

Coor brings IoT to the office

Coor Service Management and Yanzi deliver Intel® technology-based solution to boost employee and business efficiency

Intel® Atom™ Processor
Intel® Xeon® Processor E5 Family
Intelligent Systems



Facilities management service provider Coor is collaborating with Yanzi and Intel to create an Internet of Things (IoT) solution that simplifies the office manager's job. The solution includes easy-to-install sensors that can be used to track office machinery, equipment and environments. A gateway powered by the Intel® Atom™ processor sends data to the cloud. Users can access, track and analyze it in real time through a single-interface dashboard application.

Challenges

- **Boost productivity.** Office inconveniences like empty printers and faulty equipment can negatively impact employees' ability to get work done. Coor wanted to eliminate these obstacles.
- **Apply technology innovation.** IoT solutions have been used to solve individual challenges in facilities management, such as monitoring paper towel dispensers.
- **Consolidate management.** Coor wanted to create a solution that would tie multiple IoT feeds together into one easy-to-install and user friendly solution.

Solutions

- **Handy devices.** Business users can install sensors and gateway devices provided by Yanzi and connect them with the flick of a switch, with a range of connectivity options.
- **Strong performance.** Intel Atom processors in the gateway devices provide the computing power needed to gather incoming data, normalize it and send it to the cloud, all under secure encryption.
- **Cloud connection.** Data from the system is stored in the cloud, powered by Intel® Xeon® processors E5 family, for review and analysis through a simple dashboard application on the user's PC or mobile device.

Impact

- **Productive workers.** Employees avoid unnecessary downtime due to imperfections in their office environment, potentially saving the company hours of productive time each week.
- **Efficient buildings.** Sensors enable better tracking of the environment and resources, so potential issues can be resolved more proactively and more quickly. Users can also monitor and optimize energy and space utilization.
- **Growth potential.** Coor expects to add further use cases over time in collaboration with other ecosystem members.





“Combining Internet of Things with an innovative horizontal approach, and technology from some leaders like Yanzi and Intel, gives us a compelling new offering to take to our clients.”

Fredrik Sandquist,
Head of Innovation,
Coor Service Management

Facilities management specialist creates horizontal IoT solution to boost efficiency and productivity

The perils of lost productivity

As the cost of office real estate across Europe continues to rise, and pressure on businesses to optimize productivity becomes ever greater, making efficient use of company resources is a priority for many. Managers use a variety of technologies and processes – from the latest office equipment to logistics and operational optimization – to help their employees work smarter and faster, and to make sure that investments in offices, warehouses and other sites are generating sufficient return.

Keeping all these solutions running requires a lot of work behind the scenes. “Think about when you go into your office in the morning,” says Fredrik Sandquist, head of innovation, Coor Service Management. “You expect everything you need during your work day, whether it’s the projector in the meeting room or the towel dispenser in the washroom, to be functioning properly. If it’s not, it can create inconvenience and delays, which mean your productivity can drop. This is where facilities management comes in.”

Sandquist’s company is a specialist in delivering the management, development, coordination and integration of multiple facilities management services that keep its clients’ workplaces running smoothly. Sandquist says: “Our goal is for our customers and their employees to not have to worry, or even think about, these issues,” he says. “However, this can be tricky to achieve. If a printer runs out of paper, for example, it may fall to an employee to fill it up when he discovers the document he just

sent to print isn’t coming through. So he may lose five minutes or so from his busy day searching for the paper, loading it in, and maybe restarting his print run. For us to keep on top of every printer, copier, paper towel dispenser, vending machine and so on in a given office, we’d need to dedicate someone to constantly checking every machine every day. This isn’t a viable solution.”

Fortunately, the evolution of technology has enabled Coor to address this issue, by applying the IoT. “We see huge potential for the use of IoT in our industry,” explains Sandquist. “We can use it to increase our customers’ workforce productivity, lower costs and secure sustainability. By collecting and analyzing data about things as varied as lighting, indoor air quality, space utilization and noise levels in an office, we can optimize their office space every day throughout its entire lifecycle.”

Taking IoT to the next level

The IoT has already been used for a range of use cases in facilities management. For example, Coor has worked with a paper towel manufacturer in Sweden to implement automated monitoring of dispensers. Sensors fitted to each dispenser monitor its fill level, and send an alert to the building manager, who can make sure it is refilled before it becomes empty.

However, Coor wanted to build on this type of solution to create a more integrated, holistic approach. “To date, the use of IoT in facilities management has been quite siloed, or vertical,

focused on individual use cases, but not really tying them together," Sandquist says. "Our vision is to create a horizontal, integrated IoT solution that brings together input from smart objects across the office environment with intelligent applications for centralized management that will help lower the cost of entry, maximize the value and enable us and our customers to innovate new use cases very quickly."

IoT management that fits the facility

With this model in mind, Coor began discussions with Yanzi, a Swedish specialist in IoT solutions, with a track record of delivering easy-to-install hardware and user-friendly software. Although both are established companies, the collaborators approached the development of this solution using a lean, start-up-style approach. "We saw the challenge and worked together to come up with a solution and a prototype that we could trial quickly and get into production with minimal fuss," says Niclas Sahlgren, a partner at Yanzi.

The solution that the two organizations developed uses sensors and gateways provided by Yanzi. "It's designed to be very simple to install, so our customers can implement the solution themselves and change configurations whenever they want, without needing a Coor engineer to come out and help them," says Sahlgren. "All they need to do is attach the sensor to whatever it is they want to monitor – a room thermometer, a copier tray or a security camera, for instance. They can do this out of the box, with no complicated setup needed."

Each gateway is equipped with a SIM card from network provider TeliaSonera, which enables it to connect to the Yanzi cloud, which is an "always-on service". Powered by

the Intel Atom processor, this device is also simple to install, and connects to the Intel Xeon processor E5 family-powered cloud within minutes, meaning it can collate the data coming in from the sensor devices and then send it to the cloud for review and analysis. Security is enforced automatically, since a security key is issued to each device as soon as the gateway connects to the cloud. This means all data sent to and from the gateway device is encrypted to banking standard.

"Customers can choose what sort of connectivity they use for the gateway and the sensors," says Sahlgren. "They're equipped to support 4G and Ethernet for maximum versatility. It's also possible to use a Wi-Fi connection to connect the sensors to cameras and transmit video as well as numeric data. Each office's configuration data is stored in the cloud so that if one of the gateway devices fails, all the customer needs to do is plug in a new one, and all their old settings and data will be restored."

Users can see the output of all this data collection through an app for both iOS* and Android*, enabling them to keep up to date with all the details of office life in real time using a single dashboard.

Coor applied an open innovation model and worked with Yanzi and Intel to validate user and business benefits. The proximity of both the Yanzi headquarters and an Intel® Internet of Things Ignition Lab supported this.

Efficiency gains and sustainability potential

The pilot project has demonstrated the breadth of applications for the IoT in facilities management, which the team at Coor is already able to appreciate. "Making even a small change can result

in a much larger impact," says Sandquist. "For example, say in a meeting, the projector bulb is faulty, resulting in about half an hour spent getting it fixed before the presentation can continue. If there are 10 people in that meeting, that's actually five hours of wasted productivity. By ensuring we're aware of the fault in the equipment first, we can avoid situations like this and ensure those five hours get put to better use. And that's just one example. Another might be that during a day-long financial planning meeting, the office manager can spot when the carbon dioxide level is getting too high in the room and call for a break to make sure the participants stay comfortable and alert."

Besides maintaining enhanced levels of productivity among staff, Coor has also demonstrated how the solution can help improve overall business efficiency. Sensors placed on desks can track how often they are used and identify any areas that are being underutilized. "This intelligence is useful to us in assessing how we're using our valuable office space," explains Sandquist. "For example, is there a section currently dedicated to desks that might be more productive as a meeting space?"

"We can track our power consumption as well, using sensors attached to smart plugs on projectors, copiers and other equipment," he says. "In this way we can identify and fix or replace any devices that are not delivering energy efficiency, helping us secure sustainability for the future."

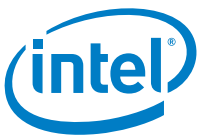
Having demonstrated the value of the horizontal IoT solution for facilities managers, Coor, Yanzi and Intel are in discussions with other members of the facilities management ecosystem – such as paper towel manufacturers, vending machine producers and office machinery companies – to

explore opportunities to take this collaborative approach even further. Sandquist concludes: "We're very excited to be bringing this solution to the marketplace with such a great team. Combining IoT with an innovative horizontal approach, and technology from leaders like Yanzi and Intel, gives us a compelling new offering to take to our clients. As we bring more members of the ecosystem on board and continue to innovate other use cases, we'll help our clients drive enhanced efficiency, lower maintenance costs, and greater sustainability from their resources."

Lessons Learned

While individual solutions can be invaluable in addressing specific challenges, they can become much more powerful when used together. By bringing together input from IoT sensors across the board, and presenting them through one easy-to-use interface, Coor, Yanzi and Intel have delivered a platform that can help facilities managers make a real impact on team productivity, employee satisfaction and business efficiency.

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