Recently, heavy rucksacks have been consigned to the past, thanks to the IDA project (Intelligent Driver Assistance) from the NMBS - and Panasonic’s robust tablet, the Toughbook CF-H2 Field, equipped with Windows OS (operating system), is playing a key role.

The professional tablet has enabled the NMBS to replace paperwork with a more efficient, digital technology and join the 21st century.
Route cards, regulations, hazard cards and breakdown guides; train drivers at the NMBS (National Belgian Railway Company, which operates the rail services in Belgium) are expected to carry a lot of paper around with them every day. Along with the cumbersome flow of information, this was the main reason why the NMBS began the IDA project in 2010.

High time for a digital solution
'Digitalization' was the key word for the project and this was manifested in the consideration of tablet computers, which contain all the required information given to every train driver.

The objectives of the project were clear right from the start. Wim Vermeulen, project representative at NMBS Technics explains: "First and foremost, we wanted to free our drivers from the documentation that they had to carry around with them every day, which can weigh up to 15 kg. We also wanted to optimize the information flow so we can update our drivers more quickly about changes to regulations, rules for driving and timetables. It was also essential to reduce the mountain of paper from an environmental point of view."

9 models, 100 test users
At the end of 2010, NMBS Technics submitted a European tender relating to an extremely wide-ranging project and a substantial investment. "As well as the 3500 to 4000 computers, it also includes the costs of IT development and modifying the communications infrastructure," according to Wim. "The European tender included all of our requirements and the award criteria that we would apply." For ergonomic reasons, the PCs needed to be compact, but with a big enough screen to ensure documents could be read. They also had to be reliable, handy and robust enough to cope with being used in the industrial environment of a driver’s cab. User friendliness was paramount and it quickly became clear that a tablet or convertible PC would be the best way to meet these requirements.

"Once we had launched our European tender, we made an initial selection of nine devices out of all the submissions from candidate providers," Wim continues. One hundred key users from various TCTs (technical cell train drivers) were given the devices for testing and extensive evaluation. Their primary focus here was user friendliness, weight and readability. Four devices were retained for a second round of testing within the TCTs. "The major advantage of actively involving employees in the project right from the start is that we created support among the end users for the project, allowing the launch and the related training to happen more quickly."

Robust reliability with Windows OS
The Panasonic Toughbook CF-H2 Field scored highest in the award criteria. "We were impressed by the quality. The excellent readability and the battery autonomy, plus the robustness and security, were essential factors," explains Wim.

The CF-H2 has a unique anti-glare screen that guarantees readability in all conditions, and its energy-efficient battery can be used for six hours at a stretch. Its robust yet compact design means that the tablet PC can also handle the bumps and knocks that come with being moved around and daily use. "The level of security was another main criterion. Compared with tablets running other operating systems, we are certain that the CF-H2 will always keep our data in a secure environment."

Choosing the software was just as important in order to guarantee the reliability of user friendliness of the device: "We wanted the software and the hardware to complement each other perfectly. Our preference was for Microsoft Windows, and there were a variety of reasons for this. First and foremost, we already had experience in developing for that platform, so we wouldn’t have to start building everything from the ground up and we could reuse our existing in-house software solutions for the tablet PCs. The choice was also interesting from a cost perspective because the group purchase allowed us to save on license costs. Finally, our priority was also to have a stable system that could be used by all of our train drivers, regardless of their age. Windows was the best choice for this."

Getting rid of the paper mountain
The pilot project with the CF-H2 began in July 2012 and train drivers in Brussels were the first to start using the tablet computers. The fact that these devices bring huge benefits is also confirmed by Joeri Schepers, who has been a train driver for the NMBS for five years now: "There is an enormous difference in weight of at least 13 kg. Now, I can simply read bulky documents such as regulations, manuals and breakdown books on my tablet. I particularly like the search function, which lets me find information quickly."

The information is also personalized for each train driver. "Before, we had to collect an order book with points of interest for the day and sign for receipt, and we had to find the relevant sections for ourselves. Now, my tablet simply receives the information that is relevant for my route. A digital read receipt also lets the back office know immediately that I have received the information properly."

This significantly improves the overview of the information flow, and the back office now knows exactly who has received what information. It’s also a lot faster than using paper documents.

Even bigger plans
Although the project has only just started, the NMBS is already thinking of extra opportunities for the future. Wim says: "At the moment, the information flow is primarily in one direction, from the back office to the train drivers, but we would like to increase the level of interaction. We are busy looking at how the train drivers can also use their tablet PC to send information to the back office. Examples we have in mind are reporting faults via an electronic logbook or digitally justifying delays. Even requests for leave or registering where performance has been exceeded must be possible in time."

The NMBS is extremely satisfied with the progress of the IDA project with the CF-H2 Field tablet PC. "This is an enormous step forward for us. The implementation is currently being rolled out across the country. 400 tablets will be added every month and, by the middle of 2013, all of our 4000 or so train drivers will have to be working digitally via the Toughbook CF-H2," Wim concludes.