

THINGSTALK

Smart metering

ThingsTalk

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Energy management

Energy has always been vital. Today, amid crisis, problems with supply chains and rapid price hikes, it has a strategic value. You must incorporate it into your planning if you want to be competitive and make better business decisions. Energy savings and better efficiency are essential – all the way from powering our devices to being the crucial components of the increasingly complex business processes we manage.

Real-time consumption monitoring and obtaining information on user complaints is quite challenging for suppliers in the energy sector. In addition, efficiency of billing processes needs to improve, consumer protection needs to increase and business models must become more innovative. Technology solutions addressing these needs are essential. The Internet of Things has a special place among these technologies because it leads to a paradigm shift in energy consumption monitoring and business decision making.

1 Power supply for measurement devices –

Power supply for measurement devices has long been a problem due to presence of gas and water. Today, this is solved by applying low-overhead radio protocols such as Sigfox in order to minimize energy consumption. Electric distributors read their meters through the same wires they supply energy with, thus simplifying the measurement process. They also have their own data storage systems which users can easily access.

2 Comprehensive approach (the umbrella model) –

In order to unify analysis and energy consumption monitoring of multiple sources, e.g. as provided by ESCOs, it is not enough to collect information about a single energy type. Proper monitoring and performing meaningful analyses at this level is only achievable via heterogeneous access networks. This is precisely where ThingsTalk excels. Electricity, gas, and water will always come from different sources and at a different pace. This is why project implementations usually stall in the technology segment, as solutions are often chosen inappropriately and are usually unsustainable in the long term.

3 Vertically integrated –

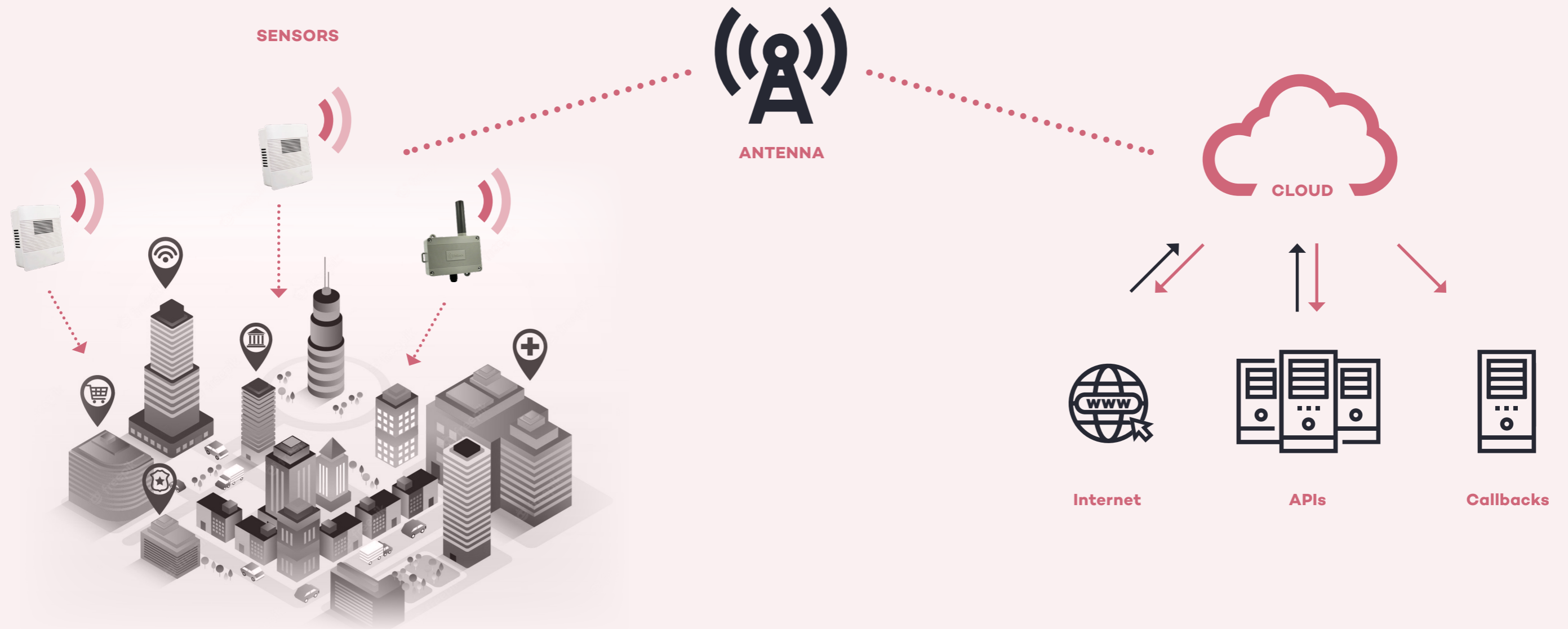
ThingsTalk is a flexible solution built on a micro-service platform, offering easy service development and multiple usage models. The supplier controls the platform, the infrastructure, and the SIGFOX network, while sensors and network protocols are chosen by users - with our advisory and assistance. With ThingsTalk, users get a commer-

cial service with simple terms of use and transparent business rules. During implementation, we consult our clients on additional tools they may need and that we have in our portfolio. The service is regularly maintained, improved, and upgraded with new functionalities, all according to ISO20000 standards and the service development plan (service roadmap).

ThingsTalk — IoT platform as a service

Comping's ThingsTalk platform is available as a digital service. It collects and processes data coming from IoT networks and turns it into new insights that lead to better business decisions. The ThingsTalk platform is compatible with all IoT networks and service providers and is simple to manage. It enables quick and

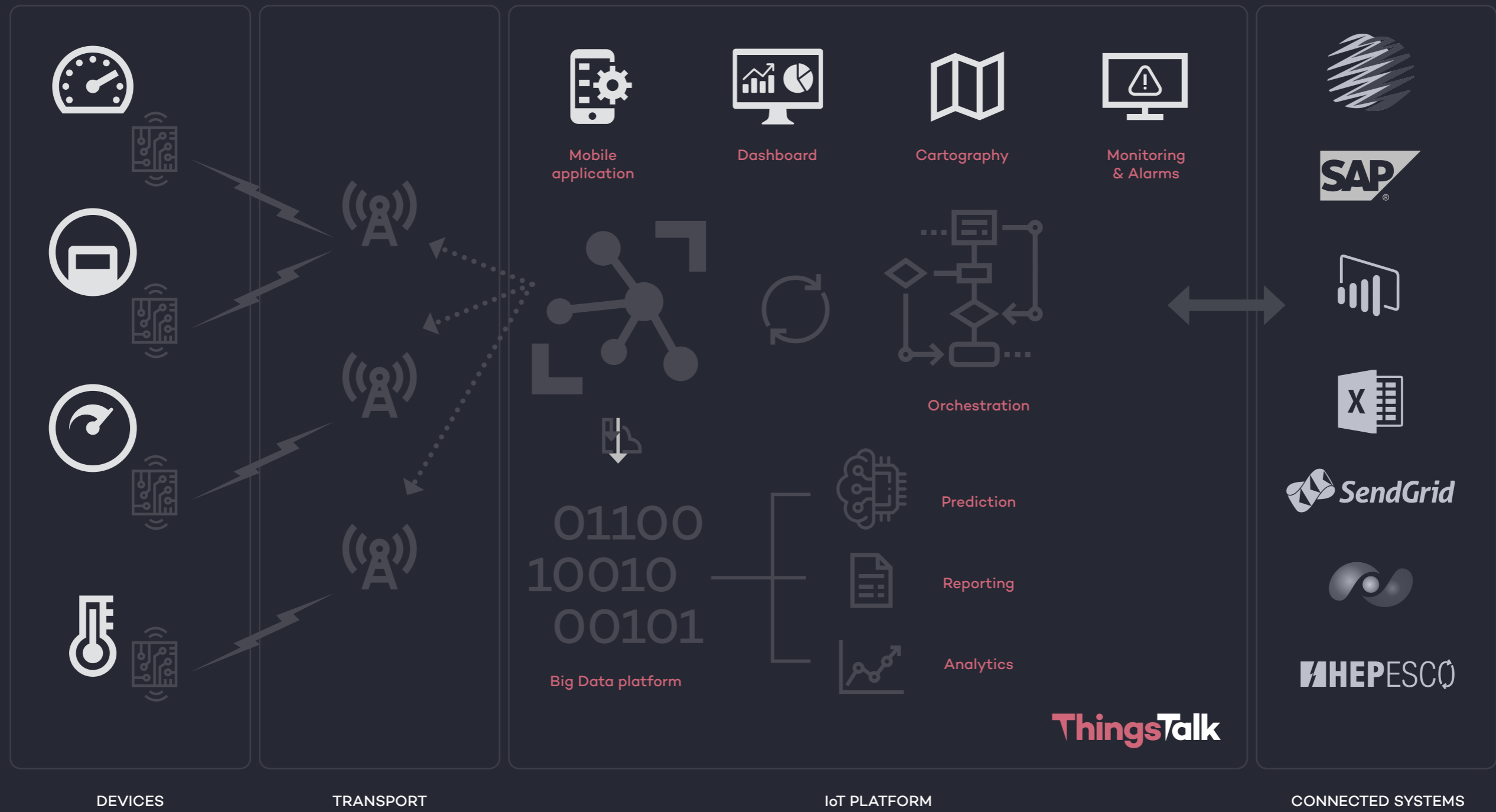
easy use of information collected by smart devices. About thirty experts – specialists in software development, business analytics, and the Internet of Things – work continuously on its development and implementation. The robustness of the ThingsTalk platform, coupled with a host of unique functionalities, enables the most diverse and complex deployments.



Smart metering or smart consumption measurement

The ThingsTalk platform can be used as a smart consumption measurement solution and as a system for digital transformation of data collected from energy consumption measurement devices. All functionalities required for offering business (enterprise) models are built into ThingsTalk. The solution supports meters with built-in remote reading functionality – e.g., sensors installed on standard meters that collect and relay data. ThingsTalk also includes facilities for smart devices networking. The ThingsTalk platform is aimed at energy suppliers and distributors, utility companies and companies specializing in energy management. It also supports other processes that need to be managed in sustainable business and development. The ThingsTalk platform and Smart Metering enable:

- **Continuous remote reading and monitoring of energy consumption**
- **Deeper insights into energy consumption rates**
- **Energy products accounting for billing purposes**
- **Consumption analysis and comparison with other parameters, e.g., meteorological conditions**
- **Spending planning**
- **Regulatory reporting (HROTE - Croatian Energy Market Operator)**
- **Improving customer experience**
- **Integration with external systems**



Remote gas meter reading

Gas meters connected to the ThingsTalk solution need to have a built-in functionality for remote status reading. This is required as they are a vital component in digital transformation of data collection process.

Standard meters with built-in sensors that send data via a network connected to the platform can also be used for this purpose. The meter – or the sensor built into it – is activated either automatically or by a smartphone application provided to our users. User interfaces have a built-in network monitoring functionality – accessed via a unified dashboard. It provides insight into gas meter status and readings, lists the device's location, and collects master data from each meter sensor. The user interface is fully compliant with gas industry requirements.

Data protection is compliant with the highest security standards. Data is sent automatically to all user systems for integration with billing, ERP, and other business systems.

Remote water meter reading

Climate change is the cause of rising air temperatures, long-term droughts and increasingly frequent weather events with high winds and heavy rainfall. Add to this both environmental pollution and constant need of people to improve their quality of life, and we get a series of new challenges that affect everything – including drinking water supply systems.

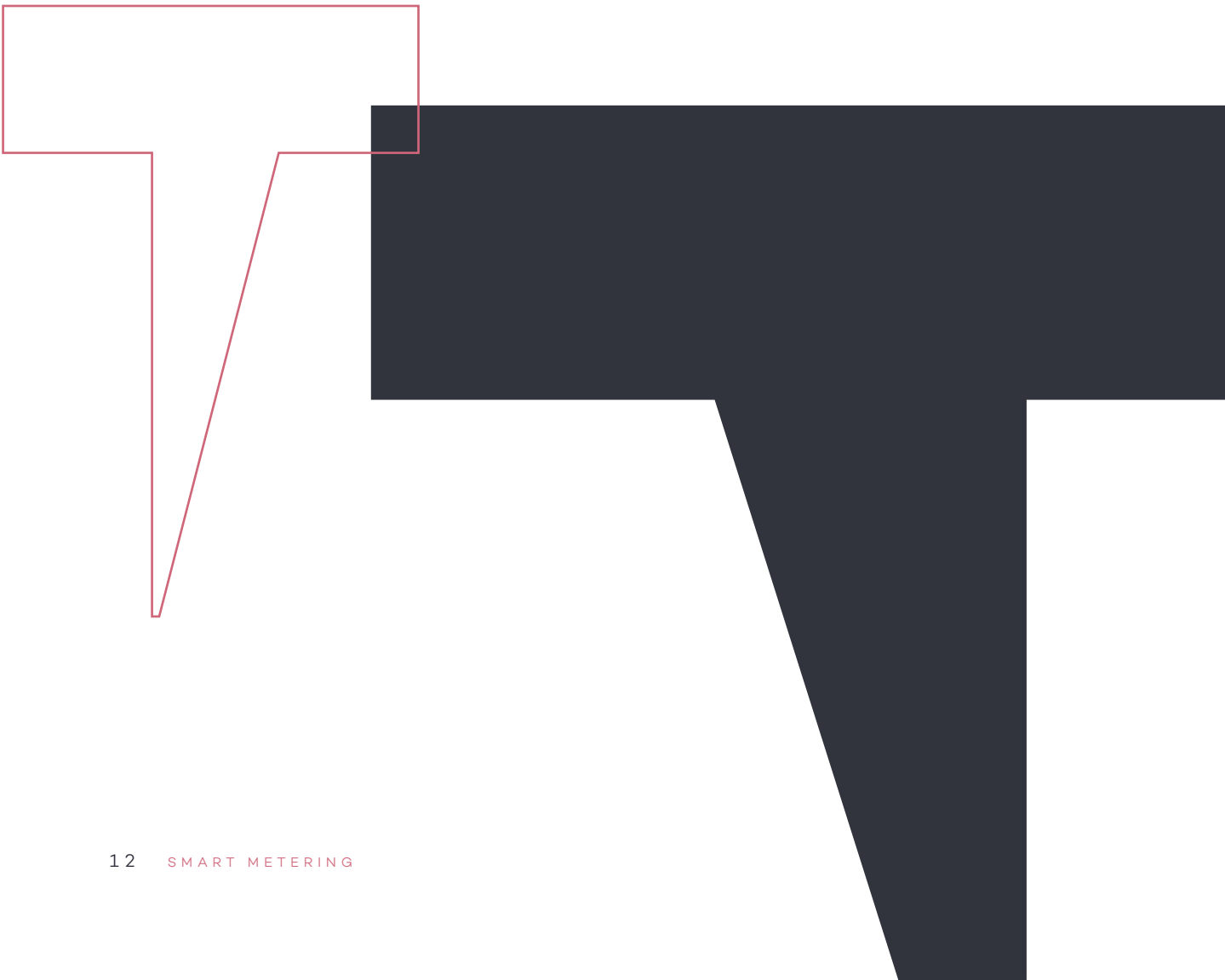
Water utility distribution network in Croatia has one of the highest delivery loss ratios in Europe. This is in part due to pure indifference – water loss is usually not life threatening, such as gas leaks or power outages. However, the loss of drinking water to the inefficient distribution system is not only an unnecessary expense – it is also a significant reduction in the quality of service, as there is a vast discrepancy between what entered the system and what was available to end users at the time of consumption. In other words, we need to actively monitor the water flow in order to better understand the condition of our supply systems.

Our solution is a remote water meter reading appliance comprised of two devices mounted on an existing standard water meter. The first device is a magnetic reader that reads the state of the water meter, and the second is a pulse reader used for communicating with the network. The magnetic reader is mounted on the water meter itself. The pulse reader is installed outside of the utility hole, near the shaft with the water meter, in order to ensure signal quality.

ThingsTalk, a smart device communication platform, can be integrated with any IoT networking technology. It is fully automated and managed using a specialized mobile application.

ThingsTalks platform advantages

With Comping's IoT platform, you can quickly improve your business by providing new services or boosting the existing offer, decrease costs by applying better processes, modernize your business model and create entirely new sources of income.



With ThingsTalk, you can:

1 Communicate better with your customers through easier acquisition of new ones and raising the quality of experience of those who already do business with you.

2 Monetize data offered via digital services on the Internet or the sale of advertising space.

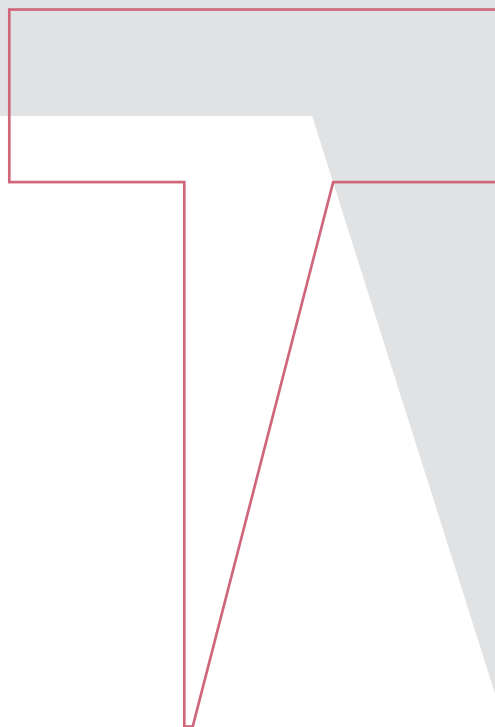
3 Achieve a higher degree of readiness for change: it is always better to be proactive and modernize yourself than to react only to competition's moves.

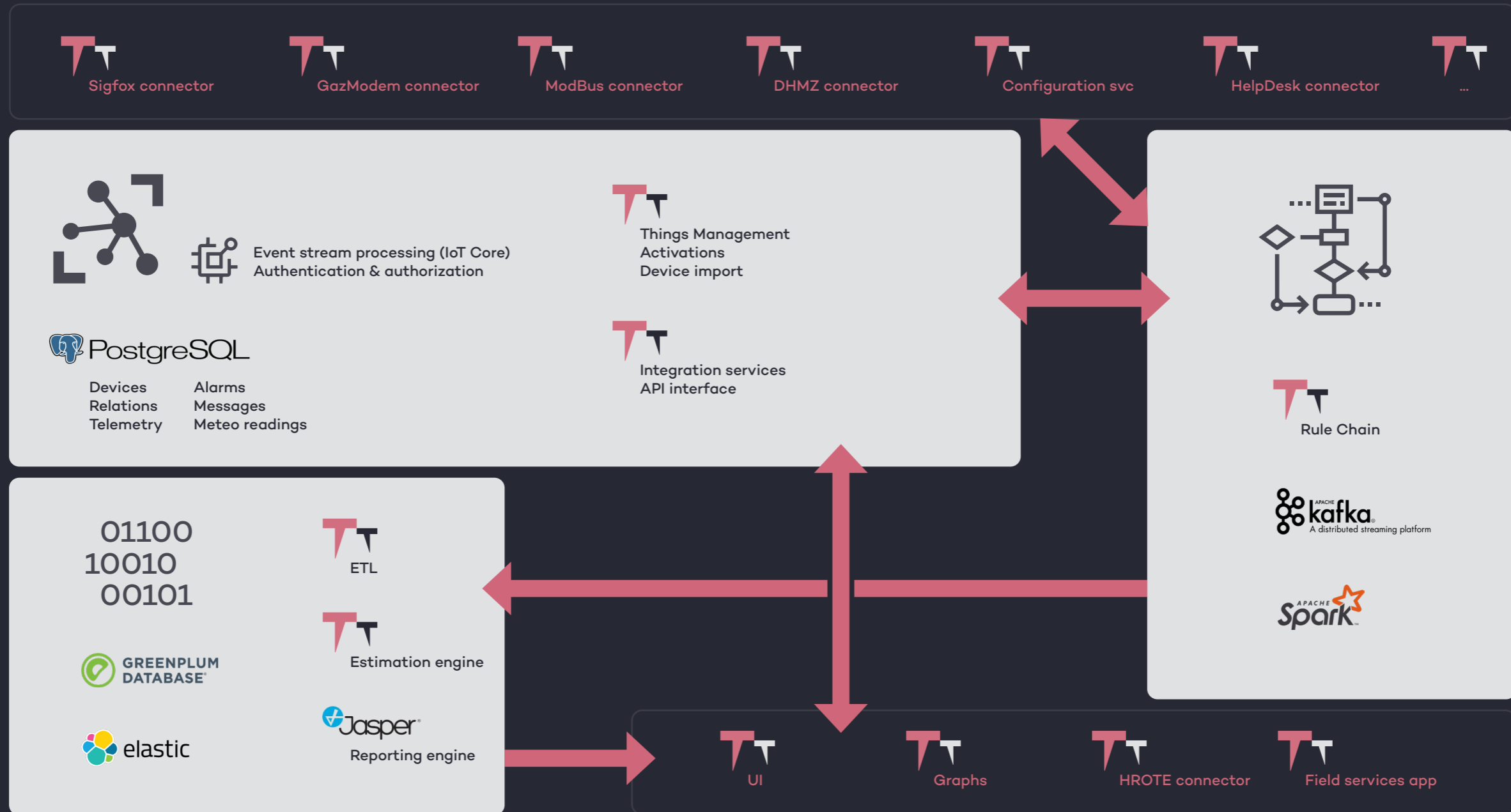
Why? What seems unattainable now can already be the standard by tomorrow. Customers change their habits quickly, sometimes even faster than new solutions are being implemented. This is why it is essential to be ready for every competitive challenge.

ThingsTalk is fully compliant with all requirements of the green economy.

Technologies

Technologies, methodologies and architectures used in its design make the ThingsTalk platform flexible and sustainable in the long term. ThingsTalk is a highly customizable solution that maximally optimizes and utilizes resources.





Data collection and presentation

Water consumption data flows in to ThingsTalk from many devices, via different networks using various technologies. This data is classified according to its source and presented in a format readable by external systems where it will be processed. Open source technologies, agile methodologies and micro-service architectures used in its design make the ThingsTalk platform flexible and sustainable in the long term.

In order to achieve maximum performance, constant availability, and scalability of the service, ThingsTalk is implemented on the OpenShift cloud.



Operational excellence

Maintaining a balance between people, processes, and technologies is a key success factor. User satisfaction, higher profits and quality of service depend on it. And finally: this is what will elevate you above the competition.

Supervision and administration Center

It is the hub of the ThingsTalk platform – where all devices are configured, and all data is updated. The center provides a full overview: all devices are visible on the network map, along with statuses (alerts), master data, and technical information. Field agents are able to access it via a smartphone application, which facilitates and simplifies the devices installation process.

User experience

The solution has multiple user interfaces designed according to the requirements of different industries, whether it is gas meter reading, water meter reading, or asset tracking. The application is transparent, ergonomic, responsive and easy to use. All out-of-the-box reports are compliant with regulatory requirements and provisions of supervisory authorities.

Measuring points > 20328351

Map view

Heinzlova 70, 10000 Zagreb, Croatia
Status 26.01.2022, 10:47:00 - 0086683m²

Measuring point	
Measuring point ID	20328351
Measuring point location	Heinzlova 70, 10000 Zagreb, Croatia
Manufacturer	Boom Kay 3
Type	KLB-23 5493
Initial reading	2 323,32
Type of consumer	Industry
Year of meter production	2018
Pulse value	01
Meter serial number	31312312

Meter reading history	
VIEW HISTORY FOR THE LAST 30 DAYS	
Time ↓	Consumption
13.05.2021 14:00:00	0,41
14.05.2021 14:00:00	0,2
15.05.2021 14:00:00	0,15
16.05.2021 14:00:00	0,316
18.05.2021 14:00:00	0,224
20.05.2021 14:00:00	0,124

Historical overview of consumption

VIEW HISTORY FOR THE LAST 30 DAYS

Consumption Ambient temperature

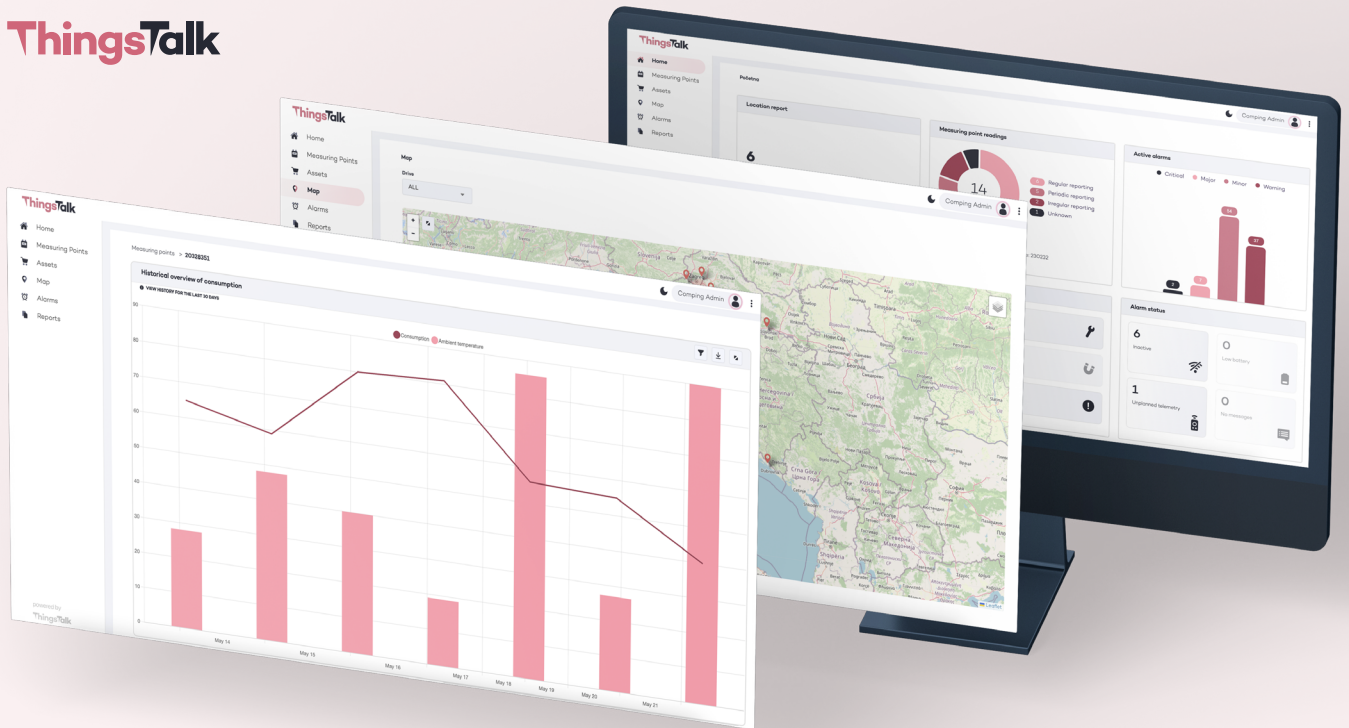
SMART METERING

Date	Consumption	Ambient temperature
May 14	~28	~65
May 15	~48	~60
May 16	~38	~75
May 17	~18	~75
May 18	~85	~55
May 19	~85	~55
May 20	~28	~55
May 21	~85	~40

Source

Source id	2682481D1	Installation time	14.05.2021 14:00:00
Maintains	IoT Net Adria	Connectivity	LPWAN
Manufacturer	Comping d.o.o.	Service provider	SIGFOX
Source type	KLB-23 5493	Firmware	v1.00
Source serial number	024124D9		

powered by ThingsTalk



Integrations

The ThingsTalk solution integrates various business systems, such as billing, ERP, automatic data delivery systems, business support solutions (BSS), and systems for collecting data from remote locations. It also improves other processes, such as business planning, maintenance, and customer support.

Data security and quality

ThingsTalk enables automatic classification and storage of structured data by each device according to a variety of parameters. In addition, it protects data from theft, manipulation, and destruction in accordance with ISO27001 and ISO27017 standards. It has built-in automated processes for periodic data quality control and reporting on any irregularities detected. As a part of its backup and recovery process, it regularly creates additional copies of data and stores them at a secondary location. All of this guarantees maximum availability and a high level of business continuity.

Implementation models

ThingsTalk service is a standard data center cloud service owned and fully controlled by Comping and Data Target. It requires dedicated Internet links with a network service provider, most often a telecom sector company.

Implementation models:

- **Greenfield implementation**

Greenfield implementation is a comprehensive configuration of IoT devices network that connects to the platform – a ready-to-operate installation.

- **Implementation of the existing network of interconnected devices**

Replacement of the existing third-party platform with Comping's solution. This model requires data migration from the previous system to our network. Data migration is an additional service.

- **Implementation of the ThingsTalk platform as an “umbrella platform.”**

In this case the existing platform serves as a data source for our platform. This model is the best fit for situations where users are satisfied with their existing system, and they yet need a solution to unify their information systems. In addition, the umbrella implementation includes networks with which the current platform is not compatible.

About Comping

Comping develops solutions for digital transformation, and one of its solutions is **ThingsTalk**, the IoT-as-a-service platform. About thirty experts – specialists in software development, business analytics, and the Internet of Things – work continuously on its development and implementations.

The Comping Group is comprised of three companies:

Comping (system integrator),

IoT NeT Adria (provider of the Sigfox OG IoT network), and

DataTarget (data center management specialist).

In addition to IoT platforms, Sigfox network and data centers, Comping develops custom user-specific solutions, deploys IT infrastructures, and implements business analytics systems, employing more than 160 experts in a wide range of information technology fields.

