

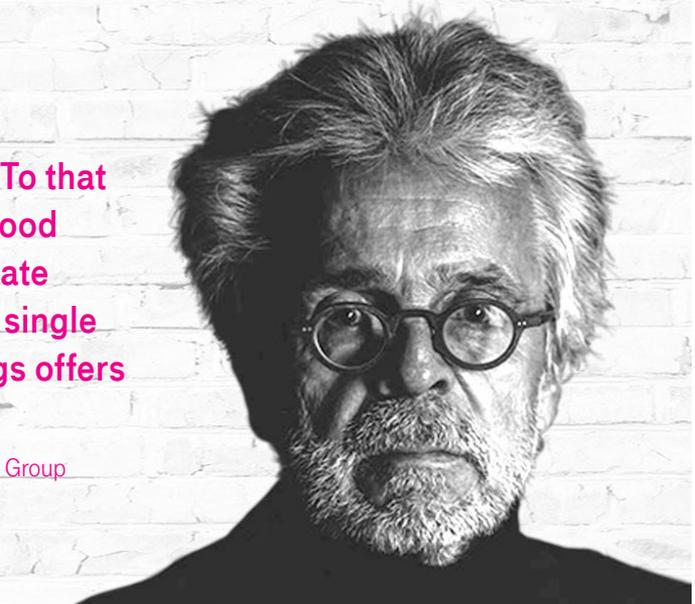
Reference project

CHECK CLOUD

Get organized for better food.

“What we are trying to do is reduce waste. To that end, we are looking to organize the entire food production process, from the field to the plate including cooking and transportation, as a single interconnected chain. The Internet of Things offers us the chance to do that.”

Max Maier, Owner of Check Services GmbH & Co. KG and Max Maier Group



CHECK SERVICES PROVIDES A DIGITAL FOOD SUPPLY CHAIN

TRANSPORTATION CONTAINERS EQUIPPED WITH SENSORS RECORD FOOD QUALITY DATA AND AID COMPLIANCE WITH HYGIENE STANDARDS.

Food producers are subject to strict regulations imposed by the FAO/WHO. It has devised the HACCP (Hazard Analysis and Critical Control Point) concept as a means of assuring food safety. This provides a method of risk analysis by identifying and managing critical control points in relation to food safety and hygiene. The primary aim is to protect consumers' health. CHECK Services and its owner Max Maier want to realize the vision of a transparent process chain in the food and catering industry.

Together with T-Systems, the provider of kitchen technology and catering services is developing IoT-based solutions, by which the quality of processed food and supplied meals can be digitally recorded and assured. The sensor-equipped transportation containers record hygiene-related

data and upload it to an IoT platform in the Telekom Cloud, where it is processed and analyzed. Additional critical control points can be quickly and easily set up using the CHECK CLOUD APP and manual measurement and hygiene data can be recorded and transmitted from them in real time. QR codes on the filled containers allow for unique identification of the control points along the process chain. Catering businesses are provided with a system, which enables them to assure compliance with their legal control obligations as well as providing them with an overview of quality and health-related process data. In the future, Max Maier is looking to implement the idea that “customers in a canteen will be able to check the ingredients and allergens in every dish by way of an app and a QR code”.

THE REFERENCE IN DETAIL

AT A GLANCE.

- Digital capture and documentation of hygiene data of goods in transit, including food
- Transportation containers and cold stores equipped with sensors to measure data such as temperature
- Control points can be easily set up and documented using QR codes
- Data is transferred to a T-Systems IoT platform in the Telekom Cloud
- Creation of control and measurement points and input of data via a special app
- Documentation that stringent hygiene standards are being met can be created digitally and in a form recognized by regulatory authorities
- Existing paper-based processes are fully mapped in digital form
- Compliance with German/European data security and privacy laws
- The long-term goal is transparent traceability of food in real time

THE CUSTOMER.

CHECK Services GmbH & Co. KG is part of the Max Maier Group, as is Rieber GmbH & Co. KG. Rieber is a leading vendor of kitchen systems for professional catering and private households. It employs some 600 people at four production sites in Reutlingen and Trebbin, both located in Germany. It has sales subsidiaries in Austria, Switzerland, the Benelux countries and the UK. The group has been headed since 2005 by owner, innovator, strategist and visionary Max Maier.

THE TASK.

The businesses headed by Max Maier are committed to promoting the responsible use of resources, assuring food quality all the way until the time of consumption, and encouraging people to eat healthily. The group's portfolio includes products covering the entire food supply chain: from the correct storage of fresh ingredients in cold stores to the preparation process and appropriate cooking to delivery and dispensing of meals at the point of consumption. To that end, Max Maier wants to realize the vision of a transparent process chain in the food and catering industry. The means to realize it include a multi-manufacturer platform, by which quality-related data from throughout the production and transportation process can be recorded, displayed and made transparent. Max Maier has already come up with his next idea: "We want customers in a canteen to be able to check the ingredients and allergens in every dish by way of an app and a QR code."

HYGIENE
Logging



TEMPERATURMESSUNG
according to HACCP

THE REFERENCE IN DETAIL

THE SOLUTION.

Together with T-Systems, the provider of kitchen systems and catering services has developed an IoT-based solution, by which the quality of processed food and supplied meals can be digitally recorded and assured. The CHECK CLOUD digitalization and organization system by CHECK Services enables hygiene standards and temperature of raw foods and cooked dishes to be digitally monitored and documented all along the food processing and transportation chain. The system will be expanded to integrate automatic sensors, including in cold stores and transportation carts, as well as by connecting existing kitchen equipment such as combination steamers and dishwashers.

QR codes allow for the easy setup and unique identification of control points along the food production chain from delivery of the ingredients

until consumption of the ready meals. The necessary temperatures and hygiene conditions can be documented in seconds via an app by scanning the QR code and assigning temperature measurements via Bluetooth core temperature sensors and recording hygiene conditions. The data is uploaded to Telekom's multi-IoT service platform for processing. The results are presented on a web interface. Any irregularities are highlighted, and overview reports can be printed out.

Future upgrades to the CHECK product range will include the integration of automatic sensors and the exchange of process-related data with equipment manufacturers and ERP systems used in the catering sector. Also, tracking systems will be integrated into a practicable process in order to establish recycling systems for reusable containers.

CUSTOMER BENEFITS

The IoT solution improves food quality, enhances process efficiency and permits tracking of reusable systems. With this full transparency throughout the food supply chain, the Max Maier Group is able to digitally document compliance with safety and hygiene standards, therefore assuring adherence to strict regulations governing food safety and hygiene, and safeguarding quality across the board.

T-Systems has developed the platform in its entirety, as well as creating the special setup and data capture app. It also assures data privacy in accordance with German and European law, implements IT security, has provided the necessary communications infrastructure for data transfer, and operates the IoT solution. The recorded data is uploaded securely to the cloud, where it is processed, analyzed, made available to users, and managed. T-Systems is managing this intelligent data chain end-to-end, dynamically adapting it so that in the future it will be possible to link data from the food production chain with other data to create new services.

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