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DTCO 1381 Rel. 1.3U – reliable and efficient

The digital tachograph of VDO

VDO

What are my legal obligations as a fleet operator?



Since May of 2006, all newly licensed HGVs of more than 3.5t 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.

Data that was recorded on tachograph charts in the past is now electronically stored in the mass memory of the digital tachograph and on the driver card. To fulfil your legal obligations as a fleet operator, you must regularly download and archive the data from your digital tachographs and driver cards.

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

Digital tachograph

Company preparations

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.

Archiving data

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.

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.



What benefits do I have from a digital tachograph?

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



Using a suitable data management solution, you can not only archive your data in accordance with legal regulations, you can also extract valuable business management information from the digital archive data. You can use that data to optimise your organisation and improve 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.
- **Optimise** your vehicle utilisation and save costs.
- **Improve** your **personnel planning** and reduce bottlenecks and drivers' idle time.
- **Automate** your **maintenance and workshop plans** – and avoid unnecessary wear and tear and accidents.

Depending on your company-specific requirements, VDO offers you various data management solutions, all of which comply fully with the legal regulations and provide many options for data evaluation. Visit www.dtco.vdo.com/downloads for a clearly laid out brochure about digital tachographs and product information about other VDO solutions.

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.

How does the DTCO® 1381 work?

The DTCO® 1381 fully complies with Regulation (EC) No. 561/2006 – and because it is a truly innovative system component, it can be optimally integrated with trendsetting vehicle technology.



What kind of data can the DTCO® 1381 record?

- Driving time, working time, availability time and rest periods for drivers and co-drivers
- The speed driven during every second of the previous 168 hours of driving time
- The distance driven since the driver card was last inserted
- Operation-specific parameters like, for example, rpm and other vehicle-related work procedures and events



Where is the recorded data stored?

- Vehicle-related data is stored in the integrated mass memory. The capacity of the integrated mass memory is sufficient for recording approx. 365 days of activities.
- Driving times and rest periods are also registered on individual driver cards. Up to 28 days of data can be stored on a driver card.

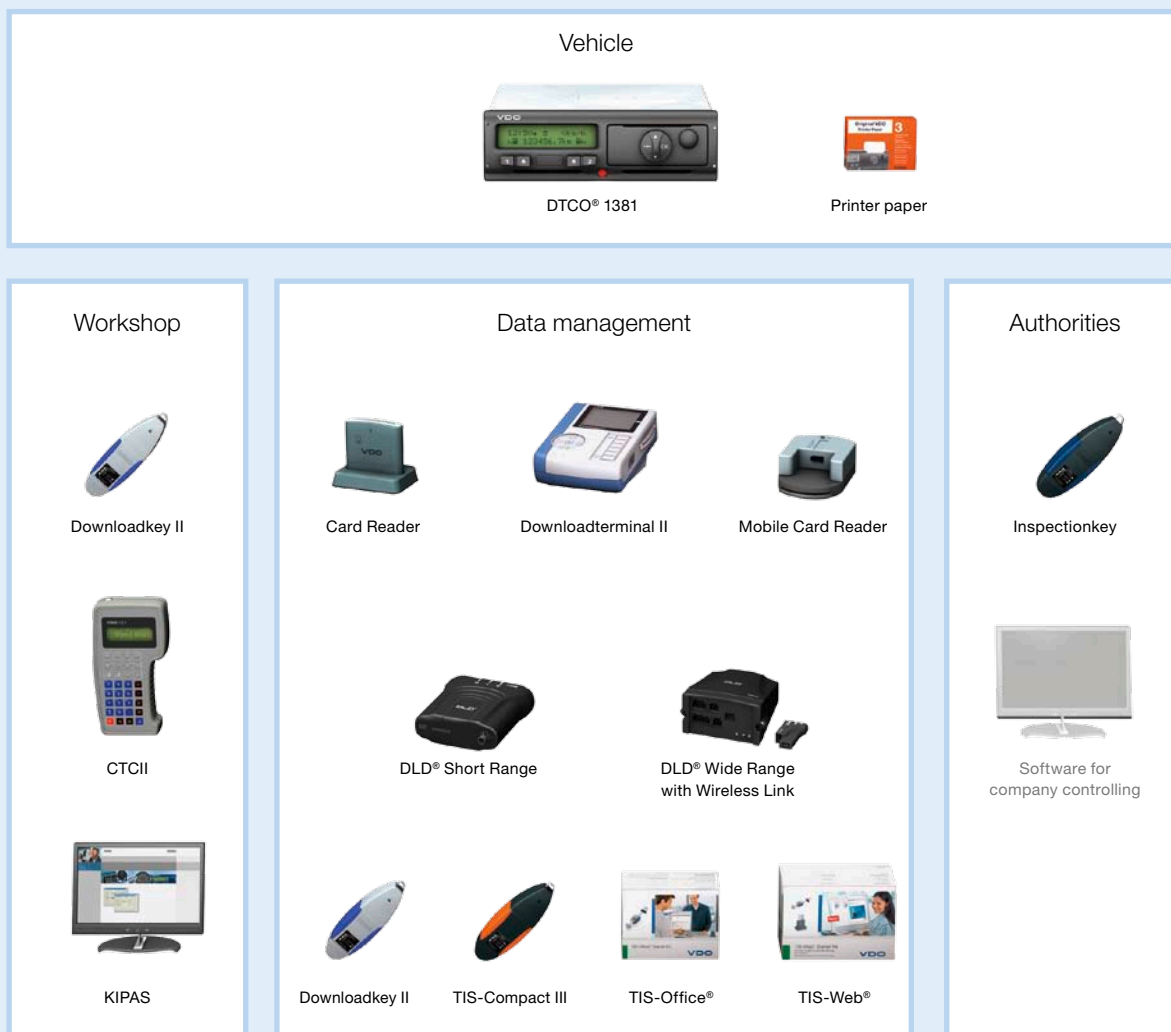
What benefits can the DTCO® 1381 offer me?

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. Years of priceless experience and know-how have gone into the design and manufacture of the DTCO® 1381 by VDO. It is an established, technologically superb device and one which sets the standards for cutting edge performance, user friendliness and data security.



Components of the DTCO® 1381 in 1-DIN radio format

- Registration unit incl. mass memory
- Two fully automatic chip card readers for the four different tachograph cards
- Integrated printer for printing out legally prescribed reports, graphical speed profiles and activity protocols
- Intuitive menu navigation and user guidance
- Front design in accordance with ECE R21
- Real-time clock based on UTC (universal time coordinated)
- Display for showing essential information, e.g. the current driving time and rest period account



System solutions by VDO



Flexibility thanks to various interfaces

- Fast Download front interface for testing, diagnosis, calibration and downloading of the mass memory data – can be optionally upgraded to a wireless interface
- CAN interface for connection to the onboard electronics
- Interface for connecting an instrument cluster / electronic tachometer
- Info interface for connecting to onboard computers and telematic systems



High level of data protection thanks to various access rights

Four different chip cards specify who can access specific DTCO® 1381 digital data.

- Driver cards store driver activities, events, faults and vehicle changes, but do not enable data downloads.
- The company card authorises fleet managers to download vehicle data from the mass memory and driver data from inserted driver cards.
- The control card enables authorities to access data for legal purposes.
- The workshop card switches on the calibration function of the DTCO® 1381. Authorised workshops can also use it as a driver card for testing and inspection purposes.

What functions are available with the DTCO® 1381 Rel. 1.3U?

As part of our policy to cater fully to the requirements of our users and react quickly to legal and technical changes, we constantly research the market to ascertain the experiences and needs of existing and potential customers – and we act upon what we have learnt by implementing new functions.



The expanded functions of the DTCO® 1381 Rel. 1.3U – an overview

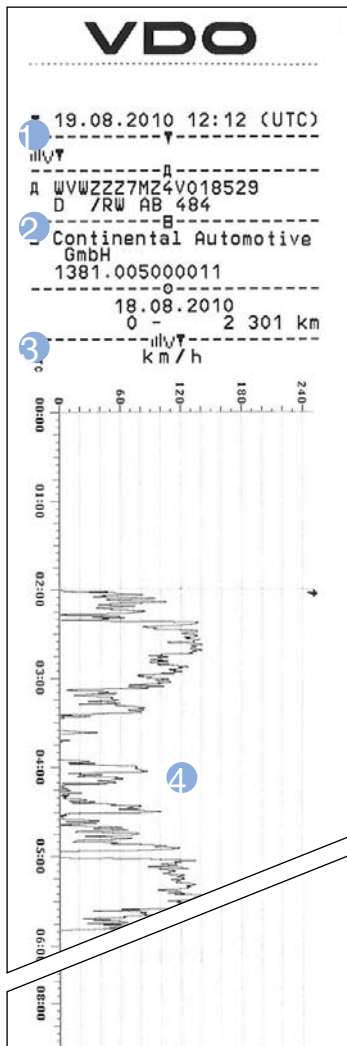
- **Graphical printouts** of speed profiles plus status and activity protocols provide an efficient overview at a glance and facilitate monitoring procedures.
- **Early warnings** for upcoming inspections and for tachograph cards the validity of which is about to expire, ensure that your company operations will run smoothly.
- **More languages** like Russian, Croatian, Turkish, etc.
- **Additional recorded data** like odometer readings when the vehicle stops, status changes and additional speed data provide useful business management information.
- The **Fast Download** function reduces download times to a fraction of the time normally required.



DTCO® 1381

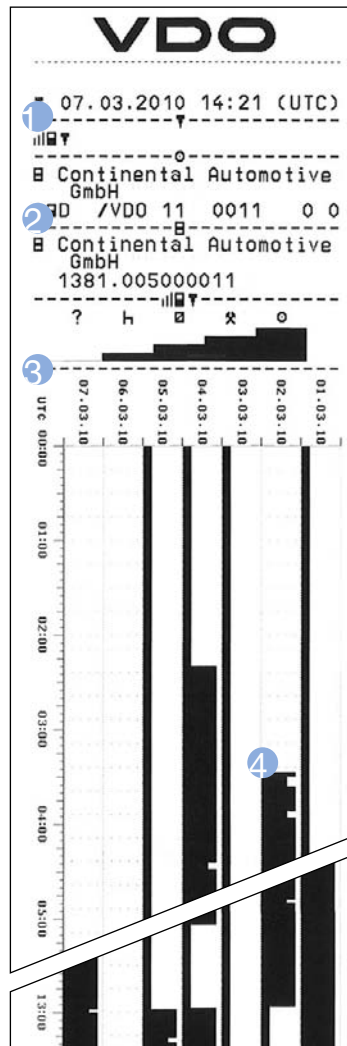
Graphical printouts

Concise printouts in the form of bar graphs and graphs display easy-to-read speed profiles of the previous 24 hours, plus driving time and rest periods for the previous 7 days; so you know at a glance if infringements exist – and can then react in a timely manner.



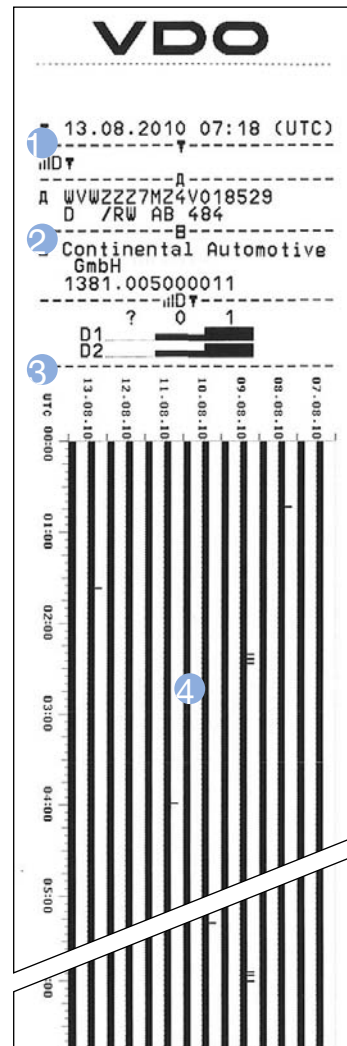
24-hour speed profile

- 1 Date/Time of printout
- 2 Vehicle identification number/ vehicle registration number
- 3 Date of printout
- 4 Speed graph



7-day driving time and rest period profile

- 1 Date/Time of printout
- 2 Driver card information
- 3 Key
- 4 Graphical representation of driving times and rest periods



7-day D1 /D2 status

- 1 Date/Time of printout
- 2 Vehicle identification number/ vehicle registration number
- 3 Key
- 4 Graphical representation of status inputs D1 /D2
Examples of events:
 - Loading procedure
 - Sweeper on
 - Warning signal (flashing blue light/siren)

Early warnings

With DTCO® 1381 Rel. 1.3U, drivers, company owners, workshops and controlling bodies are given timely warning that their individual tachograph cards will soon expire. Advance warning times can be individually set between 0 (OFF) and 90 days. When the defined advance warning time is exceeded, the warning message will be displayed on the display of the DTCO® each time a card is ejected.

Advance warnings can also be set for periodic inspections of the DTCO®.

Storing additional data

In addition to the legally prescribed storing of driver and vehicle-related data, the DTCO® 1381 Rel. 1.3U also records additional data which you can use for further processing and evaluation in a data management solution like e.g. TIS-Web® or TIS-Office®:

168 hours of “detailed speed”

The DTCO® registers the speed driven during the previous 168 hours of driving time, second by second. In contrast to the legally prescribed recording of the previous 24 hours, this speed data is not signed – and this results in a significant reduction of download times.

Odometer reading when vehicle stops

In compliance with the pertinent legal regulation, the DTCO® records the current odometer reading and saves it in the mass memory each time the vehicle stops for longer than two minutes.

Odometer reading when driver status changes

The current odometer reading is saved whenever a driver event (like a change of status) occurs.

Fast Download

The Fast Download function significantly reduces the download time of legally required data (activities of the previous three months).



Depending on your company-specific requirements, VDO offers you various integrated and customised data management solutions. Ask your VDO service partner for more product information about individual solutions – or visit our website at www.dtco.vdo.com



Remote Download – efficient data transfer by wireless

One especially convenient function the DTCO® 1381 offers you is the easy, fast and efficient wireless transfer of mass memory and driver card data by means of the Download Device (DLD®).

All you need is an update card to activate the DTCO® 1381's front interface for wireless transmission. The chip card must only be inserted once into the DTCO® 1381 – the update will then be carried out automatically.

One major advantage of wireless transmission is that 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 archive. This means that you can access fleet-relevant data whenever you want.

You'll find more detailed information about DLD® at: www.dtco.vdo.com/downloads

The DTCO[®] 1381 Rel. 1.3U at a glance

Operation and functions	
29 AETR languages available (depending on the data on the inserted driver card, automatic language selection occurs – but this can be manually overwritten)	•
Display available in divers colours	•
Dimming function for display illumination and button lighting	•
Buttons and covers/panels can be replaced	•
Two fully automatic chip card readers for different tachograph cards	•
Simple paper replacement – no tiresome feeding in	•
Clear and concise user guidance with menu text	•
Automatic driver warning after 4 hours and 15 minutes of driving time (Regulation (EC) No. 561/2006)	•
Recording and printing of speed/rpm profiles	◦
Driver 1 and Driver 2 activities are printable (graphics)	•
Status inputs D1 / D2 printable as a bar graph	◦
Printouts of all vehicle and driver data	•
Recording of additional data (e.g. 168 hours speed data recording, odometer reading when vehicle stops)	•
Early warnings (advance warnings about periodic inspections and expiry of tachograph cards)	•
Fast Download	•
Download status shown on display	•
Interfaces	
CAN interface for onboard electronics	•
CAN interface for Download Device (DLD [®])	◦
Interface for intelligent sensor (KITAS)	•
Signal output (v pulse, 4 pulses/m)	•
Diagnostics interface CAN or K-Line	•
Info interface for onboard computers or other telematics systems	•
6-pin interface for programming, calibration and data download via Downloadkey	•
6-pin interface for data transfer by wireless	◦
Suitable solutions for direct data download	
Downloadkey II	•
Download Device (DLD [®] Short Range and DLD [®] Wide Range)	◦
TIS-Compact III	•
Technical data	
Installation dimensions: 178 x 50 x 150 mm (L x B x H), 1-DIN radio compartment format	
Operating voltage: 24 V (optional 12 V)	
Measuring range: 0 to 220 km/h	
Operating temperature: -25 °C to +70 °C	
Storage temperature: -40 °C to +85 °C	
Pulse range: 4,000 to 25,000 pulses/km	
Real-time clock based on UTC time	
Inputs: KITAS 2171, n-sensor, additional inputs	
Outputs: 2 x v pulse, 1 x 4 pulses/m	
Accuracy: Speed: ± 1 km/h, distance: ± 1%, time: ± 2 s/day	
Weight approx. 1,350 g	

◦ Optional function (availability depends on DTCO[®] version)

• Standard function

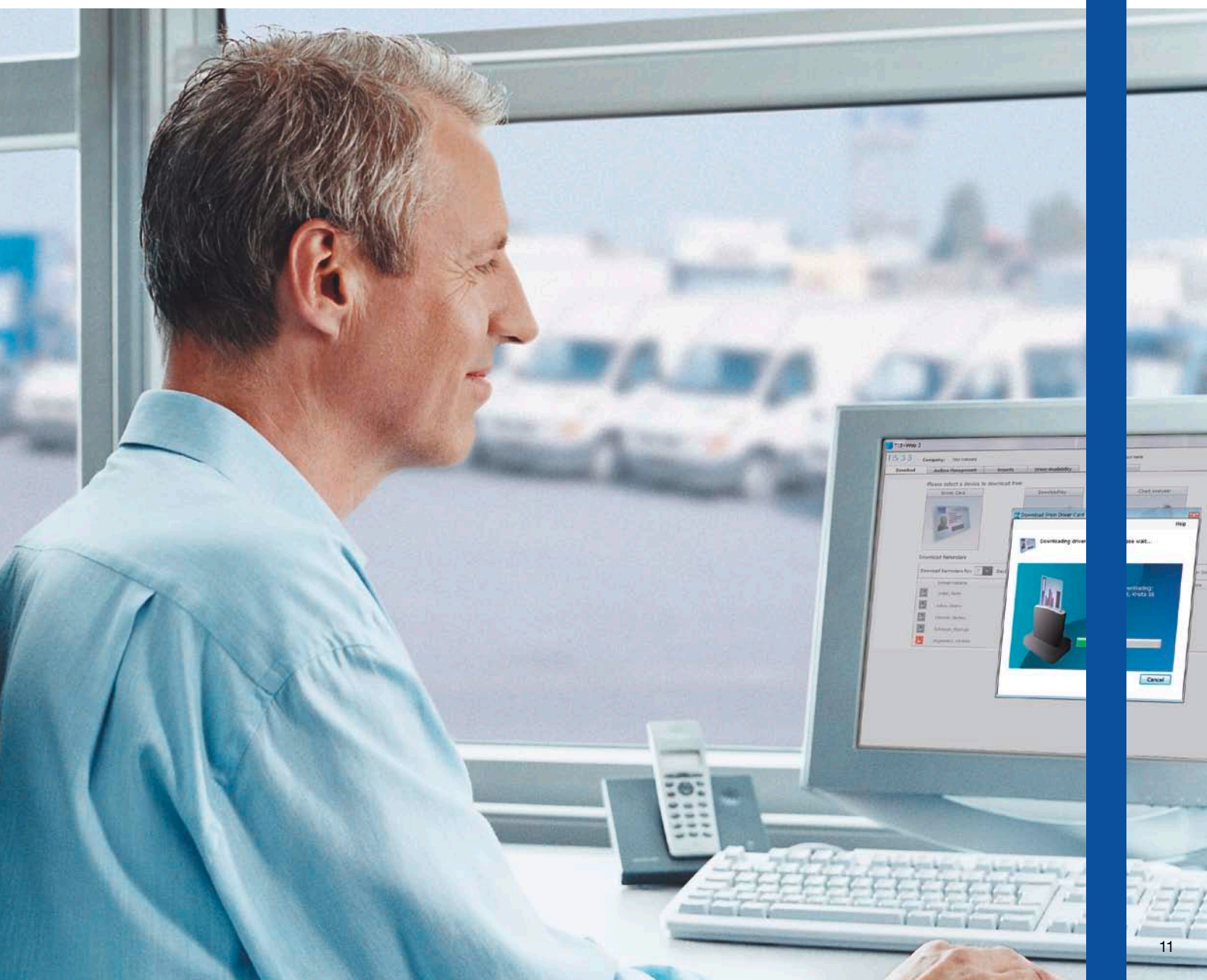
Additional offers from VDO

In order to help you prepare efficiently for working with digital tachographs, VDO, together with various partners, has developed target group-specific training concepts.

These training courses provide you with all the support you will need during your learning process with digital tachographs, the various additional components and the data management software. The courses also explain everything you need to know about the relevant EU regulations and their effects on each target group.

For further information about VDO training, please visit www.dtco.vdo.com/training

Visit www.dtco.vdo.com/downloads for a clearly laid out brochure about digital tachographs and product information about other VDO solutions.



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