COMARCH IoT
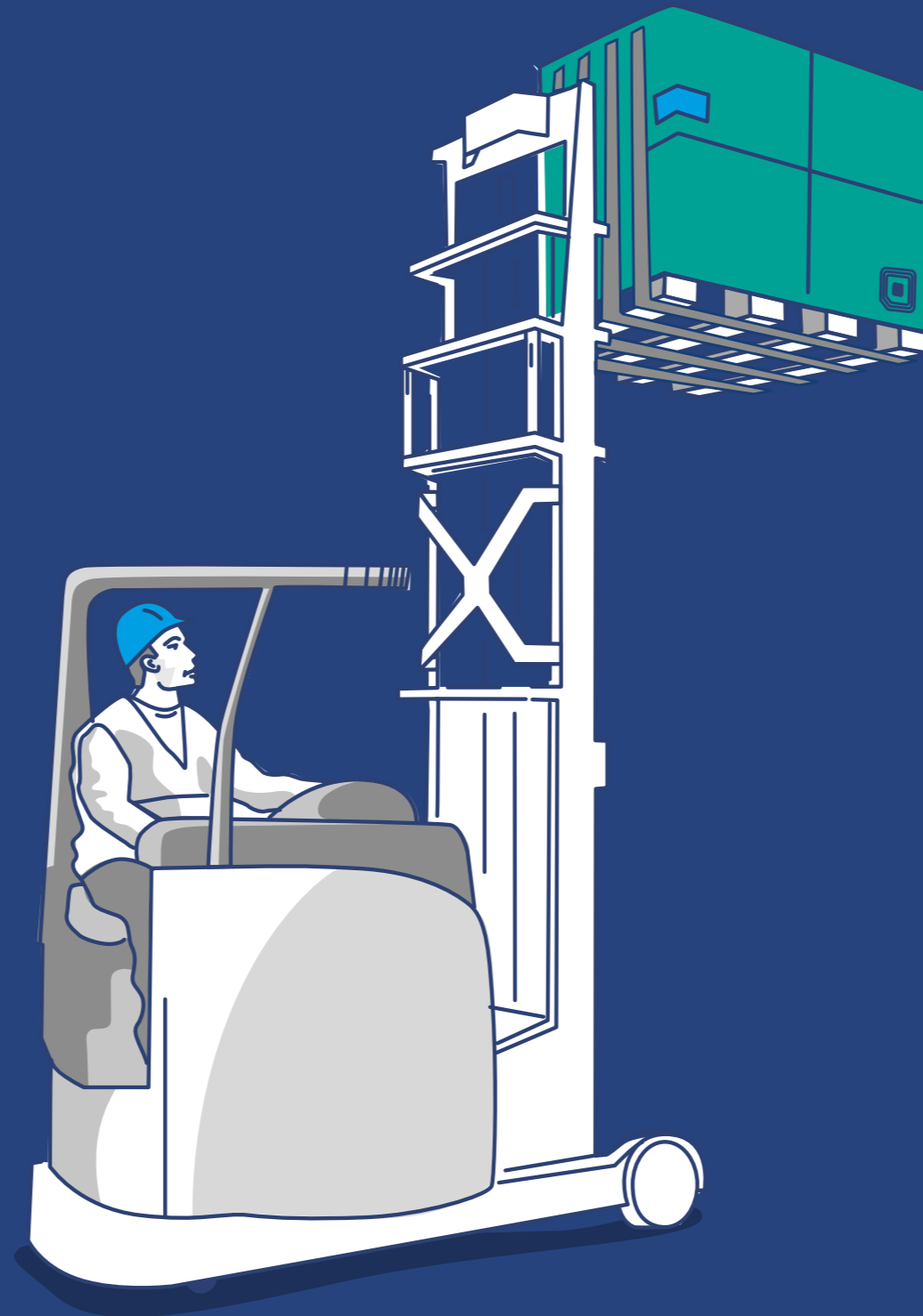## ASSET TRACKING SOLUTION

Technology for managing and tracking assets in
industrial facilities

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INTRODUCTION

Maintaining a huge industrial facility requires detailed data of assets and continuous monitoring. This is not only about equipment such as machineries, forklift trucks, production lines and other psychical assets, but also about human resources.

There are a few crucial challenges relating specifically to warehouse facilities. These include location, identification and performance assessment of resources.

Asset Tracking could be considered as a method or a complex technology to track and find assets, especially when they are not easy to locate. The lack of adequate data aggregation and insufficient identification protocols cost time and money, and warehouse owners can find themselves in an inconvenient situation if the inventory reveals shortcomings. Implementing an Asset Tracking solution enables them to avoid these issues.

Furthermore, warehouses would not function effectively without their employees. These people are an integral part of this complex ecosystem. What about their efficiency and performance? Do they carry out their work properly and take care of assigned tools and machinery? To be certain that these questions can be answered in the positive it requires performance assessment, and even locating staff to prevent any downtime and unwanted tool exchanges between them.

THE MEANING OF COMARCH ASSET TRACKING SOLUTION

As a comprehensive solution, **Comarch Asset Tracking** resolves common issues in industrial facilities due to its functionalities and features. Implementing the system removes inconveniences (presented in the following paragraph), bringing financial and operational benefits. To prove the significance of Comarch Asset Tracking, some issues and possible solutions are provided.

SOLVING ISSUES WITH ASSET TRACKING

Storage of numerous assets and commodities in a huge area generates multiple problems. The most common is time wastage. Instead of involving staff in searching for assets, Asset Tracking offers a location feature and assures that required equipment is in the intended place.

An asset might be outside the facility, seeming to have been stolen or lost. The solution prevents such incidents by giving real-time location data. In the industrial sector, regular inventories are needed. To deliver complex analysis and optimization of stock-taking, Comarch Asset Tracking enables access to owned assets regardless of time, need and conditions. Thanks to appropriate data aggregation it is possible to maintain properties according to real demand, minimizing shortages and surpluses. Data flow based on real-time location systems increases efficiency and prevents any wastage, cutting costs and reorganizing insufficient assets management. To understand how Comarch Asset Tracking influences the industrial sector, it is required to comprehend operation schemes and technology.

BENEFITS OF ASSET TRACKING IMPLEMENTATION

TIME WASTAGE REDUCTION

INVENTORY DATA COLLECTION

PREVENTION OF THEFT OR LOSS
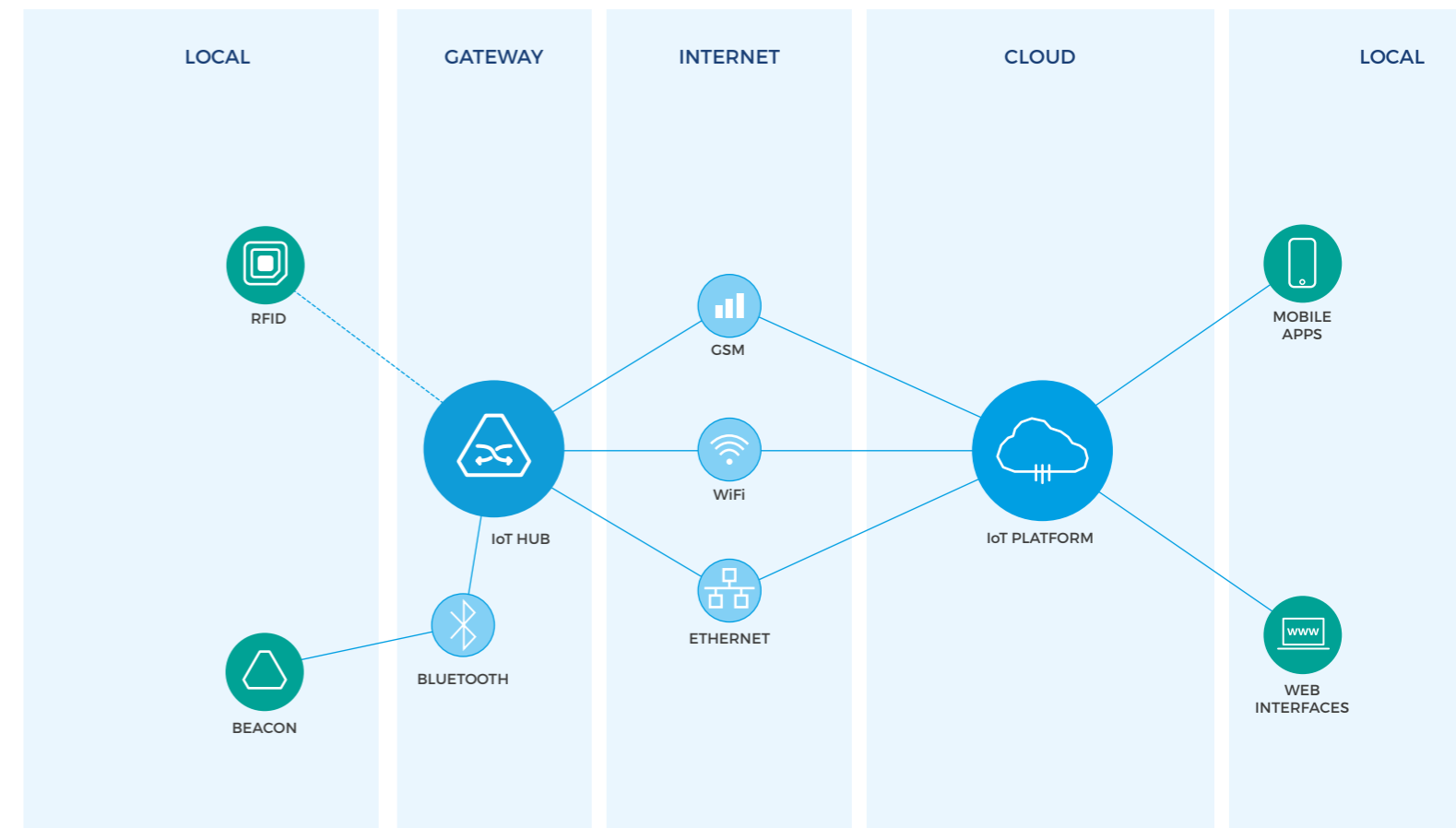
LESS WASTAGE

COMARCH ASSET TRACKING – OPERATION SCHEMES AND TECHNOLOGY

Comarch Asset Tracking is a comprehensive solution provided in the **SaaS (Software as a Service)** or **deployment model.** The adjustable scheme allows clients choose one or combine two complementary systems: Comarch Asset Tracking with **Beacon** or with **RFID.** It should be remembered that the solution equipped with Beacons works in active operation schemes, whereas the option with RFID is passive.
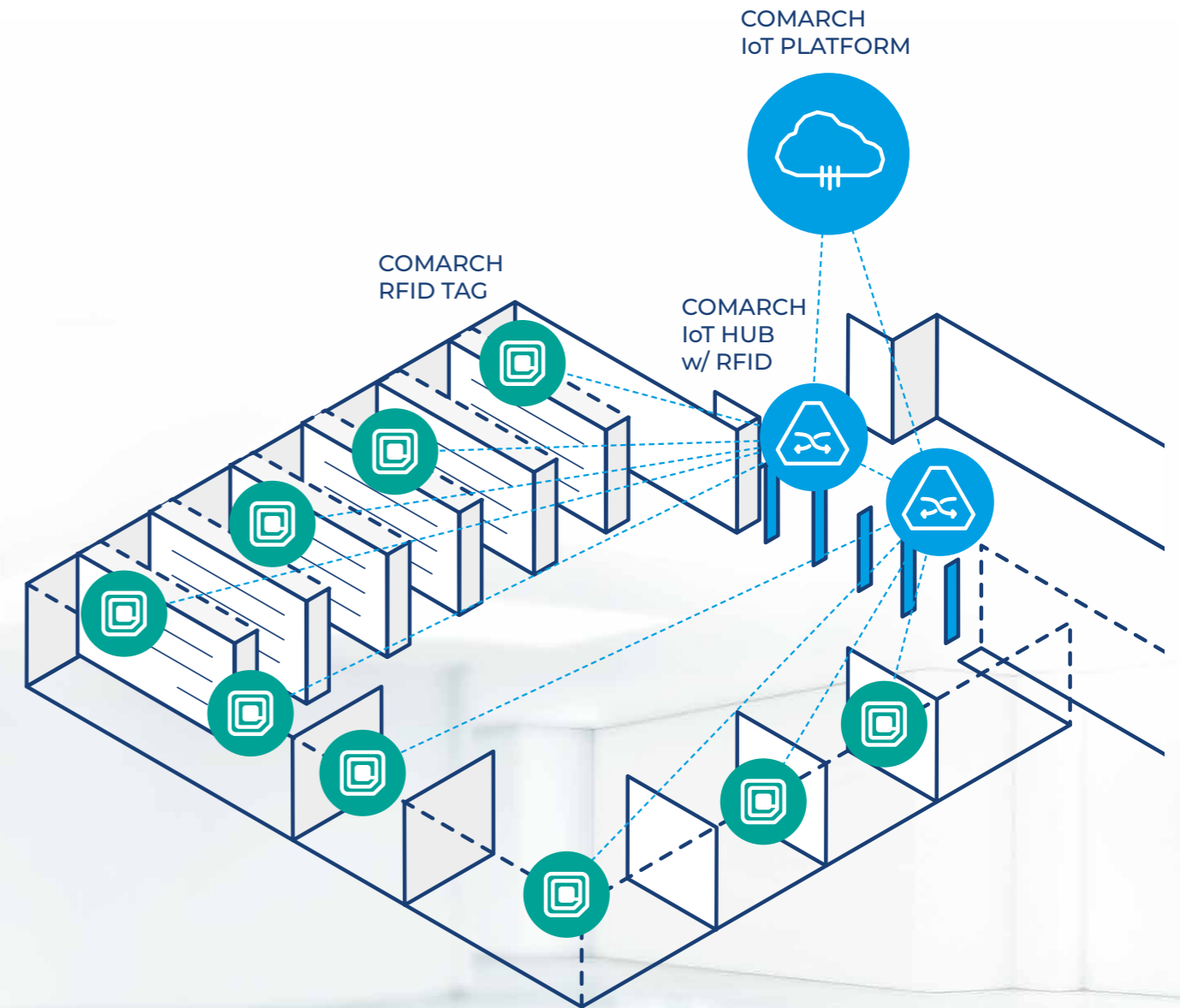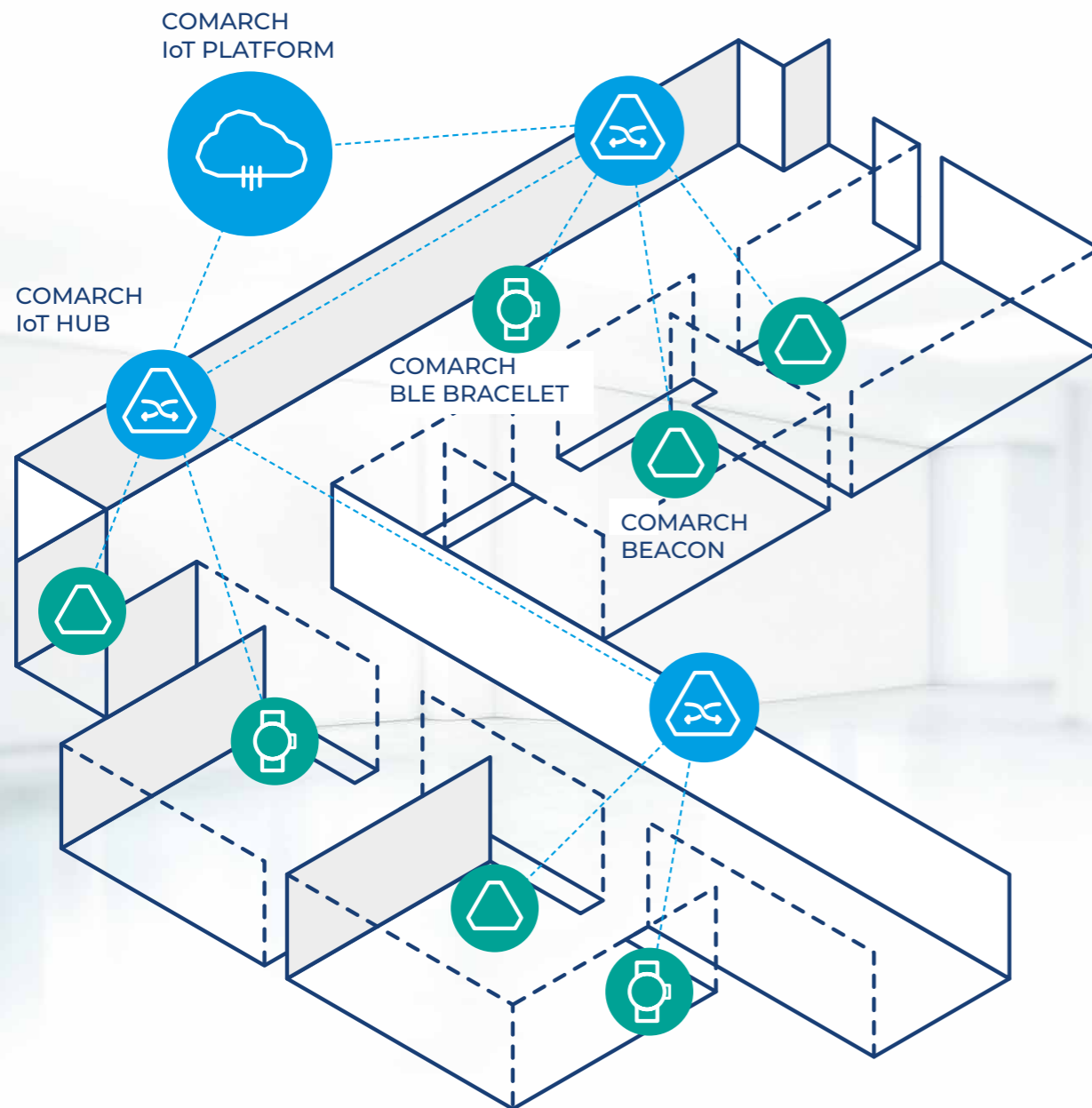
HOW DOES IT WORK?

Generally, Comarch Asset Tracking is a composition of transmitters (Comarch Beacons, BLE Bracelets and RFID tags) and receivers (IoT Hubs) connected to a cloud database (IoT Platform). Transmitters could be attached to tracked objects or walls (in this case used as a check-point). Location information is collected by IoT Hubs installed in crucial places such as rooms, corridors, storage sections or assets like forklift trucks etc. After the IoT Hub transfers the data to the IoT Platform, that information becomes accessible online via web and mobile applications. Additionally, the IoT Platform allows easy control and management by defining simple rules and alerts.

LOCAL   GATEWAY   INTERNET   CLOUD   LOCAL

RFID

GSM

WiFi

IoT HUB

ETHERNET

IoT PLATFORM

BLUETOOTH

BEACON

MOBILE APPS

WEB INTERFACES

ASSET TRACKING EQUIPPED WITH BEACONS AND BLE BRACELETS

Comarch Beacon/BLE Bracelet is a compact **BLE (Bluetooth Low Energy)** device broadcasting a radio signal, readable for example by any smartphone. Beacon/ BLE Bracelet provides a real-time signal to the IoT Hub, which is a gateway connecting all Beacons to IoT Platform. Beacon/BLE Bracelet can be equipped with additional sensors such as accelerometer or temperature making it perfect for tracking sensitive objects

COMARCH
IoT PLATFORM

COMARCH
IoT HUB

COMARCH
BLE BRACELET

COMARCH
BEACON

COMARCH
IoT PLATFORM

COMARCH
RFID TAG
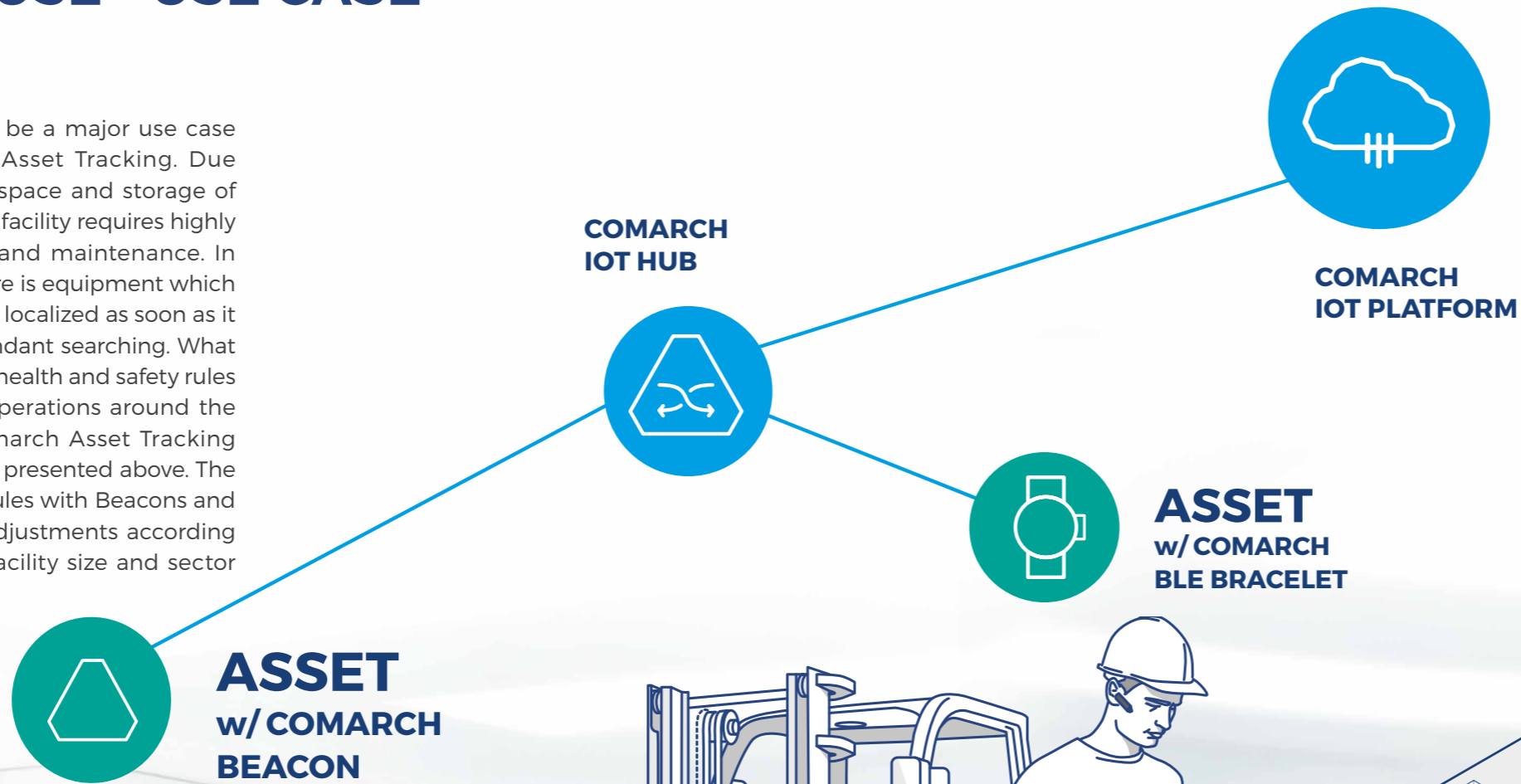
COMARCH
IoT HUB
w/ RFID

ASSET TRACKING EQUIPPED WITH RFID TAGS

An RFID tag is a simple sticker, using passive **RFID (radio frequency identification)** technology. Passive means that an RFID tag does not broadcast any signal by itself. Each asset equipped with an RFID tag is detectable when it is near an IoT Hub with RFID reader. On sensing the connection, the IoT Hub provides information to the IoT Platform that the asset has been moved outside or within a given area.

WAREHOUSE – USE CASE

A **warehouse** seems to be a major use case example for Comarch Asset Tracking. Due to a warehouse's open space and storage of numerous assets, such a facility requires highly efficient management and maintenance. In the warehouse area, there is equipment which should be identified and localized as soon as it is needed without redundant searching. What is more, complying with health and safety rules relates also to proper operations around the warehouse facility. Comarch Asset Tracking meets the requirements presented above. The possibility of using modules with Beacons and RFID tags allows easy adjustments according to need, regardless of facility size and sector specification.

COMARCH IOT HUB

COMARCH IOT PLATFORM

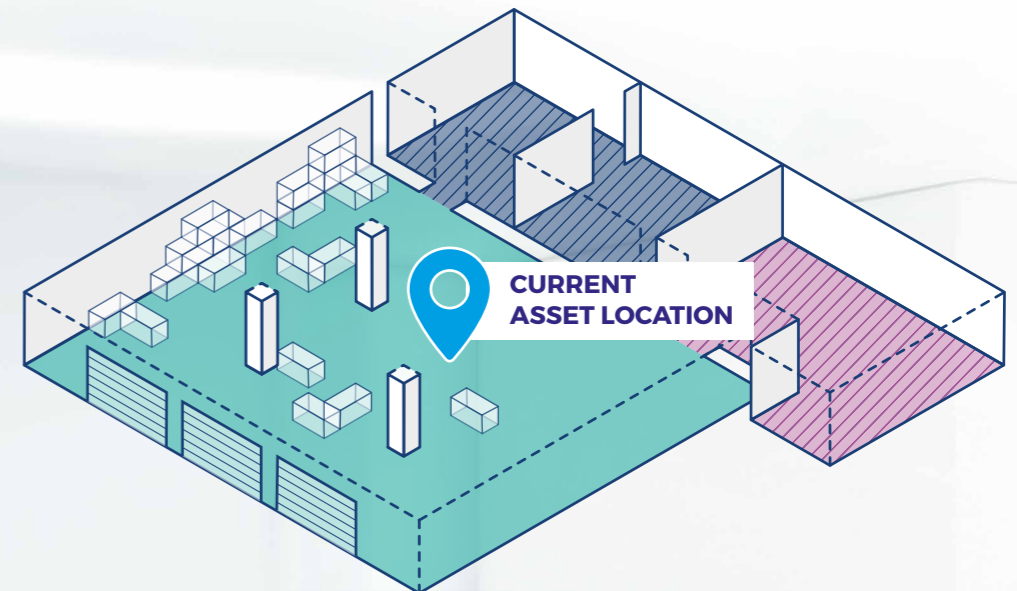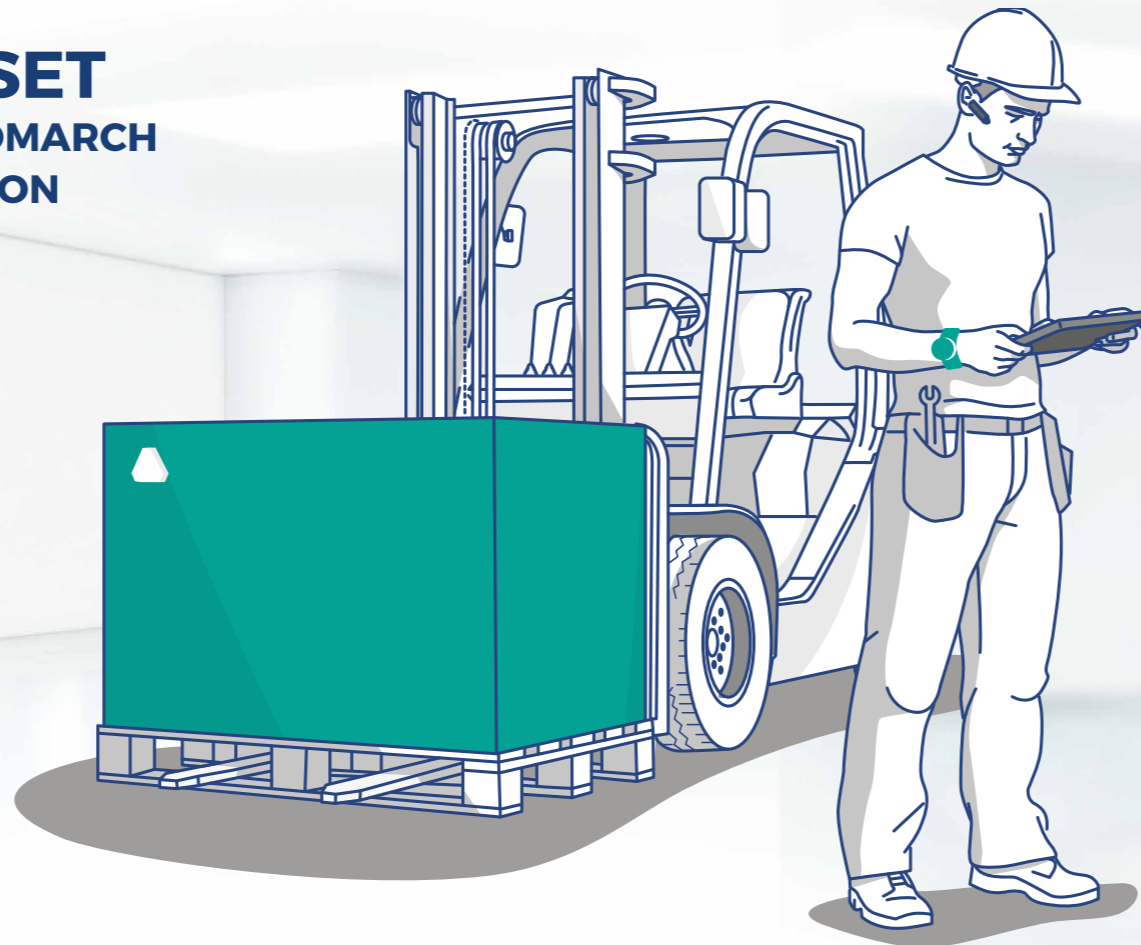**ASSET w/ COMARCH BLE BRACELET**

ASSET w/ COMARCH BEACON

The location and identification functionality relates also to transported goods. As soon as a vehicle crosses the warehouse entrance, the transported load is identified and placed on the right platform. Each one is properly marked with a Beacon or RFID tag to make sure that it reaches its destination. Identification is very helpful during inventory. Knowing the exact number and location of stored commodities is possible thanks to the Comarch Asset Tracking system, which collects the data in a cloud environment (Comarch IoT Platform). The information is available via web or mobile application as required.

HOW DOES ASSET TRACKING IMPROVE OPERATION OF THE WAREHOUSE?

Comarch Asset Tracking has a wide range of applications relating to employees, machinery and procedures in a warehouse.

Beginning with human resources, it is important to control employee performance and collect data for further analysis. Staff equipped with BLE Bracelets (sending a signal to the IoT Hub) are monitored and easily located. When employees are associated with some equipment, the system recognizes whether assets are still in their intended place. In the event of unwanted tool exchange between staff, tracking devices such as Beacon and BLE Bracelet send signal to the IoT Hub.

CURRENT ASSET LOCATION

Warehouses are often characterized by industrial trucks. Forklifts are used to move and lift goods from one place to another, and are required to operate only on designated routes. Comarch Asset Tracking system detects forklifts' actual positions and ensures that they comply with all safety rules during operations.
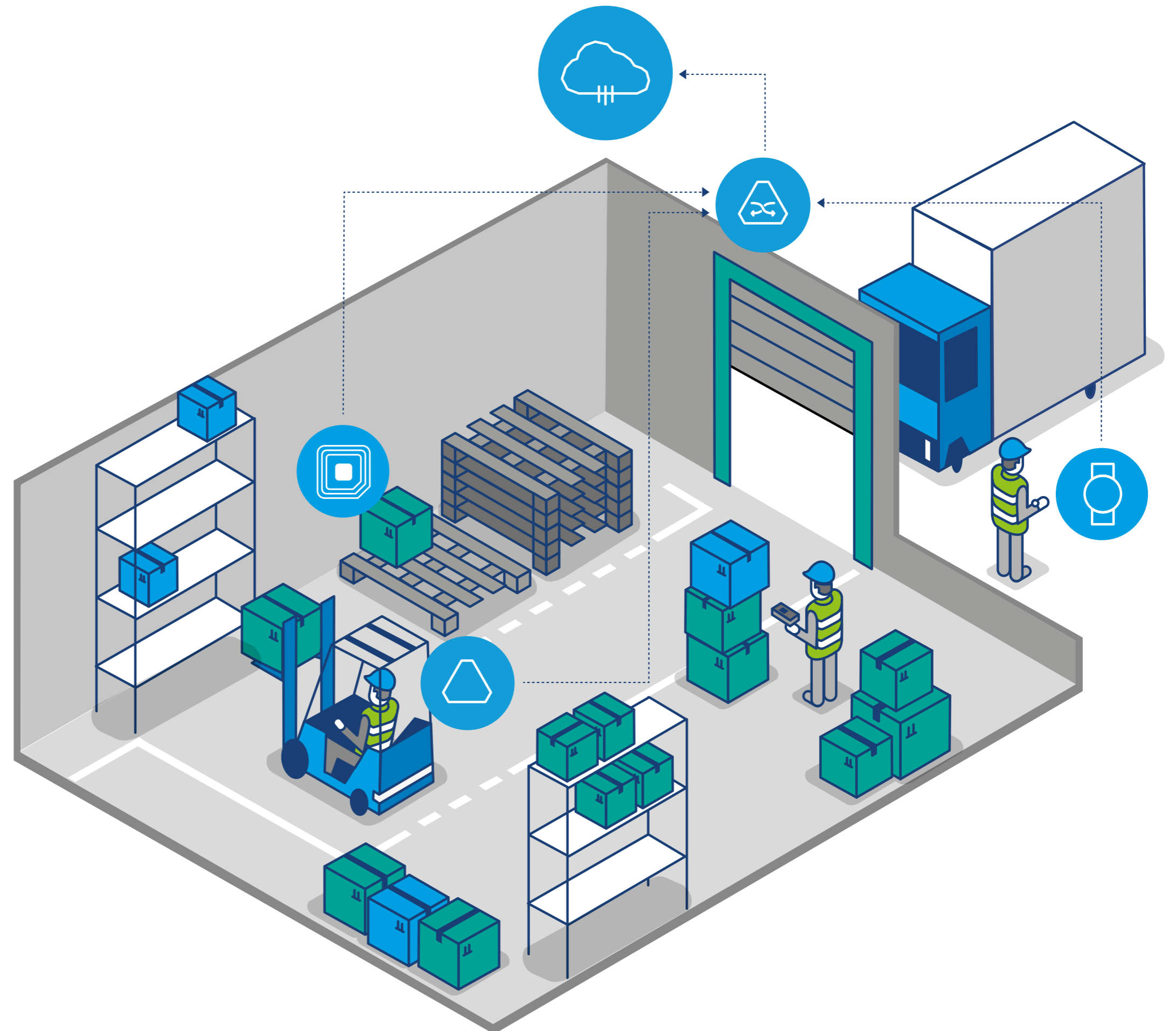
SUMMARY

Regarding the presented specification, benefits and use case it is easy to establish the main purposes of Comarch Asset Tracking – **save time, reduce costs** and **optimize processes.** Even (or especially) the most innovative facilities face problems relating to assets, such as:

- Where is the asset?

- When was the asset last utilized?

- Who was associated with the asset?

- How was the asset utilized?

Deploying this dedicated solution lets you keep track of your company's assets and know their location, status and due dates. Comarch Asset Tracking prevents any inconveniences before they happen, ensuring that no process is omitted. Legacy tracking systems are replaced by a new, automatic solution operating in a cloud environment (so, for example, there is no longer any requirement to scan bar codes manually).

In conclusion, the era of paper records and manually completed warehouse documentation has come to an end. Comarch's solution, based on its IoT Platform and equipped with IoT Hubs and transmitters (Beacons, BLE Bracelets and RFID tags) connects all of the physical and Internet devices. Thanks to that, Comarch Asset Tracking gives companies many technological options to take control of their entire infrastructure, turning organizations into modern and efficient workplaces.

COMARCH
Technologies

ABOUT US

Comarch is a leading Central European IT business solutions provider specializing in forging business relationships that maximize customer profitability while optimizing business and operational processes.

Comarch Technologies draws from a wide expertise Comarch has accumulated during 25 years of its business activity in the field of delivering comprehensive IT solutions. Its main concern is to provide the customers with the most reliable and secure solutions that consist of advanced software along with innovative hardware infrastructure supported by professional services.

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