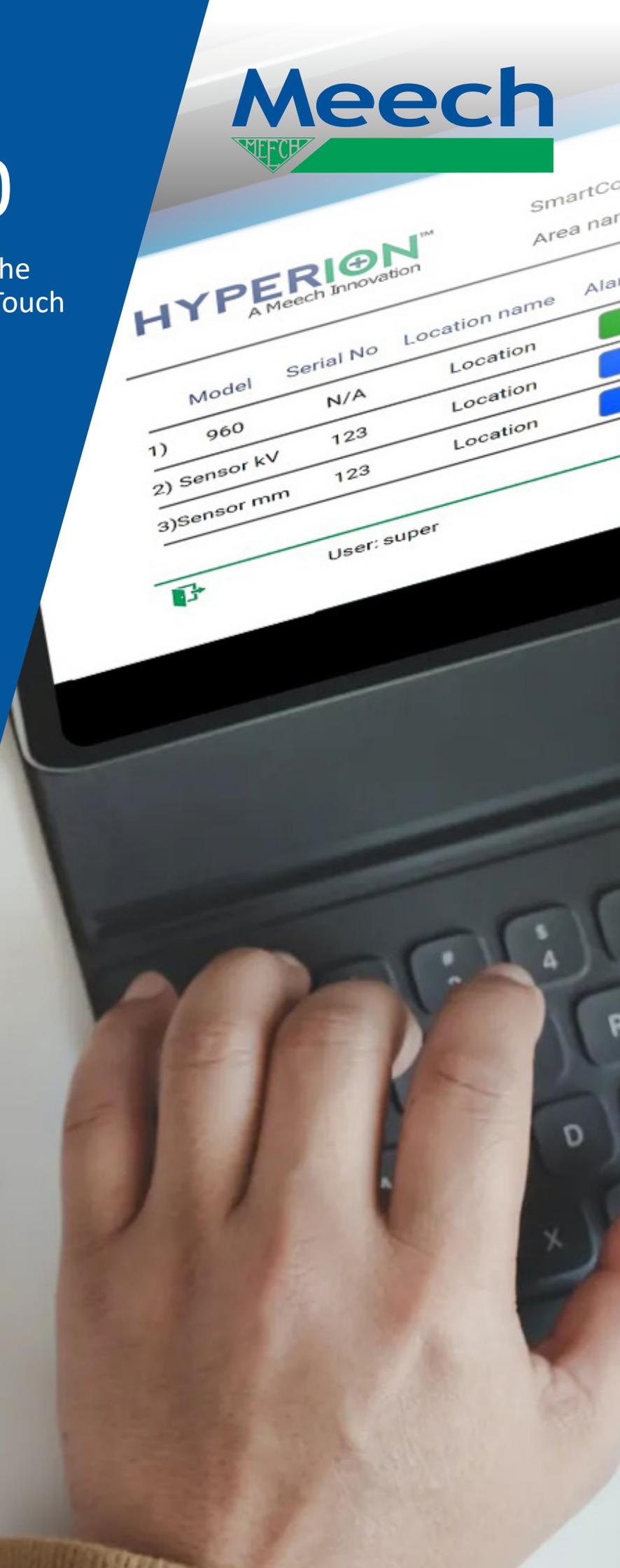
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What is Industry 4.0?

The term Industry 4.0 is used to describe the fourth industrial revolution.

The concept refers to the implementation of high-tech and digital transformation. It is driven by a need to boost efficiency, become more agile, improve quality and to enable new business models.

The Evolution of Industry 4.0

Industry 1.0	**1784** Mechanisation, Steam Power, Weaving Loom
Industry 2.0	**1870** Mass Production, Assembly Line, Electrical Energy
Industry 3.0	**1969** Automation, Computers and Electronics
Industry 4.0	**TODAY** Cyber Physical Systems, Internet of Things (IOT), Networks

The 9 Pillars of Industry 4.0

The complexity of Industry 4.0 is broken down into 9 pillars/elements.

The following nine pillars are familiar concepts used in industries, especially in manufacturing. They are the nine advancements in modern technology that form the foundation of Industry 4.0.

The Foundations of Industry 4.0

1. Big Data:
Big data can be used to identify trends, patterns and relationships between inputs, processes and outputs, enabling improvements to be made across a number of manufacturing platforms.

2. Augmented Reality:
Augmented reality allows for augmented imagery to be placed in front of the real-world. Used to showcase what products would look like to customers without creating a physical copy.

3. Simulation:
This is a form of imitation of a situation, process or environment. Many companies all over the world within a vast range of industries are starting to utilise virtual realities within their own businesses.

4. Internet of Things:
The Internet of Things involves connecting the internet to everyday items in order for them to send, receive and process data.

5. Cloud Computing:
Using a network of remote servers to store, manage and process data. This allows manufacturing businesses to bring their own intelligence and knowledge to all sales situations.

6. Cyber Security:
Most manufacturers will want to protect their most valuable data including intellectual property, data on customers and their products.

7. Systems Integration:
This technology allows for different computer systems to be linked together, enabling actual communication and the passing on of data between systems.

8. Additive Manufacturing:
Digital 3D design data is used to build a component in layers by depositing materials.

9. Autonomous Systems:
Autonomous technology allows for machinery and robots, to act and behave autonomously after being programmed to do so.

Benefits of Industry 4.0

The main benefit of an Industry 4.0 system is the ability to create centralised decision making without relying on the traditional type of physical approach.

Here are the main benefits of Industry 4.0 to production lines and businesses, and how the SmartControl Touch contributes to them.

Reduced Costs

- Real time production monitoring and control
- Predictive maintenance
- Automation and 3D Printing
- SmartControl will allow you to increase productivity and monitoring, ultimately reducing downtime, failure rates and costs

Innovate Faster

- Remote expert and collaboration technologies
- Full visibility
- The state of the art technology from the Smartcontrol Touch allows full control and visibility of local static control

Quality Control

- Reduce or eliminate customer returns with real-time quality control
- Reduce costs with less wasted material
- SmartControl Touch contributes to the increase in quality control on production lines through fast, accessible monitoring of ionisation

Improve OEE
(Overall equipment effectiveness)

- Predict and prevent unplanned downtime
- Optimise equipment effectiveness and maintenance
- SmartControl logs performance data and gives alerts to allow predictive maintenance to keep machinery optimised and running well

How can Meech help?
The New Hyperion SmartControl™ Touch

SmartControl Touch harnesses the power of Industry 4.0 within busy industrial environments.

The SmartControl allows advanced monitoring, control and easy adjustments to operating parameters, ensuring that connected static control equipment and in turn, products on lines are consistently running at optimum performance.

SmartControl Touch:

SmartControl Touch allows the user to monitor, control and adjust the performance of multiple connected compatible Hyperion ionising bars and sensors via the integrated touch-screen or remotely via a mobile phone, tablet, or remote desktop.

This means that at all times, the performance of the connect equipment may be monitored and optimised to achieve the best results, according to the application.

The ionising equipment's performance is easily tracked by the SmartControl Touch, which uses Meech's Ion Current Monitoring Technology allowing the user to monitor the ionising performance.

With the ability to connect 6 bars directly and an additional 24 bars using two expansion units (sold separately), SmartControl delivers exceptional central control.

Main Features and Benefits:

- **Touch-screen with User Friendly Interface** - Incorporated touch-screen which is clear and easy to use
- **Alarm output** - Contact free alarm output to signal alarm status
- **Data Logging** - can be viewed on screen in graphical format or exported in CSV format for additional analysis
- **Sensor and Voltage Compatibility** - For more accurate neutralisation of all charges on the material.
- **Monitoring and Control** - Make quick and easy changes to connected devices

To find out more about the SmartControl Touch, please contact us or visit our website.

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