



[www.dtco.vdo.com](http://www.dtco.vdo.com)

# For increased fleet efficiency

Digital tachograph solutions and services

**VDO**

# Identify needs – create market-driven solutions

Being mobile means to keep moving with the times. Whether you're a vehicle manufacturer, a fleet operator or a driver, the market continually creates new challenges for you. As part of the Automotive Group of the Continental Corporation, we manufacture advanced digital tachograph solutions to help our partners meet these challenges – today and in the future.

We've been supplying the market with innovative and sophisticated solutions in VDO original quality for more than 80 years now. Back then we started with analogue tachographs – and today we offer the DTCO® 1381, the world's leading digital tachograph. To increase your fleet efficiency even more, we can also provide you with a comprehensive package of services, peripheral devices and software for the digital tachograph.

The wishes and the requirements of our partners have always been a top priority for us – so we built a tightly-meshed network of more than 9,400 experienced and specially-trained partner workshops to provide support for fleet operators in the form of maintenance, calibration and the legally prescribed inspection of the device every two years.



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## What does legislation require?

Since May of 2006, all newly licensed HGVs of more than 3.5 t and vehicles for the conveyance of more than 9 passengers including the driver must be equipped with a digital tachograph, in accordance with Regulation (EC) No. 561/2006.

All vehicle data from digital tachographs and driver data from driver cards must be archived in accordance with legislation. At least one company card must be available per company and every driver who drives a vehicle equipped with a digital tachograph must have his own driver card. Card validity and archiving time limit regulations are country-specific and must be adhered to accordingly.



**In accordance with Regulation (EC) No. 561/2006, Regulation (EEC) No. 3821/85, Regulation (EC) No. 1360/2002 the following specific provisions apply:**

- The **vehicle registration numbers** of all newly licensed vehicles must be **entered in the digital tachographs** by an authorised workshop within 14 days after vehicle registration.
- **Driver card data** must be downloaded and electronically **archived** every 28 days\* at the latest.
- The **vehicle data from digital tachographs** must be downloaded and electronically **archived** every 3 months\* at the latest.
- The company transport officer must **check the downloaded data** and ensure that driving times and rest periods are adhered to. If infringements occur, he must **inform the driver** and warn him accordingly.
- In order to ensure a high level of data security, the data archive must be regularly **backed up to a separate data disk**.
- All **vehicle and driver data** must be stored **for a period of 1 year\*** and, if necessary, made available to the authorities for inspection.
- The company transport officer must

**You can of course equip older vehicles with digital tachographs as well – this is extremely useful if you wish to carry out really intensive comparative evaluations of vehicle and driver data in order to optimise your operations. Your VDO service partner will be pleased to provide assistance should you require it.**

\*Legislation may be country-specific and must be adhered to accordingly.



# What are my legal obligations in actual practice?

The data that used to be recorded on tachograph charts is now electronically stored in the mass memory of the digital tachograph and on the driver card.

The tasks and obligations involved in complying with Regulation (EC) No. 561/2006 are listed below for you.

Digital tachograph
<b>Company preparations</b>
The digital tachograph is activated before the vehicle is commissioned. An authorised workshop must then calibrate the digital tachograph for the vehicle within 14 days and enter the vehicle registration number.
Every company must have at least one company card.
A person who drives a digital tachograph-equipped HGV must possess a valid driver card.
Printing paper must be inserted in the digital tachograph. We recommend that you keep sufficient replacement rolls of printing paper in the vehicle.
<b>Archiving data</b>
Driver card data must be downloaded and electronically archived every 28 days* at the latest.
Digital tachograph data must be downloaded and electronically archived every 3 months* at the latest.
Archived data must be stored for at least 1 year*. Backup copies of data must also be made – and, if necessary, proof must be provided that backup copies exist.
In accordance with the pertinent regulation for driving crews, the data must be deleted upon expiry of the data storage time limit.

\*Legislation may be country-specific and must be adhered to accordingly.

Your vehicle dealer will gladly provide you with more information about authorised workshops in your vicinity, or you can visit [www.dtco.vdo.com](http://www.dtco.vdo.com)

# How does the digital tachograph system function?

## Vehicle

### The DTCO® 1381

VDO has been a market leader in the tachograph business for many years – and the company was one of the first to start developing digital tachographs. This R&D resulted in the introduction of the market's first digital tachograph in May of 2006. Since then the DTCO® has been continuously further developed and adapted to match changing market requirements. The DTCO® 1381 by VDO sets the standards in performance, user comfort and data security.

### Short profile – DTCO® 1381

- Mass memory for approx. 365 days
- 29 AETR languages available
- Automatic driver warning after 4 hours and 15 minutes of driving time (Regulation (EC) No. 561/2006)
- Display available in divers colours
- Printouts of all vehicle and driver data, plus graphical rpm and speed profiles
- Downloading of data via Downloadkey (DLK) or simple downloading via wireless (DLD®)
- Simple paper replacement – no tiresome feeding in
- Various data and functions available, depending on the card inserted
- Various interfaces for on-board electronics, instrument cluster, on-board computer and telematic systems; two status inputs

### The tachograph cards

Four different chip cards specify who can access specific DTCO® digital data.

**Driver cards** save driver activities, events, faults and vehicle changes.

The **company card** authorises vehicle data to be downloaded from the mass memory.

The **control card** enables authorities to access data for legal purposes.

The **workshop card** switches on the calibration function of the DTCO® – and it can also be used as a driver card for testing and inspection purposes.

The validity of a card may differ according to the region in which it is being used and any relevant regulation must be adhered to.



Vehicle



Downloading data



Archiving data



Visualising and checking data



Evaluating and managing data



Fleet management



DTCO® 1381



### Indoor-Lösungen

### Wireless solutions

### Mobile Lösungen

<b>Card Reader</b> 	<b>Download-terminal II</b> 	<b>DLD® Short Range (WLAN)</b> 	<b>DLD® Wide Range mit Wireless Link (GPRS)</b> 	<b>Mobile Card Reader</b> 	<b>Download-key II</b> 	<b>Inspectionkey</b> 	<b>TIS-Compact III</b> 	<b>TIS-Office® Starter Kit</b> 	<b>TIS-Web® Starter Kit</b> 	<b>Fleet Management Services</b> 
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### The printer paper

Printer paper is required for checks en route and for daily reports for the driver. According to the law, the paper must be inserted in the tachograph at all times. We recommend that you carry sufficient replacement rolls in the vehicle to create control printouts of the previous 28 days.

The Original VDO Printer Paper has been especially conceived for use in vehicles – its special coating guarantees excellent legibility and consistency, even with intensive fluctuations in temperature. It is available in authorised service workshops Europe-wide and can also be used in the digital tachographs of other manufacturers.

### Downloading data

VDO offers a multitude of special download and storage media, all optimised for various company structures and working procedures (*more on this from Page 8*).

### Archiving, visualising, checking and evaluating data

VDO offers flexible solutions for archiving, visualising, checking and evaluating data – from legally prescribed archiving to comprehensive data and fleet management (*more on this from Page 15*).



Original VDO Printer Paper



DLD® Short Range

# How does my data get to the office?

To comply with the legally prescribed archiving regulations, you must regularly download the data from the mass memory of the digital tachograph and driver card (*more on this on Page 4*). Many different download solutions by VDO are available for data downloading, all customised for various applications. They are simple and efficient to operate and possess the ultimate in data security systems.

## Wireless solutions

### Remote Download Device (DLD®)

DLD® is the efficient solution for transferring mass memory and driver card data by wireless. The download process is controlled from the office computer, which means that the company card can stay in the office. Driver and vehicle data can then be downloaded in compliance with the legal deadlines for downloading and transferred directly to the TIS archive. At no time does a company card have to be inserted in the digital tachograph.



# Vehicle



# Office

DLD® Wide Range



The DLD® is available in two different versions:

### DLD® Short Range – via WLAN on the fleet site

If the vehicle is in a defined area of the fleet site, e.g. the company petrol station, the DLD® Short Range can be used to transmit data via a wireless local area network (WLAN). No fee is payable for data transfer, because data transfer takes place on the existing company network.



DLD® Short Range

### DLD® Wide Range – via GPRS on the road

When you use the DLD® Wide Range, data is transferred to a VDO download server via a mobile wireless network (GPRS). You can access the VDO server via a protected Internet access. Mass memory and driver card downloading can thus take place anywhere and at anytime.



DLD® Wide Range



## Mobile solutions

### Downloadkey II (DLK II)

The VDO Downloadkey II is the ideal transport medium for fleets, workshops and authorities – it downloads and transfers mass memory data from digital tachographs and from driver cards inserted in the tachograph. For small fleets and owner-drivers, Downloadkey II, TIS-Compact III and Inspectionkey can also be used as archiving tools (*more about TIS-Compact III and Inspectionkey on Page 19/20*).

To protect data from unauthorised access, a company card is required for data download.



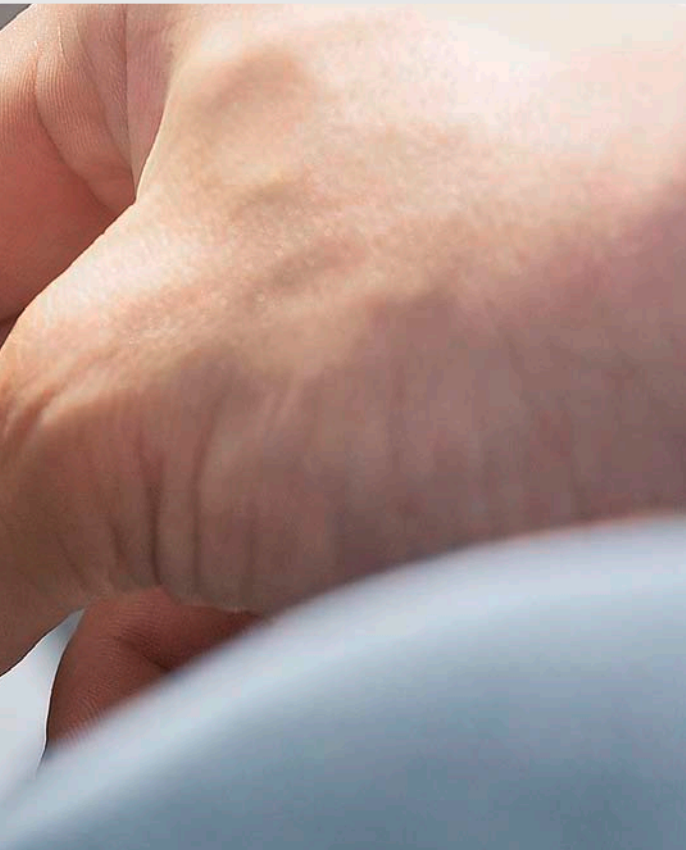
Downloadkey II



TIS-Compact III



Inspectionkey



### Mobile Card Reader

The Mobile Card Reader by VDO is a mobile scanner for driver cards – it enables data to be transferred directly to a Downloadkey II. The Mobile Card Reader has its own internal power supply and can be used anywhere.

It is ideal for drivers who do not return to company head office on a regular basis.

### Downloadkey Portable Set/TIS-Compact III Portable Set/Inspectionkey Portable Set

The Portable Sets consist of a Downloadkey II, a TIS-Compact III or a Inspectionkey and a Mobile Card Reader. This enables drivers to download data from their driver cards without the need for a company card (*more about TIS-Compact III and Inspectionkey on Page 19/20*).



Mobile Card Reader

## Indoor solutions

### Downloadterminal II

The Downloadterminal II by VDO offers drivers the option of downloading driver card and Downloadkey II data themselves. The Downloadterminal II can be set up anywhere, e.g. in the drivers' rest room – making it accessible around the clock.

The data stored in the Downloadterminal II is easily retrieved and exported into the TIS programs (*more on this from Page 16*).

The VDO Downloadterminal II facilitates the downloading and transport of data, especially for larger fleets. It simplifies the handling of large amounts of data and is perfect for drivers who have irregular working hours.



Downloadterminal II

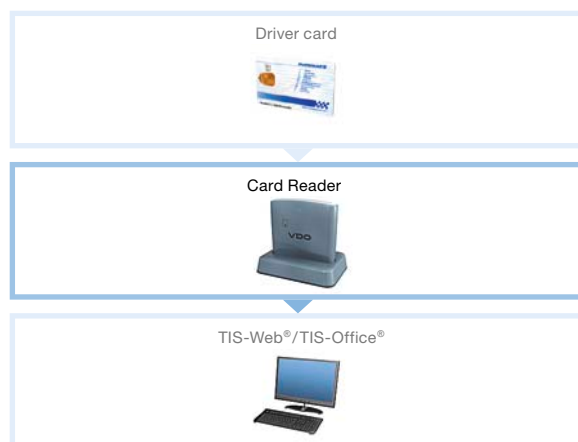
### Card Reader

The VDO Card Reader is connected to a computer by means of a USB cable. The TIS software (*more on this from Page 16*) downloads digital driver card data and stores it for archiving and evaluation.

The VDO Card Reader is suitable for all fleet sizes.



Card Reader





# VDO Download solutions

	Card Reader	Download-terminal II	DLD® Short Range	DLD® Wide Range	Downloadkey Portable Set / TIS-Compact III Portable Set	Download-key II / TIS-Compact III	Inspection-key
<b>Downloading data</b>							
Downloading of mass memory data from digital tachographs		• 1)	•	•	• 2)	• 2)	• 2)
Downloading of driver card data	•	•	•	•	•	• 2)	• 2)
<b>Transfer of data to a computer</b>							
Connection to a computer by USB cable	•	•					
Connection to a computer by network cable		•					
Direct connection to computer's USB port					•	•	•
Data transfer by USB stick		•					
Data transfer by Downloadkey II/TIS-Compact III		•			•		
Wireless transfer by WLAN			•				
Wireless transfer by GPRS				•			
<b>Installation</b>							
Can be used as a stand-alone solution		•			•	•	•
External power supply required		•	•	•			
Internal memory available		•	• 3)	• 3)	•	•	•
<b>Interfaces</b>							
USB port		•	•	•	•	•	•
RJ 45 interface (Ethernet connection)		•					
Special Downloadkey II / TIS-Compact III interface		•			•		
<b>Status indicators (Display/LED's)</b>							
Download status display		•					
LED for displaying download status			•	•	•	•	•
LED for displaying memory capacity					•	•	
LED for displaying current battery charge status					•		
LED for displaying an infringement							•

<sup>1)</sup> Mass memory data is downloaded from the DTCO® with the Downloadkey and from there transferred to the Downloadterminal II.

<sup>2)</sup> A company card must be inserted in the DTCO®. Inserted driver cards are downloaded via the front interface on the DTCO®.

<sup>3)</sup> DLD® data buffer

Ask your **VDO service partner** for more **product information** about individual solutions – or visit our website at [www.dtco.vdo.com](http://www.dtco.vdo.com)



## What do I do with the downloaded data?

To comply with your legal obligations, you must archive the downloaded data for 1 year\* and make it available to the relevant authorities upon demand. You can visualise and evaluate the data using an appropriate data management solution in order to optimise your operational procedures and increase your fleet efficiency at the same time.



To make the best possible use of the data, you need a data management solution – one which optimally supports your specific requirements. However, before you buy such a solution, you should ask yourself the following questions:

- Do I only want to comply with the legal archiving obligations – or do I want to make use of the data for my business?
- Do I only want to check the archived data from individual drivers and vehicles for infringements – or visualise it also or even make higher-level evaluations?
- How large and organised is my fleet: is it centrally organised or is it decentralised?
- Who should have access to specific data: company owners, employees, procurement managers, etc?

\*Legislation may be country-specific and must be adhered to accordingly.



## What can data management solutions offer me?

VDO offers you various data management solutions, tailor-made for your company-specific requirements. These solutions can be expanded at any time by additional functions – and that not only provides necessary flexibility for your company – it means you can face the future with confidence.

### **TIS-Web®**

If you want professional data evaluation without having to create and/or maintain an IT infrastructure (and without having to remember to constantly make backups), then the TIS-Web® online solution is the ideal system for you. TIS-Web® is also ideally suited for multi-site fleets. All you need to use TIS-Web® is a computer with Internet access.

### **TIS-Office®**

If you want to evaluate your data comprehensively and you have a large, centrally-managed fleet, TIS-Office® is the perfect solution. The software is installed locally and can be operated either as a stand-alone solution or a network solution. IT know-how and a relevant IT infrastructure are required for TIS-Office.

### **TIS-Compact III**

If you wish to visualise and print out archived data, but you do not need comprehensive evaluations, then you need look no further than TIS-Compact III. TIS-Compact III is a Downloadkey with data visualisation software, which enables you to visualise and archive data on your computer – and print it out too. This solution is especially suitable for owner-drivers.

### **Inspectionkey**

If you wish to check your driver and vehicle data for infringements, but you don't need data visualisation or evaluations, then the Inspectionkey is the right choice for you. It's a Downloadkey with control software for checking infringements at the computer, generating infringement reports and archiving data. The Inspectionkey is especially suitable for smaller fleets with up to 5 vehicles and 10 drivers.

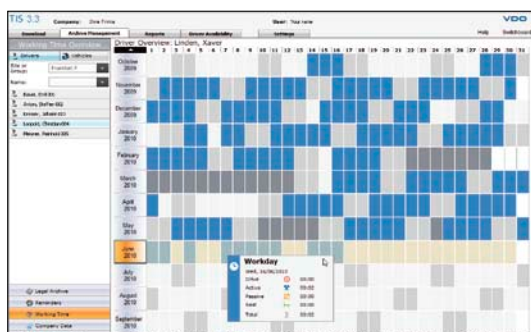


## TIS-Web® – limitless and future-proof

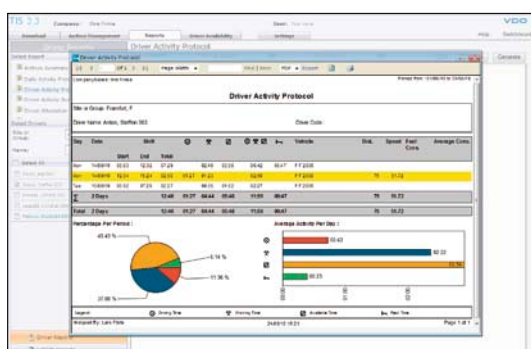
With the TIS-Web® web-based solution, you have all the advantages of a efficient data management solution – without having to invest in an IT infrastructure.

The downloaded mass memory and driver card data is stored in a professional Data Centre, where it is password-protected and regularly backed up. Data is encrypted and transmitted via the Internet. Automatic software updating keeps the program at the cutting edge of technology.

A multi-level price model addresses your specific user profile. Fees depend on the number of drivers, users and on the range of functions used. This can be selected via the several different user levels and optionally expanded at any time. The Starter Kit, with DLK II and Card Reader, offers you an economical introduction to the world of professional data management.



Example – Driver calendar



Example – Report



### With TIS-Web® you can

- visualise, archive, evaluate and manage mass memory and driver card data.
- read in, visualise and evaluate tachograph charts.
- recover download files for any drivers, vehicles and time periods (e.g. for inspections by the authorities).
- see at a glance whether or not downloads have been carried out without any gaps.
- control the driving times and rest periods of your drivers.
- check the availability of your drivers and create work schedules.
- check vehicle utilisation and plan and adhere to upcoming vehicle events (e.g. tyre changes).
- view speed data.
- create reports which provide a clearly laid out summary of data for desired time periods.
- export report results to other programs for further processing.
- appreciably optimise your internal processes.

### TIS-Web® offers you

- automatic signature checking of downloaded files and notification if any files are defective.
- a reminder function for upcoming downloads.
- automatic erasure of data upon expiry of the archiving time limit.

## TIS-Office® – the high-performance office solution



Example – Evaluation of activities



Display of data in tachograph chart form

TIS-Office®, the local data management solution, enables you to visualise, archive and manage data and to carry out comprehensive data evaluation.

TIS-Office® can be operated as a stand-alone or network solution and permits several employees access to data, depending on configuration and the assignment of user rights.

The software's modular design enables flexible selection of the range of functions, which can be expanded at any time when required. For archiving, the "Basic" and "Archive" TIS-Office® modules are required. Various modules are available for data evaluation. The Starter Kit, with DLK II, offers you an economical introduction to the world of professional data management.



### With TIS-Office® you can

- visualise, archive, evaluate and manage mass memory and driver card data.
- read in, visualise and evaluate tachograph charts.
- recover download files for any drivers, vehicles and time periods (e. g. for inspections by the authorities).
- see at a glance whether or not downloaded data has any gaps.
- control the driving times and rest periods of your drivers.
- check the availability of your drivers and create work schedules.
- check vehicle utilisation and plan and adhere to upcoming vehicle events (e. g. tyre changes).
- view speed data.
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- export report results to other programs for further processing.
- appreciably optimise your internal processes.

### TIS-Office® offers you

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- a reminder function for upcoming downloads.
- automatic erasure of data upon expiry of the archiving time limit.

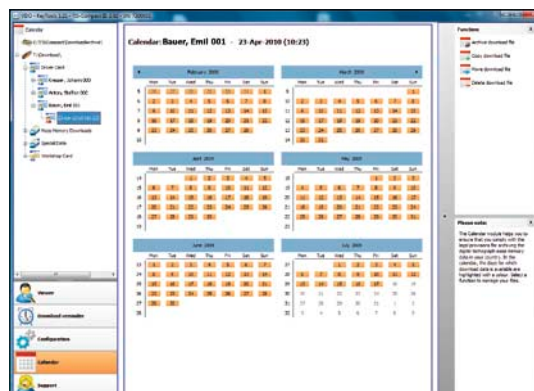
## TIS-Compact III – small but powerful

TIS-Compact III is an all-in-one downloading and archiving solution. It offers you a basic means of visualising, downloading, archiving and printing out vehicle and driver data.

Using a special Downloadkey which has the TIS-Compact III software pre-installed, you can download data from digital tachographs and inserted driver cards quickly and securely – and transfer it to a computer as if you were using a USB stick, for example. You can then visualise and archive this data on your computer and print it out as well.

TIS-Compact III is also available as a TIS-Compact III Portable Set, in combination with a Mobile Card Reader. This enables drivers to download the data from their driver cards without the need for a company card.

Activities printout



Calendar function

### **i** With the TIS-Compact III you can

- download mass memory and driver card data from all digital tachographs. A company card must be inserted in the device for downloading to take place.
- easily transfer the data to a computer.
- view the activities of individual drivers (driving time, working time and rest periods) and a speed profile for the previous 24 hours (driving time only).

- export data for processing in other computer applications.
- print out the displayed vehicle and driver data.

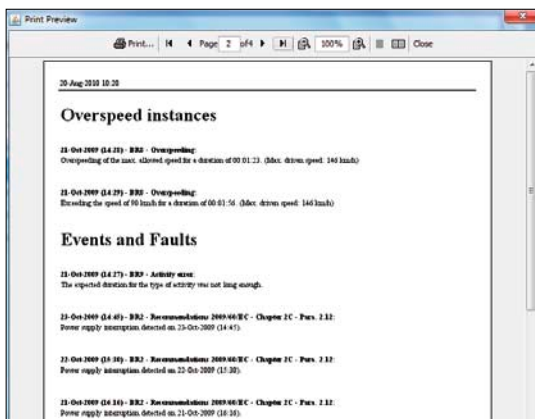
### TIS-Compact III offers you

- automatic signature checking of downloaded files and notification if any files are defective.
- a reminder function for upcoming downloads.

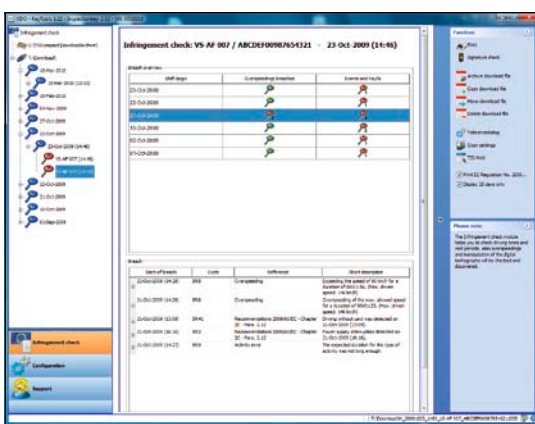


TIS-Compact III

## Inspectionkey – for fast checks



Infringement reports



Detailed view of infringements

Originally developed for mobile roadside checks, the Inspectionkey is also used in fleets nowadays for checking driver and vehicle data for infringements quickly and easily – and for archiving the data at the same time, in accordance with legal requirements.

Using a special Downloadkey which has the Inspection Tools software pre-installed, you can download data from digital tachographs and driver cards quickly and securely – and transfer it to a PC using a USB stick, for example. On your computer, you can then check infringements in detail, archive the data and print it out.

A Mobile Card Reader is also included in the Inspectionkey package. This means you can either download driver card data via the Mobile Card Reader or from a driver card inserted in a digital tachograph.

### With the Inspectionkey you can

- download mass memory and driver card data from all digital tachographs. A company card must be inserted in the device.
- display a suspected infringement via LEDs.
- easily transfer the data to a computer.
- check infringements in detail.
- generate and print out infringement reports.
- specify tolerance values for infringement checks.
- configure the downloading of mass memory data.

### The Inspectionkey offers you

- signature checking of downloaded files and notification of infringements.



Inspectionkey

# VDO data management solutions

	Inspection- key	TIS- Compact III	TIS- Office® 1)	TIS- Web® 2)
<b>Data archiving</b>				
Archiving of driver card and digital tachograph data with digital signature checking	•	•	•	•
Recovery of download files for any drivers, vehicles or time periods (e.g. for authorities' control procedures)		•	•	•
Automatic erasure of data upon expiry of the archiving time limit			•	•
<b>Data capture</b>				
Capture of master data for the sites			•	•
Capture of driver and vehicle master data (automated via driver card and Downloadkey)			•	•
Capture of the tachograph chart data from analogue tachographs (using a VDO Tachograph Chart Analyser, keyboard)			•	•
Capture of the tachograph chart data from analogue tachographs (using a scanner)			•	•
<b>Visualisation and evaluation of data</b>				
Display of download files	•	•	•	•
Detection of gaps between downloads		•	•	•
Display of the data in tabular and tachograph chart form	•		•	•
Verification of driving times and rest periods			•	•
Visualisation of speed data			•	•
Evaluation of driver activities	•	•	•	•
Evaluation of vehicle utilisation			•	•
Driver calendar (working and driving times)			•	•
<b>Suitable reading-in devices</b>				
Downloadkey				
Mobile Card Reader		•	•	•
Card Reader	•	•	•	•
Downloadterminal II		•	•	•
Download Device (DLD® Short Range and DLD® Wide Range)			•	•
VDO Tachograph Chart Analyser (for analogue data)			•	•
Scanner (for analogue data)			•	•
<b>Available languages</b>				
29 AETR languages available	•	•	•	•
<b>Required infrastructure and administrative tasks</b>				
Own infrastructure for data storage and regular backup	•	•	•	
Computer(s) for local installation		•	•	
Computer(s) for client-server installations			•	
Computer(s) with Internet access				•
<b>Data security</b>				
Data protection (access data, user data and a password are all required)	•	•	•	•
Encrypted data transmission				•
Multi-user operation			•	•
<b>Automatic software updates</b>				
Automatic software updates				•

<sup>1)</sup> The range of functions of TIS-Office® is defined by modules. The table shows the range of functions when using all modules. The following modules are available: Basic module, Archive module, Scanner module, Driver Reports module, Vehicle Reports module, Infringement module and Company module.

<sup>2)</sup> The range of functions for TIS-Web® is defined by user levels: Bronze, Silver and Gold. The table shows the range of functions of the Gold user level.

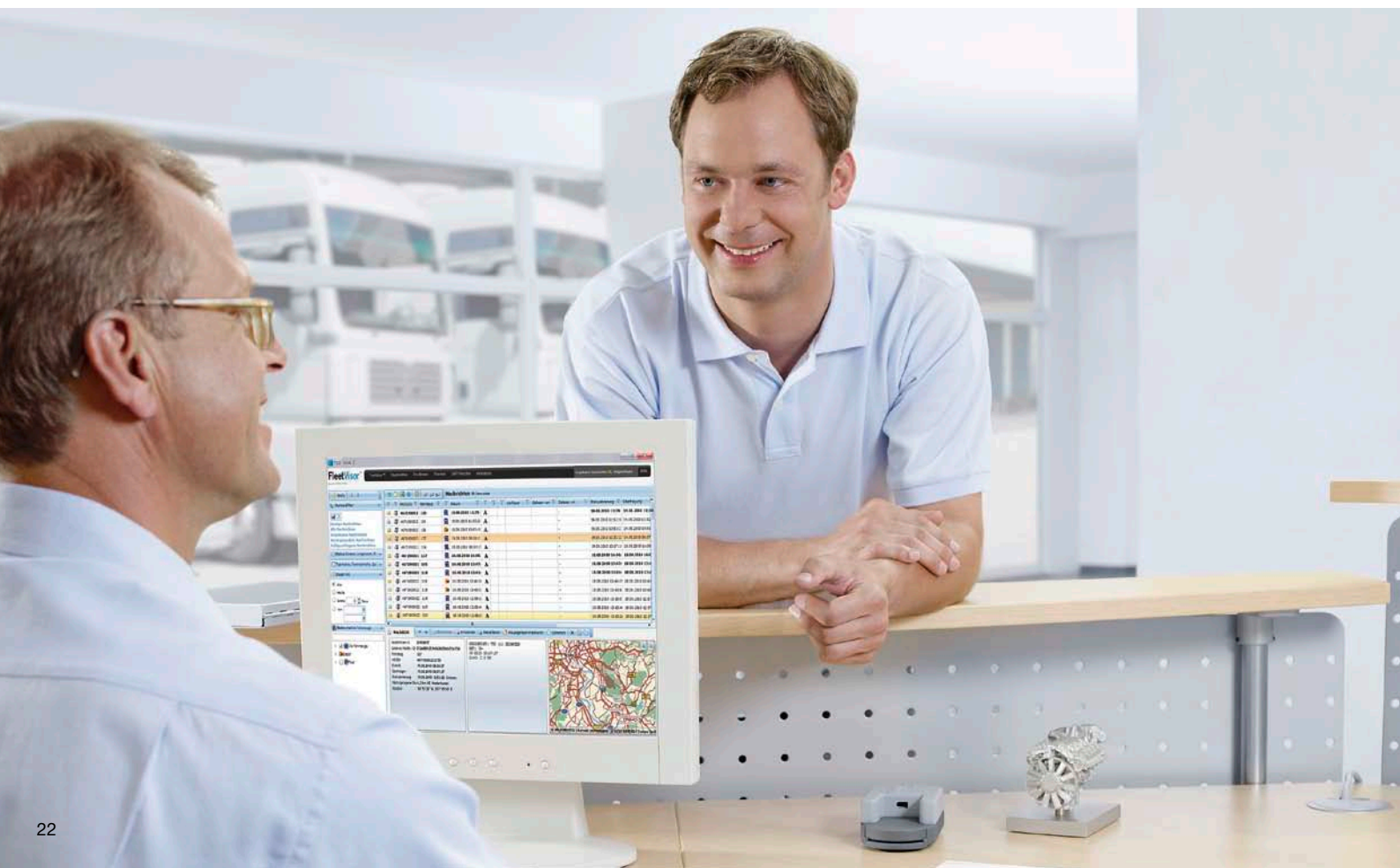
# What can Fleet Management Services offer me?

Our high-end fleet management solutions for the transport and logistics industries guarantee efficient operational procedures and optimal personnel and asset management.

## Our fleet management solutions will



- increase the efficiency of your fleet.
- reduce fuel consumption – and consequently your costs.
- acquire exact information on operational processes.
- minimise empty trips and diverted mileage.
- make your merchandise and logistics management processes more efficient.
- avoid infringements of driving/ rest period times and working hours regulations.
- reduce the costs of communication between office and driver.
- improve your personnel deployment planning.



# How can this help my business?

The changeover to the digital tachograph means organisational changes and investments for you. Make the most of the opportunity this changeover offers you – and increase the efficiency of your fleet!



Extract valuable business management information from the digital archive data, optimising your organisation and improving your operational procedures – because only in this way can you recoup your investments quickly and achieve sustainable profits.

- **Save time** when **controlling** driving times and rest periods and when monitoring infringements.
- **Improve your personnel planning** and reduce bottlenecks and drivers' idle time.
- **Optimise your vehicle utilisation** – and save costs.
- **Automate your maintenance and workshop plans** – and avoid unnecessary wear and tear and accidents.

Get the best out of all these advantages for your older vehicles as well by adding your analogue tachograph data to the archive. You can of course equip older vehicles with digital tachographs as well. Your VDO service partner will be pleased to provide assistance should you require it.

Visit [www.dtco.vdo.com/downloads](http://www.dtco.vdo.com/downloads) for a clearly laid out brochure about digital tachographs and product information about other VDO solutions.

**As your experienced partner, VDO will be happy to help you exploit your investments to the full.**

- with the perfect solution for your company
- with dependable products and perfectly balanced solutions
- with flexible system concepts, which can grow together with your business as you need them
- with the reliability of an experienced partner with a global service network
- with target group-specific training courses (you'll find more about VDO training courses at [www.dtco.vdo.com/training](http://www.dtco.vdo.com/training))

**There are more than 9,400 VDO service partners in over 30 countries: [www.dtco.vdo.com](http://www.dtco.vdo.com)**



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