Press Release

Konica Minolta focuses its research on Internet of Things (IoT) and joins LoRa Alliance™

Langenhagen, Germany, 10 February 2017

Konica Minolta Inc. joins LoRa Alliance™ to make a further step to securely link the physical and digital world in the future workplaces. LoRaWAN™ technology will provide wireless connectivity for the sensor-enabled business process management systems currently being developed by Konica Minolta Laboratory Europe (KMLE).

The workplace of the future has become a key focus area for Konica Minolta, one of the leading providers in the area of IT services and production printing solutions. This future network of people, devices and spaces provides a significant opportunity for innovative technologies that offer effective solutions for management of information flows in the workplace. Therefore, Konica Minolta has become a member of the LoRa Alliance™, a non-profit organization dedicated to promoting the interoperability and standardization of low-power wide area networks (LPWAN) that drive the success of the Internet of Things (IoT).

Internet of Things and workplaces

“In the last decade, workplaces have started to evolve towards digitalization”, says Dennis Curry, Vice President and Director of Business Innovation and R&D Europe at Konica Minolta, “Such digital workplaces will rely on the availability of data and, more importantly, on the ability to analyze and produce meaningful and valuable insight from it”. This is why the research within Konica Minolta Laboratory Europe (KMLE) is focusing on integration of the physical world of people, devices and spaces at the workplace with the digital world of information management systems.

“Having members like Konica Minolta in the alliance ensures that the rapidly growing LoRaWAN™ ecosystem can offer end-customers the diversity of best-in-class options to suit their individual IoT requirements; from single system components to complete managed services and everything in-between,” said Geoff Mulligan, chairman of the LoRa Alliance™.

Konica Minolta Laboratory Europe and LoRaWan™ for business process management

LoRaWan™ is a long-range, low-power wireless transmission technology that is very suitable for interconnecting IoT devices in large buildings like schools, hospitals or manufacturing sites. KMLE envisions a workplace instrumented with battery-powered sensors communicating over LoRaWAN™ with customer’s information systems such as Enterprise Content Management (ECM) or Enterprise Resource Planning (ERP) systems provided by Konica Minolta. The sensors will be tracking both the resources and machines, as well as monitoring the environment, at the workplace, which in turn will support people in taking decisions about their work activities. The Process

Sensor developed by KMLE easily integrates with dokoni PROCESS, or other business process management systems, and thereby it enables our customers to further automate business processes that are specific to their industry.

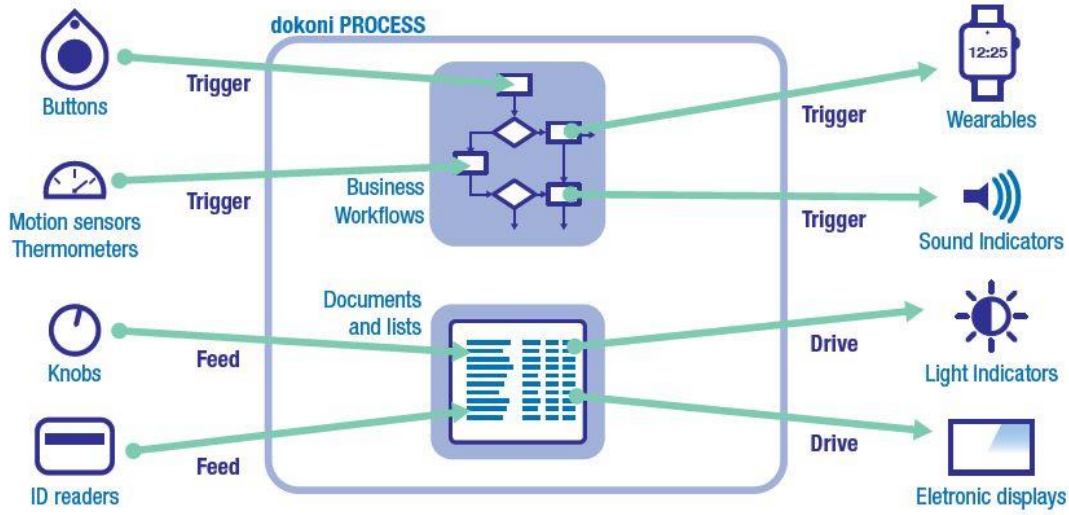

Figure 1 - The hardware components can be used as either an input to a workflow system, or as an output. Data provided by the sensors can be stored in dokoni PROCESS and then triggers workflows or populates information dashboards. Similarly, information stored in dokoni PROCESS can drive a display or other indicator.

"We hear our customers that are concerned with information confidentiality and integrity. We are convinced that LoRaWAN™ is well designed to withstand malicious activities. The LoRaWAN™ end nodes need no operating system and have no internet connectivity, which means they are much less vulnerable to cyber-attacks compared to internet connected devices," says Petr Gotthard, IoT Research Specialist at KMLE. The typical LoRaWAN™ network architecture has a star-of-stars topology in which gateways are relaying messages between end-devices and a central network server in the backend. Since LoRa™ can deliver messages over a long distance (outdoors over even few kilometers) it will be possible to have a small number of LoRa gateways to cover sensors in the entire building, so the deployment is very cost efficient.

Additional Material

- **"Follow your Path. Improving the precision of business processes with Internet of Things"** White paper is available at:
  http://research.konicaminolta.eu/pdf/KonicaMinolta_Follow_your_Path_IOT_WP.pdf
- **We would like to hear from you:** take part in our "Follow your Path" survey. The results from the survey will enable us to better define common patterns in business use cases to develop broader future solutions.
  http://research.konicaminolta.eu/follow-your-path-KonicaMinoltaSurvey.html

About Konica Minolta Laboratory Europe (KMLE)

Since its establishment in 1873, Konica Minolta has had a long history of innovation and is now expanding its business in various fields including the digital workplace, healthcare, sensors and information automation, and business technologies. For Konica Minolta, innovation and research are key elements for creating new value for society overall. With this ambitious objective, in 2015, Konica Minolta Laboratory Europe (KMLE) has been established as part of the Konica Minolta Corporate R&D. Having its headquarters in London and its R&D laboratory in Brno, Czech Republic, whilst in the first months of 2017 a second KMLE centre focusing on healthcare technologies will open in Munich, Germany.

Exploiting the long standing and robust experience of Konica Minolta, KMLE is the hub where innovative solutions in the field of information and communications technology come to life to transform the next generation of products and services from Konica Minolta. Leveraging on close collaboration with the Business Innovation Centre Europe and other external research organizations, Konica Minolta Laboratory Europe takes advantage of the most advanced technologies to support new business opportunities driven by innovation and customers' needs.

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About the LoRa Alliance™

The LoRa Alliance™ is an open, non-profit association that has grown to more than 400 members since its inception in March 2015, becoming one of the largest and fastest growing alliances in the technology sector. Its members are closely collaborating and sharing their experience to promote the LoRaWAN™ protocol as the leading open global standard for secure, carrier-grade IoT LPWA connectivity.

With the technical flexibility to address multiple IoT applications, both static and mobile, and a certification program to guarantee interoperability, the LoRaWAN™ is already being deployed globally by major mobile network operators and is anticipated to widely expand in 2016.

About LoRaWAN™

The technology utilized in a LoRaWAN network is designed to connect low-cost, battery-operated sensors over long distances in harsh environments that were previously too challenging or cost prohibitive to connect. With its unique penetration capability, a LoRaWAN gateway deployed on a building or tower can connect to sensors more than 10 miles away or to water meters deployed underground or in basements. The LoRaWAN protocol offers unique and unequaled benefits in terms of bi-directionality, security, mobility and accurate localization that are not addressed by other LPWAN technologies. These benefits will enable the diverse use cases and business models that will enable deployments of large-scale LPWAN IoT networks globally.

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