

# SkywaveloT

Platform for Smart Things



SkywaveloT platform brings the Internet of Things to life, allowing brand new life-changing applications to be developed with its flexible and reliable architecture.

## Smart Stores


A single solution able to respond to all requirements, from people counting to staff monitoring

## ATM Environment Monitoring and Control System

Non-stop service and low-cost operation

## Smart Cities

Thanks to vertical solutions empowered by SkywaveloT, cities have become more liveable



*According to a study by IDC, in 2020 there will be 30 billion devices able to communicate with each other. SkywaveloT's goal is to provide a reliable and functional platform to support all devices and IoT applications.*

# What is SkywaveloT?

*A platform that offers flexible and reliable architecture supporting all kinds of IoT applications, and combining device-to-device communication with cloud technologies.*

The age of the Internet of Things is upon us, and the future is already taking shape. According to the latest research, very soon all the devices used in our daily lives will be able to communicate with each other and connect directly to the internet. "Smart objects" will pave the way for innovations that will make life easier, and will be underpinned by the flexible architecture of the SkywaveloT platform developed by Innova, a Turk Telekom subsidiary.

Innova is integrating SkywaveloT, a technology and service platform that makes the technology of tomorrow available today, into all its next-generation applications. SkywaveloT brings greater function to almost any device, acting as the glue between device-to-device connections and cloud technologies. New applications are developed for every sphere of life and all business sectors, and are empowered with the flexible and reliable cloud-based architecture that SkywaveloT provides.

## Platform ready, applications ready

SkywaveloT platform removes all barriers to the development of IoT applications, as well as making use of applications already developed by Innova. Retail-oriented people counting, indoor analytics applications, smart signboards and smart city applications are some of the first ready-to-use applications to have been integrated into SkywaveloT.

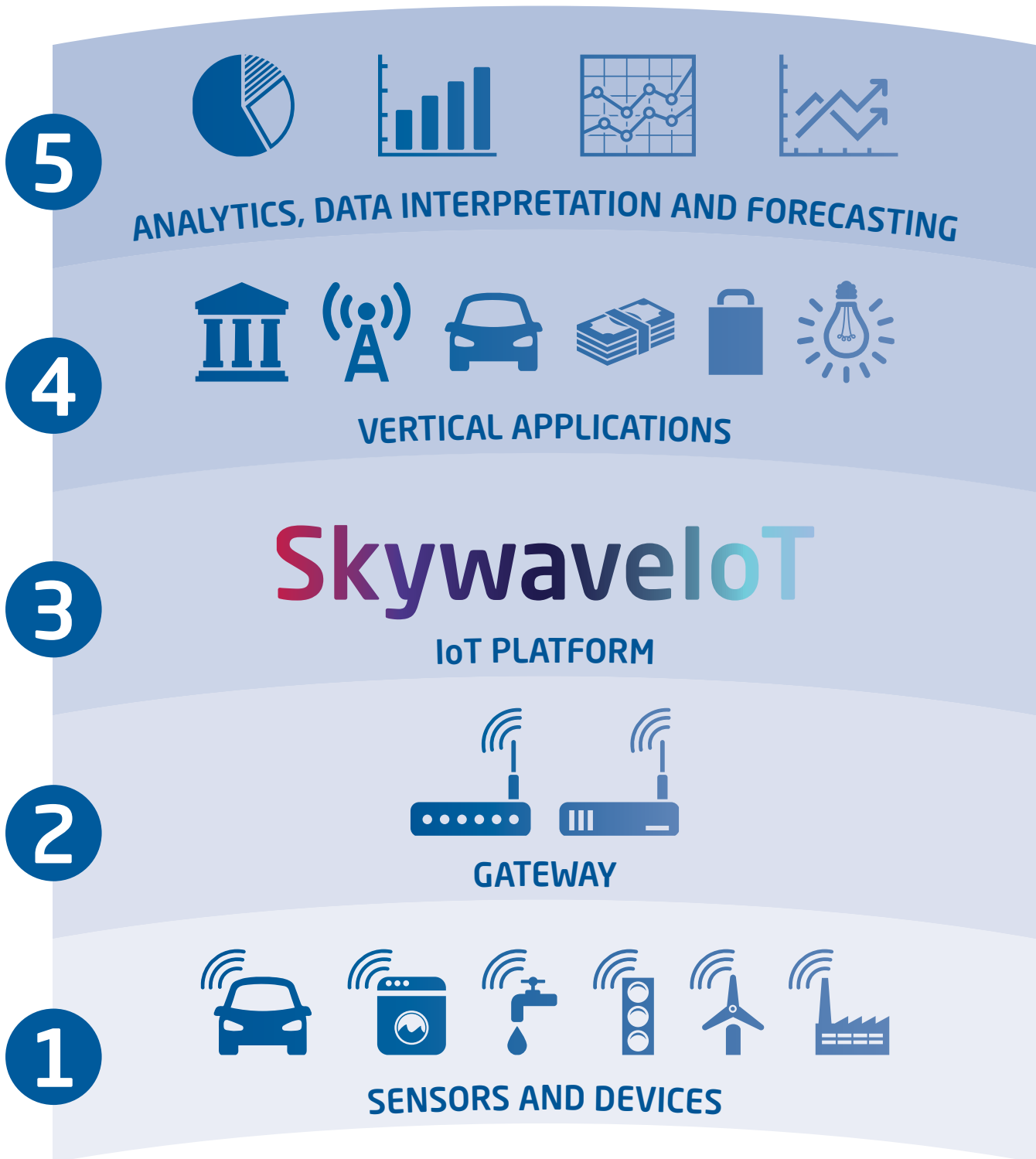
## Smart City and ATM Management

SkywaveloT contains nearly 20 different smart city applications, and enables a city to offer end-to-end technological solutions for local government and administration. ATM Environment Monitoring and Control System is an example of the new wave of IoT applications, and it enables banks, businesses or organisations that offer self-service access to continue operating without interruption.

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- ▶ Connect all your devices to SkywaveloT **with customized communication infrastructures**
  - ▶ Monitor and manage **connected devices in real-time**
  - ▶ Develop new applications **tailored to your needs**

# SkywaveloT Architecture

SkywaveloT platform plays a significant role in bringing product and service providers closer to their clients through Innova technologies. In addition to its modern architecture, SkywaveloT stands out for its sensor system and communications network, asymmetrical scalability, big data features, and end-to-end security. It can be deployed in client's own data center or can be offered as a cloud solution.



# Smart Cities

*Powered by SkywaveloT*

*SkywaveloT has already been deployed in smart city solutions.*

The current global rate of urbanisation is 50% and is expected to increase to 60% by 2025, and 70% by 2050. Nevertheless, it is not possible to go through such a huge transformation by relying only on traditional instruments and methods of governance. Nowadays, only those, who invest in smart solutions shaped by cutting-edge technology can conquer new challenges in traffic management, transportation, security, energy and health.

Instead of relying on self-contained solutions, cities are increasingly turning to integrated options that improve the effectiveness of each element by sharing knowledge and thus creating more liveable cities and quicker returns on investment.



## Imagine a city that can solve problems before they happen

Innova's SkywaveloT platform makes it possible to monitor the needs of a city and its residents continuously through an Internet of Things infrastructure. The system can detect problems and take remedial action thanks to analytical processes that work behind the scenes to detect the difficulty even before it arises.

Smart cities that embrace to integrate SkywaveloT, gain access to a technological infrastructure capable of fulfilling various solutions, whether this be in managing traffic, healthcare services, saving energy or in any other public services. Everything can be handled by a central system that can make a city more liveable, while bringing significant economic and environmental benefits.

# Turkey's first integrated smart city: Karaman

*Turk Telekom continues to play a leading role in the development of smart cities by bringing Turkey's first integrated smart city project to life.*

Innova's SkywaveloT platform provides the management and smart communication technologies needed to integrate sensors, kiosks, touchscreens, data centers and support services into an operational solution built for smart city projects.

## Meeting all the goals of the digital revolution

Several important goals have been included in the scope of the digital transformation of integrated smart cities, in which Turk Telekom has been involved. These include:

- **Security:** Reacting more quickly to emergencies, lowering crime and road traffic accidents
- **Productivity:** Reducing costs by using water, energy and labour resources more efficiently, reducing investment costs by using cloud services and centralising the coordination of different facilities
- **Economics:** Creating new sources of income with smart city applications, increasing employment, encouraging application developers by focusing attention on the city and bringing local solutions to new markets
- **Quality of life and environment:** Providing new and innovative services, enhancing the quality of existing services and improving sustainability by reducing CO<sub>2</sub> emissions





**Smart City Management Portal  
Operations Center  
Operator Management Portal  
Citizens Portal**

**Smart Meter Reading  
Smart Irrigation  
Heat, Moisture and Noise Monitoring  
Smart Waste Management  
Video Surveillance System  
Smart Traffic Control  
Smart Bus Stop  
Smart Intersection  
Smart Lightning  
Smart Parking**

*You can bring all your applications under one umbrella with Innova's integrated smart city management solution.*

# ATM Environment Monitoring and Control System

Powered by SkywaveloT

*Manage your ATMs from a single point control center with low-cost field operations for uninterrupted self-service banking transactions.*

Ensuring ATM's uninterrupted availability is critical to customer satisfaction, and this demanding operational process therefore requires great effort and considerable resources. Processes such as immediate detection of breakdowns and other potential problems, management of security risks, follow-up on Service Level Agreements require manpower by nature, making them more time-consuming and resource-demanding.

## Even the most remote ATMs are right with you

ATM Environment Monitoring and Control System that is developed on Innova's SkywaveloT platform enables resources to be employed efficiently, by automating maintenance, repair, monitoring and intervene processes and by enabling remote management. This system, based on Internet of Things technologies, immediately conveys all relevant data to the right place in case of a service breakdown because of flood, adverse weather conditions or damage from unauthorised access. The overall need to respond on-site at ATM locations is reduced at every stage of operation.

## Several features in one solution

- **Real-time monitoring and control:** Continuous control of whether service parameters determined for ATMs are within acceptable control boundaries. Any problem is immediately conveyed to the central executive system.
- **Instantaneous error recovery:** Any operational problem is detected and is reported instantly, enabling quick resolutions.
- **Reducing the risks with intuitive error control:** Detailed analysis provides a forecast of where the next problems will occur based on error and failure records from earlier periods. This makes determining the source of chronic problems easier.
- **Operational resource savings:** Long-distance management systems that save on personnel by making it possible to resolve some problems remotely or providing information on detected problems and helping to direct specialist personnel to fix others.
- **Maximum security:** All unauthorised access to devices is managed with full access control and record-keeping solutions. An alarm can be activated remotely to alert security teams.

### Advanced monitoring and control systems empowered by the SkywaveloT platform and Innova control card:

Interior and exterior cameras | heat and light sensors | fog sensor | motion sensor  
interior and exterior lighting | access control | uninterruptable power supply  
grounding | line voltage | air-conditioning



*With the SkywaveloT platform  
you can control thousands of  
ATMs all around the country and  
ensure that your 24/7 service  
stays uninterrupted.*



# Smart Stores

*Powered by SkywaveloT*

*Plan your route to growth with the smart store applications developed on the SkywaveloT platform*

Evolving consumer habits are forcing the retail industry to change. A younger generation of consumers is facing information overload, and the constant stream of data draws them towards companies that give them better and more detailed information, or offer special offers and promotions tailored to their needs. In short, consumers prefer the companies that understand them best. This situation provides the opportunity for those that are able to collect and analyse data effectively to gain a great advantage.

The SkywaveloT platform helps you to improve profitability and productivity, bolstering the link between retail stores and consumers through the use of new smart store applications.

## Monitor consumer behaviors

The tools offered by the SkywaveloT platform make it possible to monitor consumer behaviors, as well as the performance of employees and also of individual branches by sensors, cameras, smart signboards and personnel monitoring hardware deployed in various spots. This enables the development of solutions with unprecedented accuracy through a single system.

## *Eight questions answered by this solution:*

- 1. How many people visit a particular store?*
- 2. At what time or in which month or year is footfall highest?*
- 3. Do promotions and campaigns help increase store traffic?*
- 4. Which aisles or product lines are capturing customers' time?*
- 5. What proportion of visits are converted into sales?*
- 6. Is signboard visible enough and what is its effect on customers and visitors?*
- 7. When do personnel check-in and -out of the store?*
- 8. Is your personnel planning in line with changing customer traffic?*



## Applications customised for the retail industry developed on SkywaveloT:

### People counting and in-store analysis

How many people visited your store today? Which items attracted the most attention? Determine your strategy by answering these questions

### Smart signboards

Manage signboards from inside or outside the store with the Cloud system

### Personnel management

Check employee attendance with a centralized IoT application



**SkywaveloT**  
Platform for Smart Things

**innova**

Exports to 36 countries  
in 4 continents

1,000+ highly qualified  
employees

100+ projects abroad

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