

**TRANSPORTATION & LOGISTICS** 

# Lithuanian Railways

Getac F110 Fully Rugged Tablets Ensure Transportation Safety by Providing Real-time Video Surveillance for Lithuanian Railways

#### / Challenge /

Lithuanian Railways, the national railway company of Lithuania, provides freight services for half of all the goods transported in the country. It needs a digital solution that can provide live video surveillance to enhance operational safety, and act as a supplement to traditional communication and record-keeping tools to improve efficiency. The solution must be rugged enough to accommodate the round-the-clock work schedule of a busy freight train.

# / Solution /

On each locomotive, a Getac F110 is installed alongside two Havis vehicle docks and four cameras to provide real-time video feed, giving the operator complete situational awareness at all times. The F110 can also be used to write and transmit documents used in the freight business.

# / Benefits /

Used in conjunction with a video surveillance system tailor-made by the system integrator FIMA, the Getac F110 provides greater work precision and drastically reduces the chance of accidents. Productivity is boosted by the multifunctional fully rugged tablet because it can replace traditional tools such as pen and paper.

### / Quote /

"We wanted to have the newest technology in these trains, so we chose Getac. We want to digitize the process because pen-and-paper is not for us anymore in the modern age."

Grigory Zhukovsky, Chief Specialist, Lithuanian Railways



Getac F110 Fully Rugged Tablet

### / Challenge /

Officially founded in 1919 after the First World War, Lithuanian Railways is the century-old state-owned railway company of Lithuania. Its actual history can be traced further back. In 1858, construction started near the modern-day capital of Vilnius on what would eventually become the historic Saint Petersburg - Warsaw Railway. In the present day, Lithuanian Railways employs a diverse fleet of trains, from state-of-the-art Siemens locomotives to creaking Soviet-era iron horses, as testimony of its storied past. It provides passenger and freight services on a network covering nearly 2,000 kilometers of tracks. Its freight services are especially noteworthy, as they account for half of all the goods transported within the country. More than 9,000 wagons and 100 stations are used to deliver precious cargoes such as oil, chemicals, and automobiles between Belarus and Russia, providing Lithuania with a major source of revenue

Managing such a diversified fleet poses a unique set of challenges. For any railway company, operational safety is the most important issue. Safety of personnel, equipment, and cargo must be monitored via video surveillance. However, many locomotives do not have built-in surveillance systems, even newer models which are less than ten years old. At the same time, operators require a more modern communication tool to complement the traditional method of conveying information with pen and paper or over radio transceivers. A solution is needed to digitize the workflow with the end goal of enhancing safety and improving efficiency. The solution must be able to withstand the demanding, round-the-clock work environment onboard a diesel-powered freight train speeding cross country on a tight schedule.

In the early 2010s, as part of an expansive effort to modernize its infrastructure, Lithuanian Railways installed cameras in its trains to overcome the abovementioned problems. However, the results were unsatisfactory. The cameras were not connected to a display within the cabin, so the operator could not benefit from live video feeds. What's more, footage could only be downloaded from the cameras when the locomotive was sent to the shop for monthly maintenance. This did not fully achieve the goals of enhancing safety or improving efficiency, and so Lithuanian Railways sought out a newer, better solution.

#### / Solution /

Getac worked closely with Latvia-based partner ELKO Group and Lithuanian system integrator FIMA to create a rugged computing solution that provided real-time video monitoring. FIMA is a leading smart infrastructure solutions company in the Baltic region. Drawing upon more than 25 years of experience in the railway, transportation and security & defense sectors, they seamlessly combined a video package with Getac F110, the 11.6" fully rugged tablet that runs on the Windows 10 operating system.

For the first phase of the project, 83 locomotives from Lithuanian Railways were outfitted with the solution. Four cameras were installed on each locomotive: one on each end, one on the roof, and one in the driver's compartment. Two Havis vehicle docks were also set up in the driver's compartment, one facing each direction, because a locomotive can drive both ways. The F110 is fitted into whichever dock is currently facing the direction the train is traveling. Video feed from the four cameras are transmitted through cables to the docks, and displayed simultaneously on the F110 via split screen, giving the operator complete awareness of the situation around the train.

The Getac F110 was chosen because its powerful Intel® Core™ i7 and i5 vPro™ processors allow it to relay information from all four cameras at the same time. The 11.6" display is large enough to show the video feeds clearly, and the brilliant sunlight readable screen enables operators to see the images even under bright daylight. Besides serving as a video monitor, the F110 can also be used to write and transmit official documents such as cargo manifests via 4G. Its resistance to water and wide operating temperature range between -21°C and 60°C are crucial features, because the climate near the Baltic Sea is guite humid, and on cold days the temperature inside the cab can drop to -10°C. The F110 is also completely protected against the dust and constant vibration of railroad travel. Its powerful dual batteries have no trouble keeping up with round-the-clock work on busy freight trains, and the fully rugged chassis protects against bumps, drops, and spills. Even if accidental damage puts the F110 out of commission, Getac's Bumper-to-Bumper warranty service guarantees the unit will be returned within days, keeping disruption to operations to a minimum.

### / Benefits /

The advantage of the new video surveillance system becomes immediately apparent when a locomotive is shunting, also known as switching—the process of connecting many wagons into a complete train, or vice versa. Safety is paramount during this difficult procedure. Real-time imaging on the F110 gives the operator much better visibility than was previously possible, ensuring greater work precision and drastically reducing the chance of accidents.

The F110 can transmit footage to the central server via 4G, or it can be conveniently detached from the vehicle dock and brought back to the office for quicker uploads. It can also replace pen and paper as the workers' record-keeping tool of choice. Important documents are easily downloaded, completed, and then uploaded again. All in all, productivity is greatly improved by this multifunctional fully rugged tablet.

Lithuanian Railways is very satisfied with the results. They see digitalization as the optimal way to improve efficiency and safety throughout the railway network. The addition of the Getac rugged tablet connected to a video surveillance package helps to reduce damage to equipment while shunting and to ensure safety while transporting cargo around the hour and across the country. The tablet complements traditional tools such as pen, paper, and radio transceivers to further boost productivity. Lithuanian Railways has over a century of history, but it is ready to adopt the latest technology and usher in a new era of prosperity.

#### / About Lithuanian Railways /

Lithuanian Railways is the national, state-owned railway company of Lithuania. It has over 150 years of history and a network that covers nearly 2,000 kilometers of railroad tracks.

Lithuanian Railways provides both passenger and freight services, but the latter shows the greatest promise for growth. Cargoes ranging from oil to chemicals to automobiles are transported through the Baltic States between Belarus and Russia on a regular basis, providing a major source of revenue for Lithuania.

