

# TELEMATICS JOURNAL

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## In focus

On track for innovation

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## In-depth look

Telematics on the rise in  
Africa

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## Telematics in action

Digging deeper into mining  
cargo control





## Dear reader,

Beyond doubt, we strive to add as much value as possible to your business and the telematics industry. That is why this edition is dedicated to perhaps the most important topic of all – innovation. The IoT field innovations and their adoption in real-world projects are essential, driving efficiency, safety, and cost-effectiveness. At the same time, they transform the way companies manage their fleets and improve customer service through the power of data and connectivity. In this regard, we are happy to share with you how we see and do innovation.

As you immerse yourself in the content, the 'Telematics in Action' chapter takes you to an inventive use case, with fascinating details of how the DSM solution with FMC650 vehicle trackers is applied in the mining sector in Indonesia. Are you aware of the requirements related to the implementation of Smart Tachograph V2? In 'IoT Insights', we

remind you of the important dates to help your business comply with the EU laws well ahead of the deadlines.

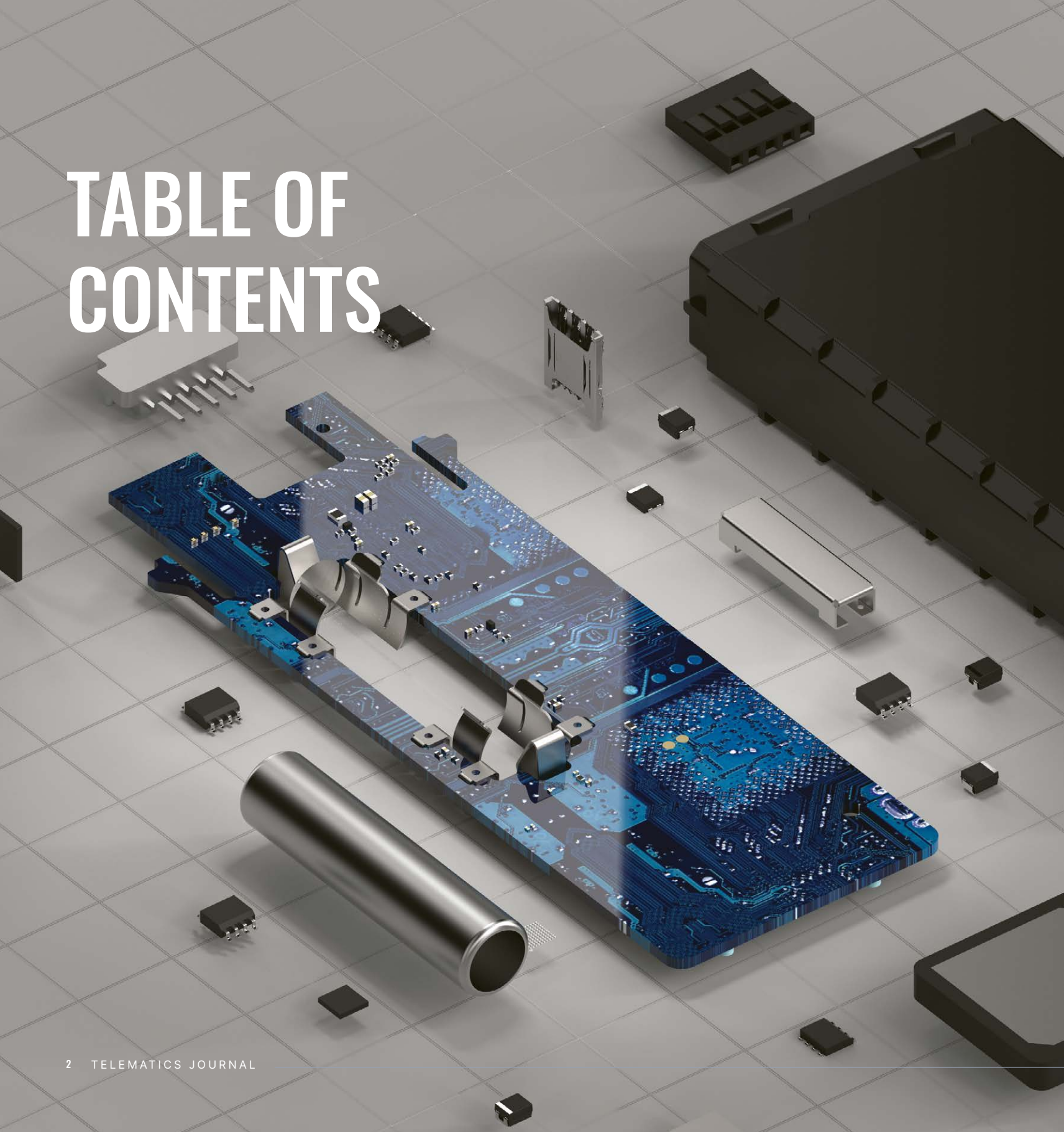
You will also have a chance to discover how Teltonika office in Kenya has become a telematics hub, offering everything the market needs – from innovative GPS devices to regional summits and dedicated one-to-one training. So, prepare to embark on an exciting journey that will challenge your perspectives and inspire you to explore new frontiers with us.

I am very honoured to have you as part of our growing community of readers who share a passion for the IoT business. Thank you for choosing Telematics Journal as your trusted source of knowledge and inspiration. Enjoy it!

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**Antanas Šegžda**, CEO, Teltonika Telematics

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# ON TRACK FOR INNOVATION: REINVENTED GNSS ACCURACY MEASUREMENT

**O**ur new FT platform-based devices offer enhanced GNSS accuracy – these seemingly simple words not only mean considerably higher tracking quality for our clients, but also hide a winding road to find the most accurate GNSS tracking measurement technology. Kšyštof Korbutovič, Chief of Innovations group at Teltonika's telematics division, tells in detail how persistence and innovative thinking has ultimately allowed us to offer the best available GNSS precision in class.

## How did it all begin?

In 2021, we started developing software for the recently launched FT platform and choosing the main components for its

products. At that time, we agreed that one of our key goals is to deliver to our clients the most precise GNSS tracking feature. But then there was a question – how to measure and compare the precision of different GNSS receivers?

## What is the usual practice?

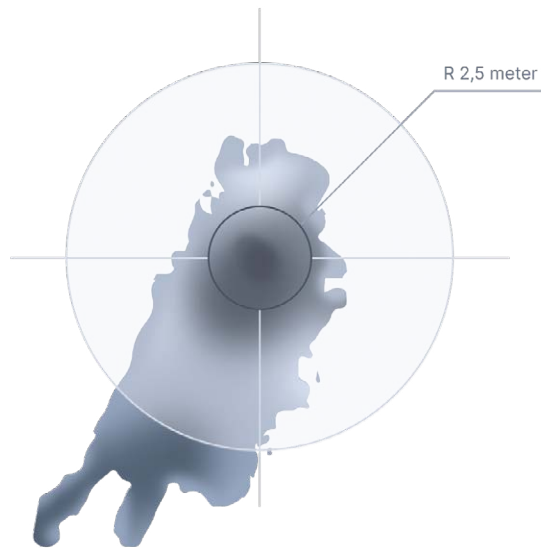
Normally, GNSS device producers declare accuracy using the Circular error probable (CEP) method (e.g., 2.5 m CEP). This measurement method means that for a stationary GNSS receiver with open sky conditions 50% of points acquired in 24 hours are in the 2.5-meter radius circle.

However, these ideal conditions do not correspond well with the real tracker's functioning. In practice, one will not have ▶

**Kšyštof Korbutovič**, Chief of Innovations group, Teltonika Telematics

perfectly open sky conditions as visible satellite signals are limited due to the surrounding environment (such as buildings, trees, etc.) and mounting place in a vehicle (unless you put a device on a car's roof!). Moreover, visible satellite signals are constantly changing because a vehicle moves. One more factor is environmental radio disturbances that influence GNSS satellite signals while driving in real conditions coming from one's car, phones, other cars, infrastructure, etc.

Thus, a smaller CEP value does not guarantee more precise track in real conditions. Our goal was to be sure that the accuracy of our new devices is the best available not only in a stationary test but in real tracking conditions too.



CEP accuracy measurement report example

### What was the approach that you followed?

Our question was how to measure the real tracker accuracy and compare track precision results of several devices.

In 2021, we started tests based on comparing tracks by rating them. We selected a test route and each day we were driving with a computer, collecting GNSS data from the device under test, and putting it on a map. We defined 10 points on a map. In each point, we examined the track, how far it was from the real road point, and rated it from 1 to 5. The tracker with the highest rating would be the best one.

### How good did this measurement method prove to be?

While repeating the tests, we realised soon that this methodology does not work. On a few occasions we had situations where our best tracker one day has become the worst the next, and vice versa. Those tests taught us the lesson that all trackers should be compared at the same time in the same environment.

Instead of a true measurement system, we just had a subjective ranking. Besides, we did not grasp the accuracy of each tracker in numbers.

### What did you do then?

We decided that comparison

should not be made using road points. Rather than that, we should compare each second to something what would be the best possible precision. Some 'golden sample' was needed to measure deviation from it.

We tested a few GNSS systems, each costing up to a few thousand US dollars, to select the best one with the decimetre-level accuracy (with RTK correction). We installed a big antenna on the roof of our test van to get the best available accuracy. As for the tested units, we mounted them inside the car at the bottom of a passenger seat and behind the dashboard to have worse than real client's conditions of GNSS satellite visibility. Such setup enabled us to measure the difference of the tested unit vs. the 'golden sample' in real conditions at every second.

### How did the test route look like?

It consisted of approx. 100 km covering various kinds of environment: urban canyon, forests, roads outside the city, etc. This way, we were able to compare the accuracy of different trackers in different environments and determine the best accuracy in each environment.

Additionally, we developed statistical analysis software that calculated the difference between the tested units and the 'golden sample' each second, while statistically analysing the main GNSS radio parameters. This way, our tests became measurable and repeatable, giving us the ability compare results and improve the hardware design of our products.

### Getting back to the FT platform-based products, could you tell us more how they were designed?

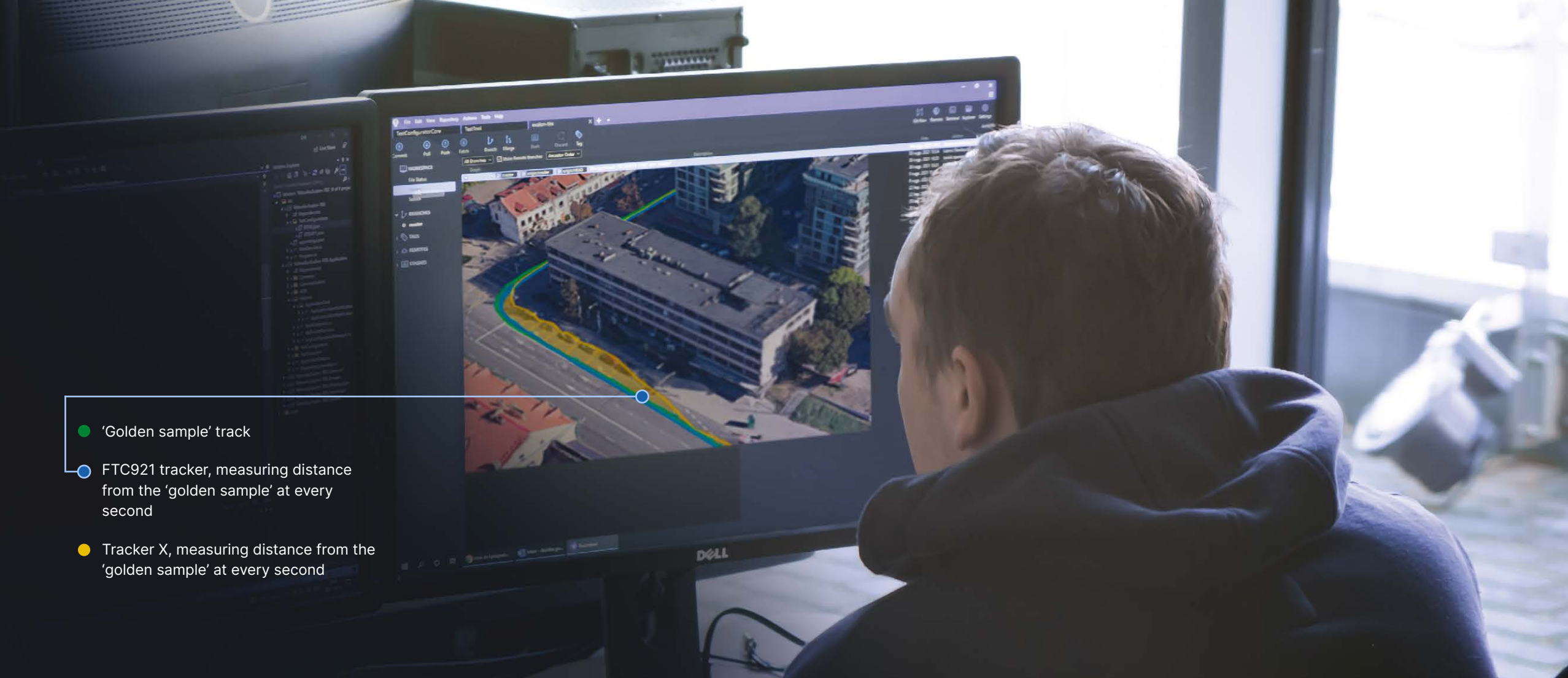
Test route covered approx. 100 km of various kinds of environment.



When choosing the main components, we tested 5 different GNSS receiver vendors to determine the best one in terms of accuracy. During the prototype stage, we ran hundreds of tests and changed the design a few times pursuing our goal – the best available tracking accuracy.

While testing, we understood that the performance of well-designed and less well-designed GNSS trackers is equally accurate when conditions are very good (open sky, no high buildings, no trees, no rain, etc.). But from the very first moment when a tracker starts operating in non-ideal conditions one can immediately see the advantage of a well-designed tracker and the value that more precise track brings.

Another lesson that we have learned while running the tests and optimising the design of our trackers was that one should not compare tracks made on different days because environmental conditions will be different, including GNSS satellite ▶



- 'Golden sample' track
- FTC921 tracker, measuring distance from the 'golden sample' at every second
- Tracker X, measuring distance from the 'golden sample' at every second

constellation, different GNSS signal attenuation due to weather humidity, etc. All this will cause varying tracks.

When evaluating their tracking accuracy, two trackers should be tested under the same conditions: mounted at the same place in a vehicle with a 3-7 cm distance between them with the test performed at the same

time. Only then comparing two tracks on a map will be objective.

**So we have succeeded, right?**

Yes, absolutely! As a result, our FT platform-based devices offer considerably increased tracking precision. I strongly believe that when you test the new FTC9xy

and FTC8xy trackers, you will see for yourself the results of our efforts to provide the best available GNSS precision in class.

FT platform-based devices offer considerably increased tracking precision.



## IP69K-RATED CASING: THINKING OUTSIDE THE BOX ABOUT A BOX

Putting Teltonika slogan ‘Easy Key to IoT’ into practice can take many forms – such as ensuring that our tracking devices have top-class protection against water and dust, while keeping the utmost simplicity and convenience related to their casings. How is it possible? Aleksandras Balionis, Project Manager at Teltonika’s telematics division, shares the details.

**FT platform trackers FTC961 and FTC881 come with the IP69K-rated casing, which is something new in our product portfolio. Please tell us what’s different about it.**

Let’s begin with the fact that IP69K, or ingress protection, rating is already special by itself. With these casings, our tracking devices can be installed outside of vehicles as they are resistant to extremely high pressure and high temperature water jets (up to 80C degrees). Accordingly, our business partners can broaden the range of services they offer and use our products in such scenarios that were not previously possible.

We are more than happy to expand the solutions that are suitable for harsh



environments where abundant dust and water are present, however, that’s not all. When it comes to this high IP rating, you might think that the casing must be very complicated. How else could its tightness be ensured so well?

When designing IP69K-rated casings for the FT platform devices, we strove for the uttermost simplicity and convenience. We committed ourselves to achieving the required level of resistance, while allowing our clients to get the trackers up and running without the need for additional tools such as screws or bolts. And I must say the we have succeeded. This way, our clients can perform device integrations more quickly saving their time and resources, and we can manufacture our products faster.

We strove for the uttermost simplicity and convenience.



**That sounds impressive! How were we able to achieve this?**

To make it a reality, we had to put in a lot of work and time. It was back in 2020 when the idea was born to create a water-resistant and dust-proof casing that would be very simple to handle.

First, we started with the design, which had to fit all our FMx1 series products, as the



**Aleksandras Balionis**, Product owner, Teltonika Telematics

printed circuit boards, or PCBs, were different for 2G and 4G trackers. In addition, we had to come up with a way to reliably seal our standard 12-pin connector, since there were no plans to introduce another connector in our products.

After the casing’s 3D model was ready, we moved on to produce the first prototypes. We tried different forms including 3D printing to perform proper functional tests. It took us more than five iterations till we reached the desired result. By the way, we carried out all the leakage tests in-house, making sure that the process was speedy and reliable. ▶

## What were the next steps?

Once we had working prototypes, it was time to think about the mass production of these casings. After quite a few iterations in the prototype phase, the preparation for it did not take too long. Yet, despite the fact that the casings of mass production were fine right from the start, we carried out numerous experiments with the gasket in order to achieve the easiest possible way of closing a casing.

I would like to take this opportunity to thank all the colleagues who have contributed to the success of this project. Without their hard work and determination to attain goals we would not have done it.

With a number of tests and iterations, the whole development process took more than a year before we got what we wanted. In 2022, being sure of the high quality of our solution, we brought to the market FMB platform-based water-resistant FMx2 series and FMB965 products.

## After that, we were ready to apply our experience for the FT platform trackers, right?

Exactly. When we started thinking about the new platform, we took it up a notch and decided to go for IP69K, one of the highest ingress protection classes, so that our customers could extend their use case list.

Our experience with FMx2 and FMB965 models was a key factor in the creation of a new casing. By that time, we already had a clear process for design and testing, knowing what worked and what did not.

Our previous projects taught us that the larger casing opening, the more difficult it is to seal it effectively. Therefore, for the FT platform devices, we decided to make a pocket-shaped casing to keep the sealing perimeter as small as possible.

## We closely control the manufacturing process to ensure consistent quality.



We also developed the optimum shape for the gasket, which greatly reduced the compression force needed to ensure a tight seal and was much easier to close. In the end, the results speak for themselves – the casing achieved IP69K sealing requirements from the very first certification attempt!

In conclusion, I can add that casings with increased water and dust resistance are quite sophisticated, so we closely control the manufacturing process to ensure consistent quality.

## Can our clients already try FT platform trackers with the IP69K casing themselves?

Yes, our clients are welcome to order samples and test our new solutions. Later this year, we will start selling IP69K-rated devices on a mass scale.

# BRING IT ON!

The ultimate protection against dust & high pressure water with IP69K-rated casing





# WHAT'S NEXT? A LOOK AT TRENDS IN TELEMATICS

**A**lways on the move and moving fast – telematics never stops taking new shapes, delivering valuable insights, and adapting to evolving needs. Marius Slavinskas, Chief of SCOPE product development group at Teltonika's telematics division, shares what's happening in this dynamic field to help you stay on top of things.

## Is telematics a fast-developing industry in terms of technological advances?

I would like to filter this question through my personal experience in telematics. Having joined Teltonika in 2011, I have already been in this industry for more than a decade. Remembering the device range at that time and comparing it to the current one, it is amazing to see how much the product portfolio has expanded. What used to be a leaflet before is now a catalog of over 100 pages.

There are a number of factors that influence technological progress in telematics:

- As vehicles come to be smarter, the ECU is becoming a source for more and more data related to safety, security, economy, etc.
- Technological innovations drive us forward to use different connectivity technologies (4G

LTE Cat 1, Cat M1, etc.), more precise GNSS, and new generation Bluetooth® to connect various sensors, such as temperature, tire pressure, indoor location, etc.

- A need for big data requires more powerful microcontroller unit, or MCU, to handle the increasing information traffic. Without it, it would be impossible to derive valuable insights for businesses and consumers, including predictive maintenance, anomaly detection, and overall system efficiency check.

## What are the main current trends and developments?

We see that the world is changing, meaning what was enough a few years ago is not enough now. Just a pin on the map to know where one's vehicle is and what routes it took to reach the destination is history.

Today, we speak about connected cars features like real-time vehicle diagnostics and monitoring vehicle data that includes fuel consumption, battery state of charge, state of health, DTC codes, tachograph data, over-the-air software updates, and much more. These features help fleet managers monitor vehicle health, improve fuel efficiency, prevent unexpected expenses, and ensure compliance with regulations.

## How do telematics solutions contribute to sustainability and environmental goals?

I would say it is one of the main purposes of telematics equipment. With eco-driving coaching, we can monitor critical parameter thresholds in real time and optimise fuel consumption, gas emissions, and tire wear, allowing us to make a considerable contribution to reaching sustainability goals.

## How does Teltonika stand in developing innovations?

We are always pushing the boundaries of technology to develop solutions that address the evolving needs of our customers. Teltonika's constant growth shows that we are taking the right steps towards the innovative solution development. A big thank you goes to our R&D team for their great job to keep us at the forefront of all telematics solution manufacturers.

What was enough a few years ago is not enough now.

”

## What if we look at telematics in 5 or 10 years? What are the predictions and expectations?

The future will be even more demanding. We see the first steps of Ethernet introduction into vehicles as CAN bus is already too slow for the amounts of data moving between electronic control units, or ECUs. At the same time, we must not forget data security and privacy. The more data we can access, the more measures we will need to take to encrypt it and secure from cyber threats and unauthorised access.

Also, we will have to adapt our service to the micromobility field, which is growing very fast, and other niches including electric vehicles, autonomous cars, maybe even human transporting drones.



**Marius Slavinskas**, Chief of SCOPE products development group, Teltonika Telematics

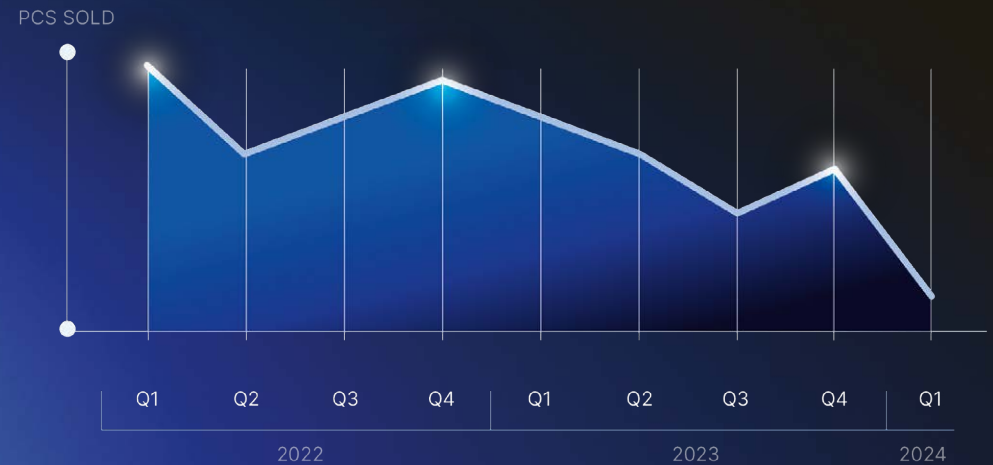
# DATA-DRIVEN INSIGHTS: 2G VERSUS 4G LTE

The sales figures of Teltonika's 2G and 4G LTE connectivity GPS trackers from Q1 2022 to Q1 2024.

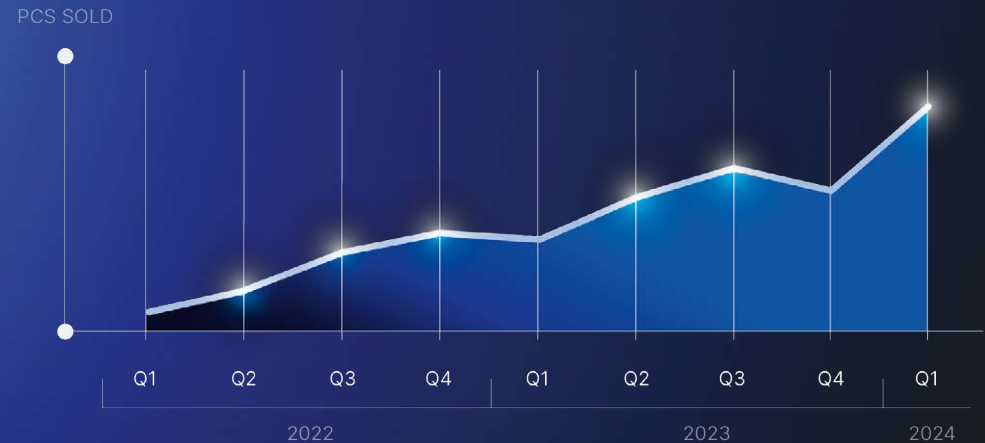
**W**e invite you to explore the dynamics of the sales statistics, shedding light on the preferences of our clients globally and the impact of advancing cellular networks on the GPS tracking industry.

As anticipated, the widespread adoption of 4G LTE (Cat 1 and Cat M1) connectivity has led to increased demand for such GPS devices that can take advantage of faster and more reliable communications. Another significant factor contributing to the decline of 2G connectivity trackers is the gradual phasing out of this network in many countries.

## 2G DEVICES: 39.1% DROP



## 4G LTE DEVICES: 244.2% GROWTH



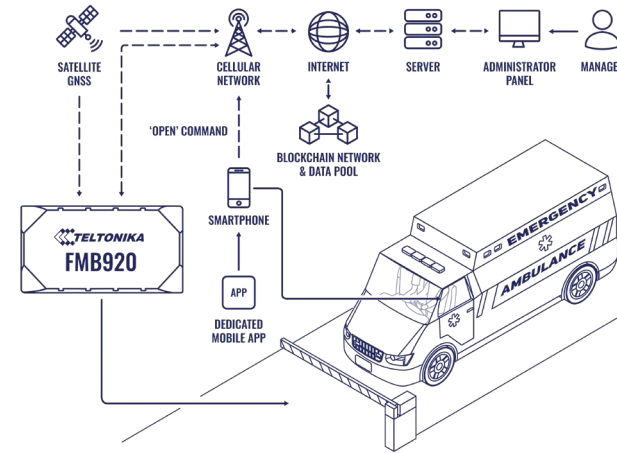
# SMARTER OPERATIONS WITH TELTONIKA GPS DEVICES

Unlock more possibilities and make your project ideas stand out with the latest use cases related to blockchain technology, the newly launched ATEX-certified devices, and the VDO Counter feature.



## Equipment tracking in hazardous areas with ATEX-certified EYE devices

In industries, such as oil, gas, chemical, or pharmaceutical manufacturing, where hazardous environments are common, a wide variety of equipment often needs to be moved. Monitoring the location, usage, and maintenance status of this equipment is essential not only for operational efficiency but also for safety. It requires a tracking device which is certified to work in such environments. To meet these challenges, Teltonika offers EYE Beacon ATEX and EYE Sensor ATEX models.



## Managing public spaces with GPS trackers & blockchain technology

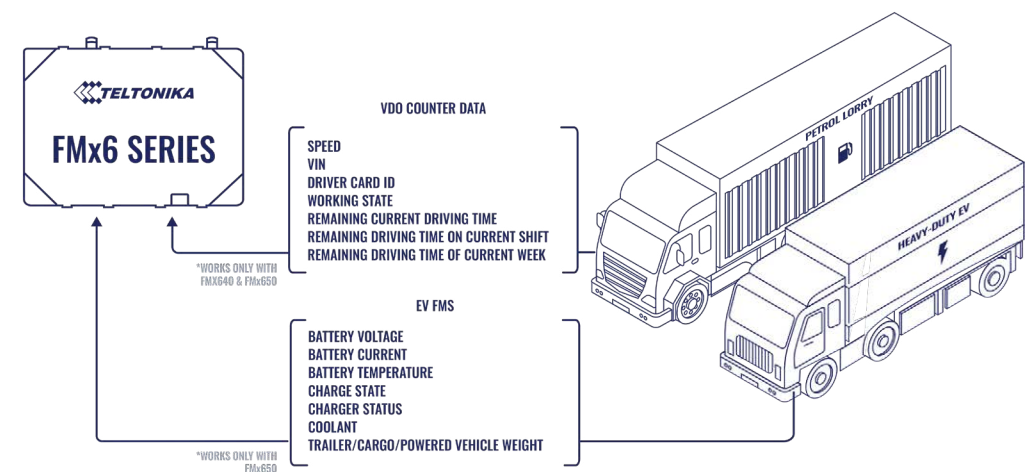
Emergency and utility fleets operating in urban environments often face challenges associated with various types of controlled obstacles. Traditional methods of accessing restricted areas require manual intervention, be it physical keys, security guards, or remote authorisation processes. This can lead to unwanted delays, inefficient responses, safety issues, etc.



By addressing these concerns, city authorities and companies can improve the efficiency and transparency of their services.

## Management of drivers' working hours with VDO counter

Driver monitoring is a critical aspect of logistics operations as it helps to ensure compliance, boost safety, improve efficiency, reduce costs, and contribute to the overall well-being of company employees. To provide comprehensive information and make the management process even more convenient, Teltonika introduces a new digital tachograph feature – the VDO Counter – in FMx6 series GPS trackers.



# DIGGING DEEPER INTO MINING CARGO CONTROL

Precision and durability are crucial in the mining sector. Fortunately, when the standards are extra high and the use case is tough, Teltonika FMC650 tracker is the first in line for the challenge.



In the rough terrain of South Kalimantan, part of Indonesia's Borneo island, our client operates a vast mining area covering 24,100 hectares. The company was looking for a way to acquire accurate data to eliminate human error and prevent accidents – a requirement imposed on the industry by the Indonesian government.

## Pinpoint precision

It goes without saying that mining takes place in remote areas and requires advanced fleet management systems to extract and transport raw materials as

efficiently as possible. Faced with the challenges of accuracy and durability in their previous fleet management system, our client turned to Teltonika and chose our PROFESSIONAL category FMC650 device. This tracker incorporates a separate module to collect GNSS data and supports dual channel, L1 + L5, improving its tracking precision. In addition to providing accurate location data on its own, the L1 band can give you even higher accuracy in combination with L5, which can pass better through rugged terrain.

## Flexible mining solution

A mining fleet is no ordinary fleet as it consists of a diverse range of large heavy-duty machines. Ideal in this case, FMC650 offers a wide range of features, like green driving, overspeeding, geofencing, and other scenarios. The choice of FMC650 was strategic since its DIN, DOUT, and RS232 ports allow for further applications with additional sensors, thermographs, or RFID readers to meet the growing needs of the industry.

## A standout in the market

Teltonika's local office in Jakarta and prompt technical support set us apart from the competition. Based on the client's positive feedback, the accuracy and reliability of our equipment provide their company with peace of mind and help win the trust of their end customers.



**Elisa Pramono**, Sales group manager

# SMART TACHOGRAPH V2: COMPLIANCE WITH EASE

With the aims to ensure better working conditions for drivers and increase road safety, the European Union (EU) has adopted regulations introducing and mandating the use of Smart Tachograph version 2. Essential for logistics and freight companies operating internationally within the EU, it calls businesses for action. What kind of vehicles need to comply, when, and how Teltonika can help – find out all the details below.

**T**he new tachographs are designed to automatically record border crossings and provide more accurate tracking of driving hours and rest periods.

With different due dates applied, these smart devices must be installed in all vehicles over 3.5 tonnes operating internationally within the EU.

In case of new registered vehicles, it already had to be done by 21 August 2023, while vehicles operating with analogue or digital tachographs will need to comply by 31 December 2024, and vehicles equipped with a Smart Tachograph version 1 will need to switch to version 2 by 19 August 2025.

## LCVs in sight

Moreover, starting from 1 July 2026, all light commercial vehicles over 2.5 tonnes involved in international transport or cabotage operations within the EU will also be required to install Smart Tachograph version 2.

This advancement aims to simplify compliance, bolster road safety, and reduce administrative burdens. The integration of GPS significantly enhances the functionality of tachographs, providing precise location data and streamlining the enforcement of EU legislation.

## It's time to act

We encourage you to begin preparations for the Smart Tachograph v2 integration early, especially if you operate in logistics, public transportation, or long-haul shipments. Starting now will help you avoid last-minute disruptions and compliance issues.

Additionally, a proactive approach is the way to open up new business opportunities. By analysing market niches, integrators can identify and connect with potential clients in the sectors that need to update their fleets. Teltonika is ready to support these upgrades by providing the necessary technology and expertise.

## Teltonika is here to help

To proceed smoothly with the transition, Teltonika offers FMx650 series tracking devices that are fully compatible with the requirements of Smart Tachograph v2. Designed for seamless integration, these PROFESSIONAL category trackers can be installed in trucks, B category vans, and other vehicles affected by the regulations, ensuring that our clients are ready well ahead of the deadlines.

In addition to the continued compliance with EU standards, fleet operators will also take advantage of such benefits as improved operational efficiency and heightened security.



More information



# TELEMATICS ON THE RISE IN AFRICA

Witness the growth! In less than four years, Teltonika office in Kenya has turned into a hub of telematics to offer everything what the market needs – from innovative devices to regional summits and dedicated one-to-one training sessions. Elvis Mogaka, the office CEO, shares in detail how this transformation took place and what trends are shaping the local telematics landscape.

## **C**ould you briefly introduce the history and development of Teltonika office in Kenya?

We started with just one employee in August 2020, and now we already have 24 colleagues. Over that time, our sales revenue has grown rapidly, we moved to spacious premises with a customer experience room, major distributors and resellers have become our business partners, while Teltonika trackers have emerged as local bestsellers – these are just a few noteworthy developments that have happened.

Among other things, I would like to highlight events for our clients. In the last a couple of years, Teltonika hosted two regional summits in Kenya and Nigeria. Both were a huge success, with more than 120 participants from dozens of companies attending each. In addition, we organised smaller workshops in Kenya and Uganda.

## What are the main telematics trends in Kenya and the region?

In Kenya and across East Africa, several factors are driving demand and shaping trends in the telematics industry, including asset financing, microcredits, leasing, electric vehicle (EV) industry, security, and the need to reduce fleet operating costs. Despite the potential, the insurance industry has yet to fully exploit data, which presents an opportunity for our devices with their robust capabilities.

Nearly 90% of vehicles on Kenyan roads are financed by local financial institutions, mandating tracking and making it a significant driver of telematics demand. Additionally, there is an emergence of logbook/microcredit companies in East Africa that adopt tracking policies similar to mainstream banks for asset security. ▶

We make sure to stay close to our clients throughout the region.

”

Elvis Mogaka, CEO,  
Teltonika office in Kenya

Furthermore, fleet owners are increasingly interested in obtaining specific data from their vehicles to optimise fleet operations. This includes fuel consumption data, fuel theft prevention, and overall fuel efficiency improvements. Fleet managers also focus on driver management to ensure efficient appraisal processes.

These emerging trends have contributed to year-on-year industry growth of over 20% in Africa, indicating the increasing adoption of telematics data in fleet management across the continent.

**What makes Teltonika's telematics products different from competitors? What are our key selling points in Africa?**

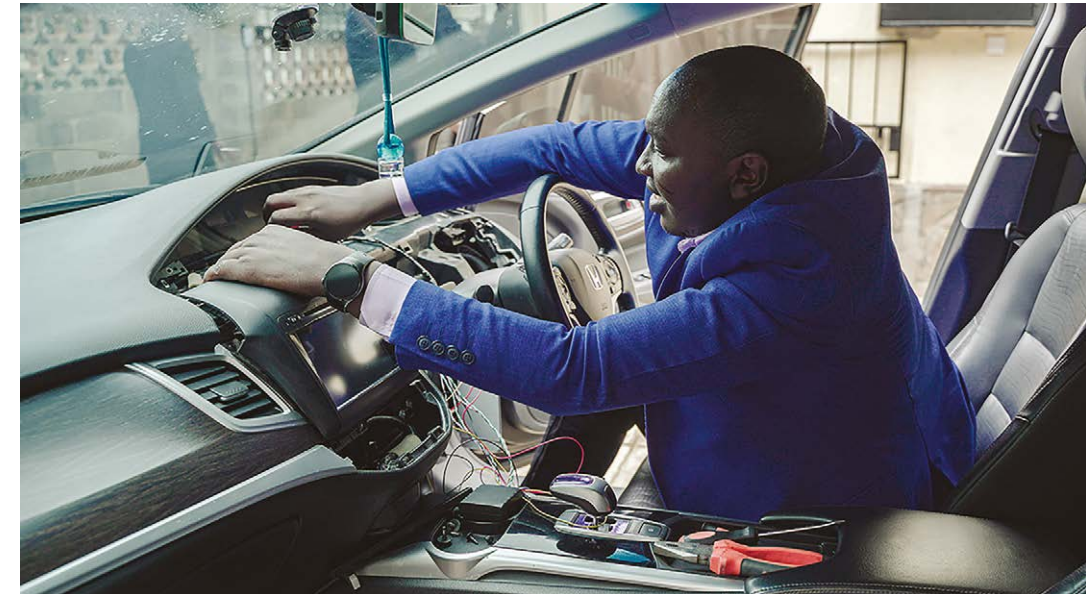
In this regard, Teltonika is a leading provider of reliable and practical GPS tracking devices to our valued clients in Africa. Our products have earned industry's recognition for delivering quality and accurate data to fleet managers.

One of our key selling points is innovation. Equipped with Bluetooth® technology, Teltonika devices offer enhanced functionality, opening up a wide range of potential use cases. Besides, we have made significant investments in regional offices, particularly in Kenya, bringing us closer to our customers. This proximity enables us to provide better customer support and build stronger relationships.

Moreover, we prioritise customer satisfaction by offering a 2-year warranty on our devices whenever applicable, along with comprehensive technical training, knowledge transfer, and tailored assistance provided by our dedicated local sales managers. We are committed to ensuring short lead times for our products, allowing our clients to implement solutions swiftly to the end users.

**Could you name the most popular Teltonika tracking devices and use cases in Africa and tell the reasons why?**

Our global bestseller FMB920 is also the most popular Teltonika tracker in East Africa. Although categorised as a basic tracker by Teltonika standards, this model offers remarkable versatility, making it highly sought after by customers in the whole continent.



A standout feature of FMB920 is its Bluetooth® capabilities, which go beyond basic tracking functionality to enable a wide range of use cases, including backup tracking, driver management using beacons, fuel monitoring and management with Bluetooth® LLS sensors, temperature monitoring, and more. These functionalities are crucial for fleet managers and vehicle owners looking to optimise operations, increase efficiency, and ensure asset security.

Moreover, FMB920 is renowned for its affordability compared to competitors offering similar features and quality. This competitive pricing makes it accessible to a broad spectrum of customers across Africa, including small and medium-sized businesses with budget constraints but still in need of reliable tracking solutions.

**How do we ensure that we are close to our clients in Kenya and the entire region?**

Being locally based, we regularly visit clients in all the countries we serve, facilitating real-time interaction and feedback collection. This way, we get valuable insights into industry trends and promptly address any concerns while providing tailored one-to-one training sessions to meet our clients' specific needs.

Additionally, we organise Telematics summits and workshops in major cities across the region, inviting both our existing and potential clients to participate. These events serve as a platform to showcase new technologies, demonstrate practical use cases, and offer comprehensive training sessions. By enabling direct interaction with our sales professionals and engineers, we strengthen relationships with our clients and enhance their understanding of our latest devices.

By combining all these initiatives, we make sure to stay close to our clients throughout the region.



# AROUND THE GLOBE

Take a journey through the ever-evolving field of telematics where unique and creative ways to use tracking devices abound. Let the stories from around the world be an inspiration for your next success case.





## KEEP THE LIGHTS ON – EVEN IN THE ARABIAN DESERT!



For events in remote locations like deserts, where standard electricity is unavailable, rental generators are vital. Managing these units efficiently and securely under such conditions is a real challenge. Our client, a rental service, required a dependable method to monitor their equipment’s health and usage. Their primary goals were to track fuel levels to prevent theft, monitor power output, and maintain equipment in good condition – all of them essential to ensure service reliability and earn their customers’ trust.

To address these needs, the company used Teltonika FMC650, a sophisticated vehicle GPS tracker that connects seamlessly to generators via the CAN J1939 protocol. This allows for comprehensive monitoring and capturing of important parameters such as

fuel consumption and level, engine RPM, oil pressure, coolant temperature, battery voltage, and more. Real-time data helps to prevent fuel theft and keep expenses under control, prevent breakdowns during important events, and prolong equipment lifetime.

FMC650 has enabled our client to offer more reliable, efficient, and secure generator rental service. As events continue to take place in challenging locations, innovations like this ensure that power is managed with precision and foresight.



**Bassel Arzouni**, Sales manager

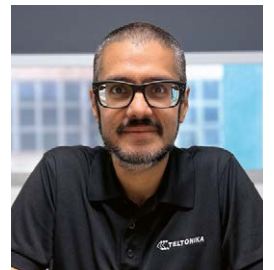
## SINGAPORE, ARE YOU READY FOR THE 3G SHUTDOWN?

Singapore is about to discontinue 3G service by 31 July 2024, thus, businesses operating in the city-state must be ready for the transition. Local telecommunications carriers were notified of the network shutdown at the start of 2023. However, many of our clients are still using Teltonika 3G trackers, such as FMU130 or even older models that are still functioning well.

The 3G sunset is a worldwide shift in the telecommunications industry towards more advanced and efficient technologies, with mobile operators in various countries repurposing the 3G spectrum to enhance 4G and 5G services. For instance, replacing 3G trackers with 4G models can offer businesses more robust features, including better GPS accuracy, faster data transmission, and lower latency. FMC920 is our most competitively priced 4G LTE Cat 1 device with a wide range of

built-in features. After discussing with numerous local clients, we identified that the primary use case for 3G trackers was basic GPS tracking with an immobiliser feature. So, no wonder that over the last 12 months FMC920 became a bestseller. Moreover, having a local office helps us support our clients more efficiently and fulfil orders faster by keeping an extra stock of this and other popular trackers.

With time running out to complete the swap, we urge our clients not to delay it till the last minute. If you have not started yet, contact us for assistance – we are here to help.



**Hunaid Dabhoiwala**, Sales manager



## VEHICLE SECURITY NEVER GOES OUT OF STYLE

**S**pain faces a particular challenge as luxury cars are targeted by thieves and shipped to countries in North Africa. A top car rental company has turned to Teltonika trackers to boost the security of its prestigious fleet.

To protect the company's cars, they used Teltonika FMB920 model as the main tracker. It is small and easy to hide in a car. However, experienced thieves often try to find a tracking device, disable it, and get away with the vehicle. To add an extra layer of security, TAT100 is used as a backup tracker. It remains offline in a smart sleep mode and can periodically check if FMB920 is still connected and working, as both devices are set to communicate with each other via Bluetooth®. If the master tracker is unplugged, removed, or

damaged in any way, Bluetooth® connectivity will be disrupted. Right away, the backup tracker wakes up, takes over tracking functions, and sends an alarm notification.



**Alexandre Henrique Freitas Helander**, Sales manager

Sophisticated vehicles require sophisticated security solutions – with the FMB920 and TAT100 combo, our client achieves just that. These trackers provide peace of mind and cost savings, ensuring the company's assets are protected and its operations run smoothly.



# OUTSMART A THIEF

SCAN TO LEARN MORE



## BACK TO BASICS



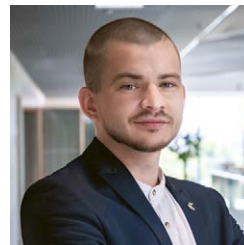
Sharing knowledge is powerful, and the Basic certified technical training for Teltonika customers is a great example of it. The program helps our clients to efficiently use Teltonika tracking products and software solutions to achieve the best possible results, stay competitive, and build customer loyalty. Excellent feedback confirms our thorough approach as participants keep asking when the next sessions are going to be.

Three of my clients have recently completed the training and each has had a unique experience. One business partner from Croatia appreciated learning that device configuration can be done over the air using FOTA WEB, streamlining the setup process and saving time. Another, based in Kosovo, quickly realised the benefits of the training in attracting more customers and exploring new use cases. Meanwhile, a company in Cyprus

has made the training mandatory for all new hires, underlining its value and establishing it as a key part of their onboarding process.

To maintain high standards and ensure that our certificates are both meaningful and respected in the industry, we require an 80% attendance rate for certification in our training program. It is a reliable way to make sure that our business partners are genuinely investing in improving their skills.

I can see the immense value of this training. There is always room to learn, so I wholeheartedly recommend it to all my clients.



**Danas Kovtunas,**  
Sales manager

## TRACKING THE TRENDS IN BENGALURU

In March 2024, CAEV EXPO, Asia's largest event dedicated to connected, autonomous, and electric vehicle technology, highlighted the trends transforming the automotive and transportation sectors. This year, Teltonika focused on electric fleet management, battery swapping, and last-mile connectivity challenges. The expo provided an ideal platform to showcase our latest innovations, connect with industry leaders, and discuss emerging technologies.

For our customers, CAEV EXPO was an opportunity to find out how telematics products can meet their business needs. From basic tracking to advanced video monitoring and CAN data-based preventive maintenance, our devices help OEMs, EV companies, and fleet managers make smarter decisions and improve company

efficiency. Additionally, we displayed solutions for government projects to enhance infrastructure monitoring and optimisation in various sectors including mining, logistics, and transportation.



**Manoj S.M.,** Sales manager

At events like this, meeting our clients face-to-face is a great way to exchange ideas on future trends, shape industry landscapes, and drive growth. If you spot Teltonika at any exhibition, do not hesitate to come over and discover the power of telematics!





**MORE EYES,  
MORE INSIGHTS**

CIS

## PRESCRIPTION FOR PRECISION

In Georgia, pharmaceutical companies are required by law to record the temperature at which their medical products are stored. Our partner has successfully implemented a project for one of the country's largest pharmacy chains to monitor temperature throughout the entire logistics chain – from the warehouse to the pharmacy and back in the event of product returns.

With the help of Teltonika trackers and EYE Sensors, a full cycle of temperature control is carried out. Our devices are installed everywhere where the medicine goes – in warehouses, inside vehicles, and in the special boxes used for transportation. Not only is the location of boxes tracked, but the temperature is also monitored – both inside the box and inside the vehicle. The choice of Teltonika GPS tracker depends on the purpose – FMB910 model is used for basic tracking, while FMB125 is perfect for fuel consumption data.

As pharmaceutical companies often have extensive partner networks, this solution can also be applied in the pharmacies themselves, ensuring that products are stored at the correct temperature right till the moment they are sold to the end customer. Given its success, our client plans to extend this solution to other pharmacy networks and to adapt it for greenhouses and server rooms.

What's more, the client has had EYE Sensors certified by the metrology service of Georgia, making it easier to perform their annual calibration checks. Thanks to

a user-friendly application, there is no need to remove sensors physically in order to verify calibration accuracy. It can be done directly by the inspection authorities through the application.



**Aleksandra Kolmakova,**  
Chief of Caucasus sales group



## HARVESTING EFFICIENCY IN BENIN

In the Republic of Benin, a telematics project is reshaping the agricultural landscape through a partnership between our client and the country's Ministry of Agriculture. The initiative leverages IoT technology to improve farming efficiency, marking a significant shift towards agricultural self-sufficiency.

At the heart of this transformation are Teltonika FMB920 trackers and EYE Beacon devices, seamlessly integrated into tractors and other farming equipment such as harrows and ploughs. Each vehicle can accommodate up to five different implements, each with an EYE Beacon attached and housed in a special protective box. This solution not only pinpoints which implement is in use and evaluates the vehicle's performance in the field, but also provides precise data on the

tractor's location and the amount of land farmed.

Such information is essential for the government to know exactly how much land is being cultivated each day.

In addition, EYE Beacons provide clear data on how equipment is used, helping to identify problems and choose the best tools and methods.

A project like this is a big step forward for agriculture in Benin, giving the government and farmers the boost they need for better and more efficient farming.



**Simonas Andrėkus**, Sales manager



## CRAFTED IN EUROPE, DESIGNED FOR NORTH AMERICA

One of the most significant challenges for telematics businesses in the USA and Canada is the high cost of labour. That is why it is important to have fleet management solutions that are easy to install for almost anyone. At Teltonika, we can provide exactly that. Our tracking devices are user-friendly, quick to set up and comply with local standards, ensuring smooth operations.

Since opening a local office in Toronto, Canada, we have been constantly building our local device portfolio to better serve Teltonika clients across the continent. Recently, we hosted a webinar where we introduced our latest product lineup. Plug & Play trackers FMM80A and FMM00A are particularly easy to use by connecting them via the OBD-II port. Companies that are required to ensure compliance with Hours of Service (HOS) will be pleased to know FMM00A model is ELD compliant, meaning it can easily be certified.

Meanwhile, more advanced features with flexible inputs are available with FMC13A and FMM13A units. They support CAN adapters and allow reading fuel, odometer, RPM, engine temperature, and more data from a variety of vehicles. Autonomous trackers are gaining popularity for asset monitoring and increasing fleet safety. For example, TAT141 can serve as a backup device alongside the main tracker. It features encrypted Bluetooth® communication and options to extend battery life. Teltonika EYE Beacons and EYE Sensors are ideal for tracking in diverse environments making them

great choices for both asset and staff tracking.

A local office, an extensive product portfolio, certificates, a single configuration tool for all devices, and advanced anti-theft features can truly make fleet management easier and increase your business efficiency. Scan the QR code and watch our webinar to learn all the details.



**Lukas Barasnevičius**, Operational marketing coordinator



Scan to watch

# CHOOSE A COMBINATION FOR YOUR USE CASE

Connect two cameras with FMC650



NORD EUROPE

## PROMISING ROAD AHEAD WITH VIDEO TELEMATICS



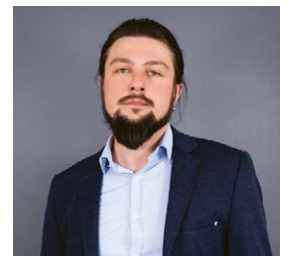
**W**ith many dangers on the road, companies seek to increase driver safety by applying solutions that are easy to use and provide crucial driving data. One of our clients in the UK has addressed this need by offering Teltonika DashCam in combination with FMx125 or FMx650 series trackers.

Teltonika DashCam enables fast transfer of high-quality files thanks to videos made in 720p resolution using High-Efficiency Video Coding (HEVC or H.265). Video transmission, triggered automatically by a car crash or manually via a panic button, sends 10 seconds of footage (5 seconds before and after the event) to the server for detailed incident analysis. Such quick access to photos or videos allows to promptly review the evidence and establish fault, potentially leading to significant cost savings. Additionally, by leveraging real-time data and alerts, fleet managers can take preventive actions to safeguard drivers and

road users, thereby enhancing their safety and overall business efficiency.

The adoption of video telematics is becoming increasingly important in today's insurance market. Where previously premiums were based on historical information such as collision history, they can now be calculated using real-time data on driving risks such as hard cornering or speeding. This means a more dynamic and precise evaluation of potential costs. Moreover, the ability to use two cameras in one vehicle covers an even wider variety of use cases.

If you are looking for solutions to boost safety, reduce insurance costs, and gain greater control over your fleet, video telematics is the way to go.



**Kamil Urbanovič**, Sales manager

# STAND OUT WITH TELTONIKA



**N**owadays, it is increasingly difficult for new companies to enter the telematics market, especially when they offer solutions similar to those of their competitors, like basic vehicle tracking, engine blocks, and panic buttons. That is why it is essential to stand out by finding ways to be unique.

When Teltonika launched FMx150 series models, we were confident that these devices would be a great success, as they include all the standard functions of our other trackers, plus a built-in CAN data reader. This way, you can get data such as fuel consumption, total mileage, and much more from just one product.

One of the biggest cases in the Latin American region involved electric vehicles. The client used FMC150 with ECAN02, which provides easy access to CAN lines without

cutting any wires. This solution allowed our business partner to monitor the battery charge level and current battery voltage while maintaining a vehicle's warranty.



**Ieva Karpavičiūtė**, Chief of Colombia sales group

FMx150 stands out as a 2-in-1 product, but there is more to this device. If a specific project involves a vehicle model that is not currently on our supported list, Teltonika is open to discussing how to add it and the specific data that clients require. Although this tracker is still relatively new, it has already proven to be extremely helpful to customers looking to differentiate themselves in the market and potentially explore new niches with fleet management devices.

The image shows three overlapping video playlist cards. The first card is titled 'USE CASE CITY E-CLEANING' and has '18 Videos' listed below it. The second card is titled 'TELTONIKA EYE DEVICES GROWING PORTFOLIO' and has '21 Videos' listed below it. The third card is partially visible and titled 'VEHICLE Y SOLUTION'. Each card features a 'Play all' button and a 'Shuffle' button.

## PLAY & LEARN

Convenient playlists for quick navigation



Scan to watch

# ONLY FIVE EASY STEPS


Take a look at the filming of our new General Quick Start Guide video, where Andrius Abraškevičius, IoT training coordinator, shows how easy it is to start using our trackers.



**T**here are five simple steps and we shot each of them for your convenient reference – insert a SIM card, connect to a PC, configure, install, and track. Voilà! Any of our devices will start working the same way.

We upload new videos regularly, so make sure to stay in the loop by subscribing to our YouTube channel.



Scan to watch Quick Start Guide 





# OUR NEW HQ: TAKE A LOOK AROUND

Teltonika company group headquarters has a new home in Vilnius, Lithuania. The modern building opened its doors in spring 2024 to accommodate several hundred company employees.

**O**ffering the best possible working conditions, the office building is sustainable and environmentally friendly with an A+ energy rating. It features smart office solutions, modern and energy-efficient engineering systems, and automated control of ventilation, heating, and lighting.

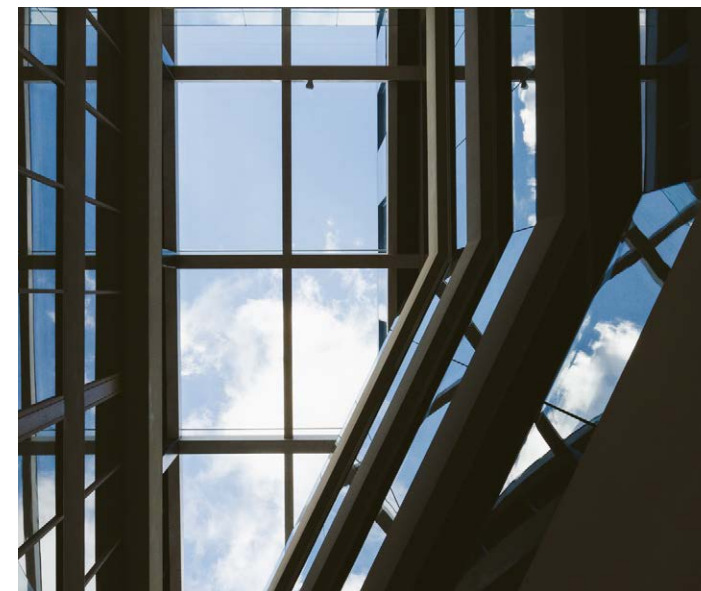
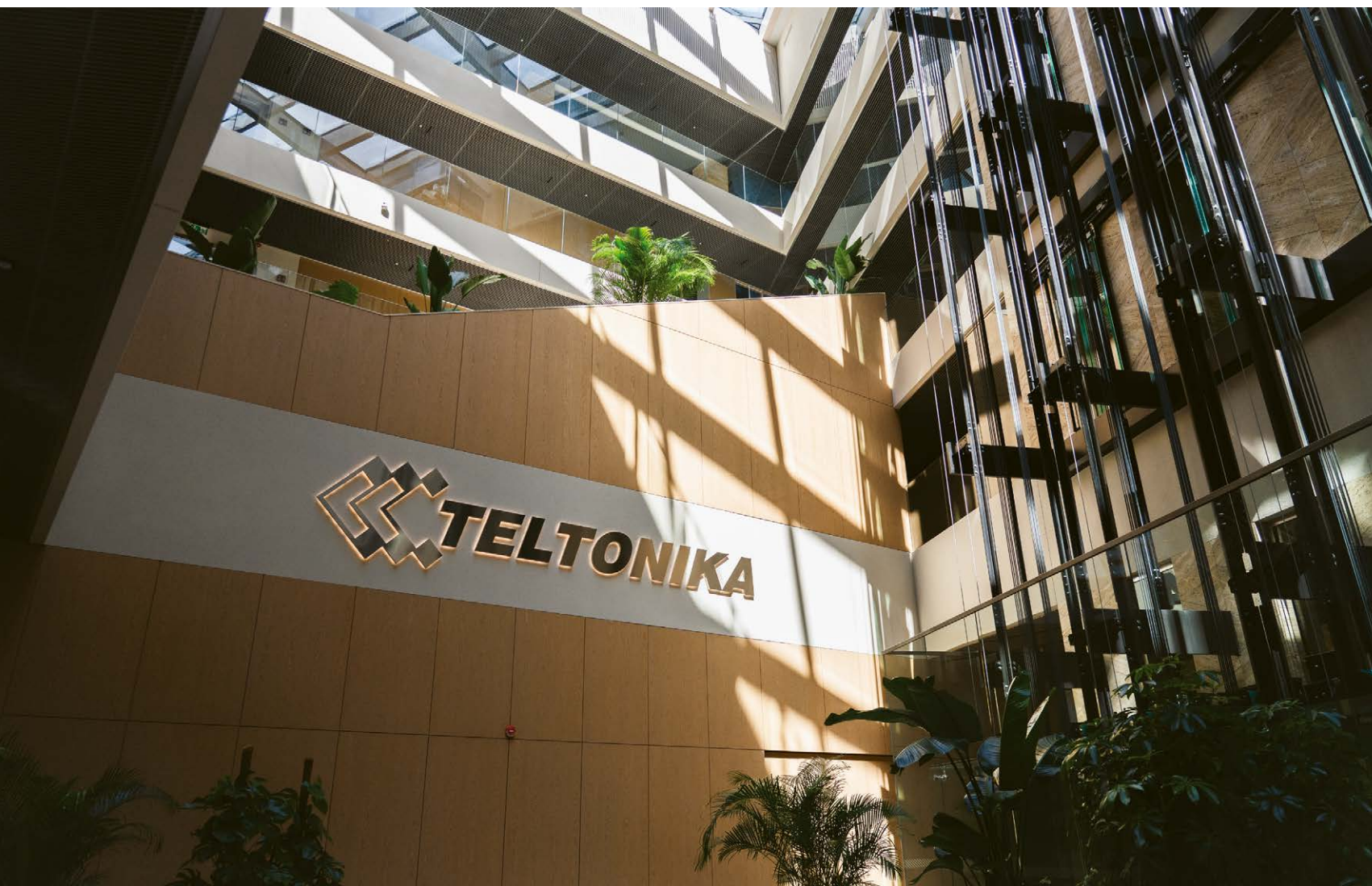
Designed by a team of Lithuanian architects, Teltonika's main office is visually linked to the city centre of Vilnius as emphasised by the front façade facing the historic Old Town.



The highlight of the ground floor is the atrium, an open planted courtyard in the central part of the building, around which the architects also designed the upper

floors. Meanwhile, the open terrace on the top floor offers great views of the city.

Whenever in Vilnius, please be our guest!



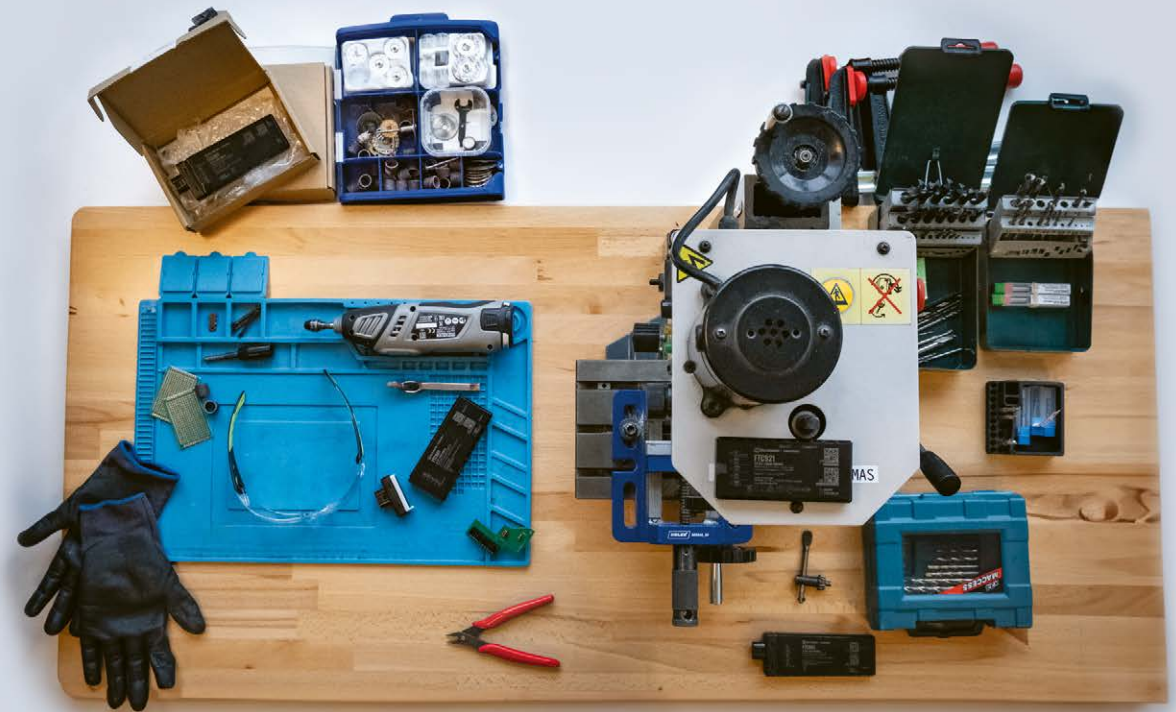
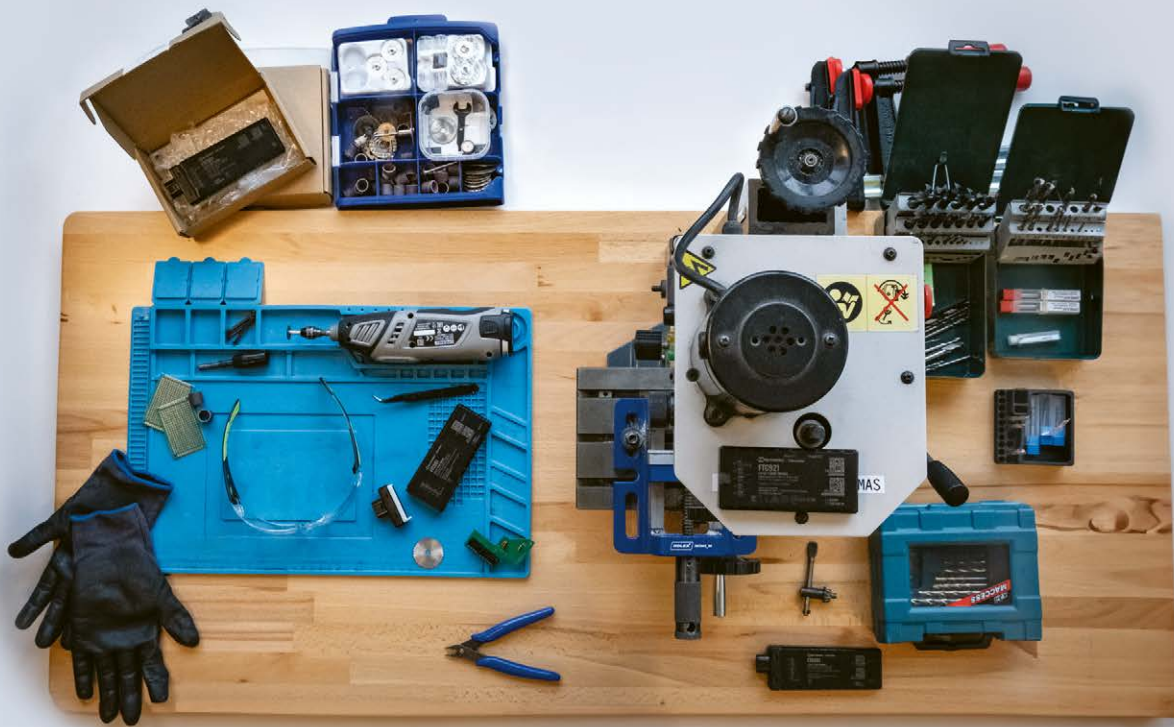
## QUICK FACTS

- BREEAM-certified
- 5 floors + 2 floors of underground parking
- More than 400 workplaces
- Almost 18,000 square metres of space
- 150-seat conference room
- 24 meeting rooms
- 100-seat restaurant
- 30+ million euros invested

# SPOT 10 DIFFERENCES

**A** desk or workspace can tell intriguing stories. Let's visit our hardware design department to find fascinating tools, gadgets, and ideas. Here are two desks that look similar but are not identical. Can you spot the 10 differences?

Test the sharpness of your eye and follow us on Teltonika Telematics LinkedIn page, where we will reveal the answers on 15 July 2024.





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