

digital tachograph, tachograph's cards, tachograph's workshops

Marcin RYCHTER

Motor Transport Institute
80 Jagiellońska St., 03-301 Warsaw, Poland
Corresponding author. E-mail: rychter@poczta.fm

LEVEL IMPLEMENTATION OF DIGITAL TACHOGRAPH SYSTEM IN EUROPE IN LIGHT OF INTRODUCTION OF DIGITAL TACHOGRAPH SECOND GENERATION

Summary. The paper presents main legal rules introducing the digital tachograph system main requirements which must be fulfilled by producers of digital tachographs in order to get the type approval, possibility of future requirements of digital tachograph, main functions of digital tachograph, characteristics of participant of digital tachograph's system and their tools of identification, acting and setting of authorize workshops in Poland and European Union, accessible methods of check and calibration of digital tachographs and their description, based on Commission Regulation (EC) No 1360/2002 of 13 June 2002, replacing the Annex 1B and Polish law. This paper also presents current level of implementation of digital tachograph system in Europe in light of introduction of digital tachograph second generation.

POZIOM IMPLEMENTACJI SYTEMU TACHOGRAFÓW CYFROWYCH W EUROPIE W ASPEKTCIE WPROWADZENIA TACHOGRAFU CYFROWEGO DRUGIEJ GENERACJI

Streszczenie. Tachograf należy do grupy urządzeń ORD (*On Board Recording Devices*), których rozwój datuje się niemal od czasów przedwojennych. Najstarszym urządzeniem rejestrującym jest tachograf, którego obowiązek stosowania wprowadzono w USA już w 1939 roku. W artykule przedstawiono główne założenia funkcjonowania tachografu analogowego oraz tachografu cyfrowego w transporcie drogowym. W artykule zawarto również możliwe przyszłościowe wymagania, dotyczące tachografów cyfrowych oraz autoryzowanym warsztatom kalibrującym tachograf cyfrowy. W artykule są przedstawiony jest poziom wdrożenia sytemu tachografów cyfrowych w aspekcie wdrożenia tachografu cyfrowego drugiej generacji.

1. INTRODUCTION

The legal basis for the introduction of such system is Council Regulation (EEC) No 2135/98 of 24 September 1998 amending Regulation (EC) No 3821/85 of 20 December 1985 on recording equipment in road transport. Annex 1B of this Regulation contains the technical specification for digital tachographs.

Commission Regulation (EC) No 1360/2002 of 13 June 2002 replacing the Annex 1B is an actual detailed technical specification for digital tachographs. In accordance with new regulations, the inspection system consists of the following elements:

- a digital tachograph VU (*Vehicle Unit*), recording the driver and vehicle operation performance,
- a speed sensor, supplying the vehicle unit with relevant data concerning the vehicle speed and distance travelled,
- chip (data) cards intended for recording the data and identification of the system users.

For the conformity reasons all admitted equipment must fulfil three stages of tests:

- security test – test verifying the fulfilment of all requirements concerning the security, as listed in Annex 10 to the Commission Regulation (EC) No 1360 of 13 June 2002,
- functional test – test verifying the requirements concerning the functionality of the equipment; the tests are specified in Annex 9 to the Commission Regulation (EC) No 1360/2002 of 13 June 2002,
- interoperability test – test for verifying the abilities of a considered equipment to interoperate with other equipment; such tests are performed by only one laboratory under the supervision of the European Commission (this task is given to the Joint Research Centre at Ispra); only equipment fulfilling these two tests mentioned above can be admitted to this test.

2. LEVEL OF IMPLEMENTATION OF DIGITAL TACHOGRAPH SYSTEM

Level of introducing the system of the digital tachograph, leading it, was divided into the following elements:

- issue of digital tachograph's card,
- connect to TACHOnet system,
- approved of digital tachograph workshop,
- trained and equipped control services.

States which do not issue cards in the system of digital tachographs:

- Croatia (January 2009 start to issue cards),
- Serbia,
- Kosovo (the first half of 2009 will begin issuing cards),
- Cyprus.

States don't connected to the tachonet: system:

- Czech Republic,
- Denmark,
- Greece,
- Portugal,
- Kosovo,
- Serbia,
- Croatia.

States, which have not started methods of checking and calibrating digital tachographs:

- Greece (it passed requirements determining functioning of methods of the digital tachograph),
- Malta (it adopted the Italian system, drivers are going to Italy to carry checking and calibrating digital tachographs),
- Kosovo,
- Serbia,
- Croatia,
- Cyprus.

Almost all states accomplished training and equipping of control officers, with the exception:

- Greece,
- Portugal,
- Romania,
- Serbia,
- Croatia,
- Kosovo,
- Cyprus.

At present they are being led widely snitch works above introducing the system of digital tachograph in such countries as Russia, Ukraine or Moldova.

Level of implementation of digital tachographs system is presented in table 1 and in figure 1-13. They present situation of each country and connected do TACHOnet system, number of issued cars (driver, company, workshop, control), number of approval tachograph workshop in country of Europe and situation with malfunction, stolen or lost cards.

Table 1

Countries connected to TACHOnet system

Countries are connected to TACHOnet system	
Austria	Lithuania
Belgium	Lichtenstein
Bulgaria	Luxembourg
Czech Republic	Malta
Cyprus	Norway
Greece	Poland
Estonia	Romania
Finland	Slovak Republic
France	Slovenia
Germany	Spain
Iceland	Sweden
Ireland	Switzerland
Italy	The Netherlands
Latvia	UK
	Hungary
Countries not yet connected to TACHOnet system	
EU countries	
Hungary is in test phase.	
Denmark is not yet involved.	
Portugal will connect in start of 2010.	
Non EU-AETR countries:	
Andora is in test phase.	
Monaco is in phase test	

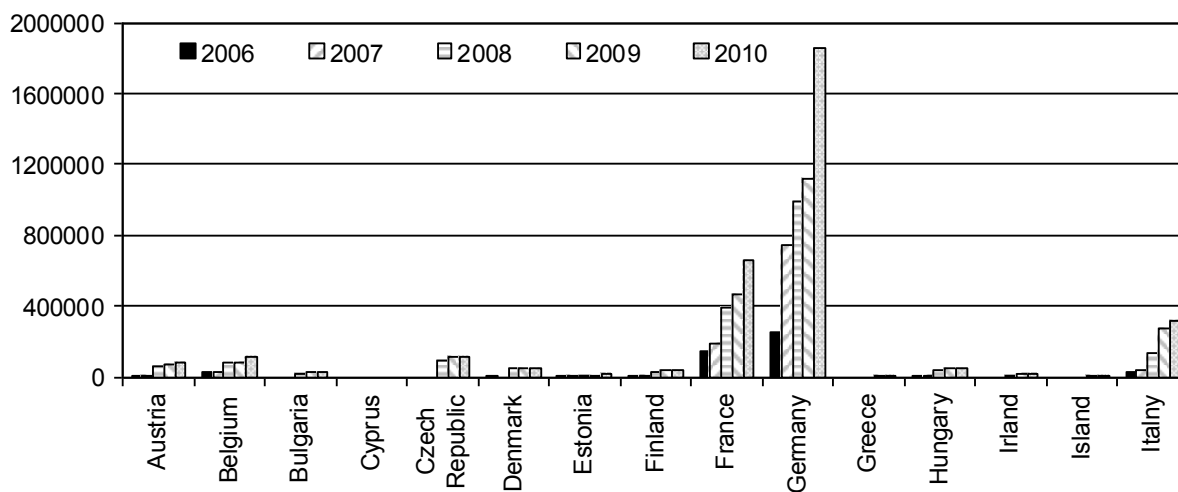


Fig. 1. Number of issued driver cards in Europe in 2006–2009 (part 1)

Rys. 1. Ilość wydanych kart kierowcy w Europie w latach 2006–2009 (cz. 1)

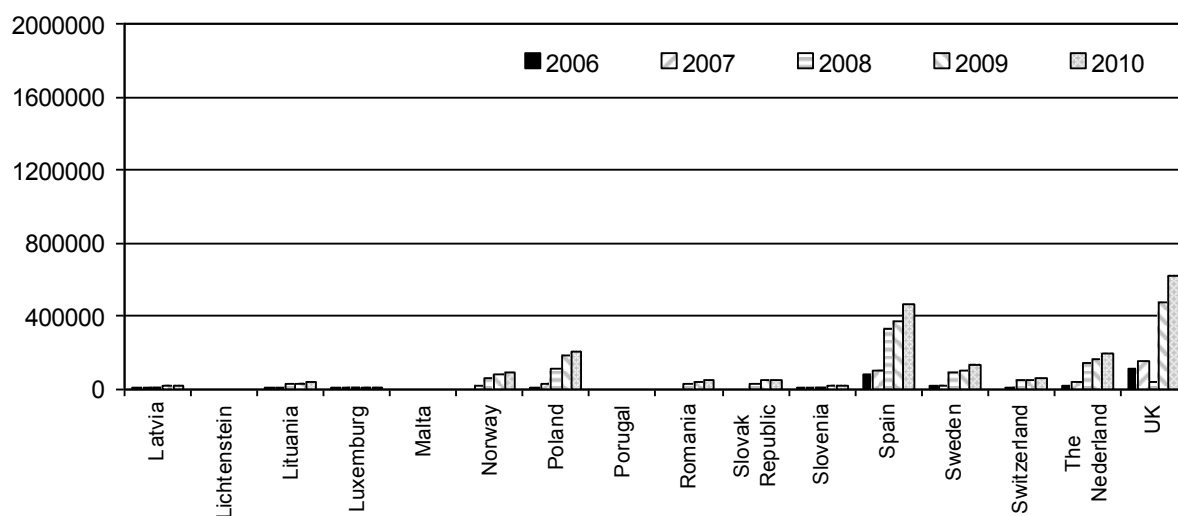


Fig. 2. Number of issued driver cards in Europe in 2006–2009 (part 2)

Rys. 2. Ilość wydanych kart kierowcy w Europie w latach 2006–2009 (cz. 2)

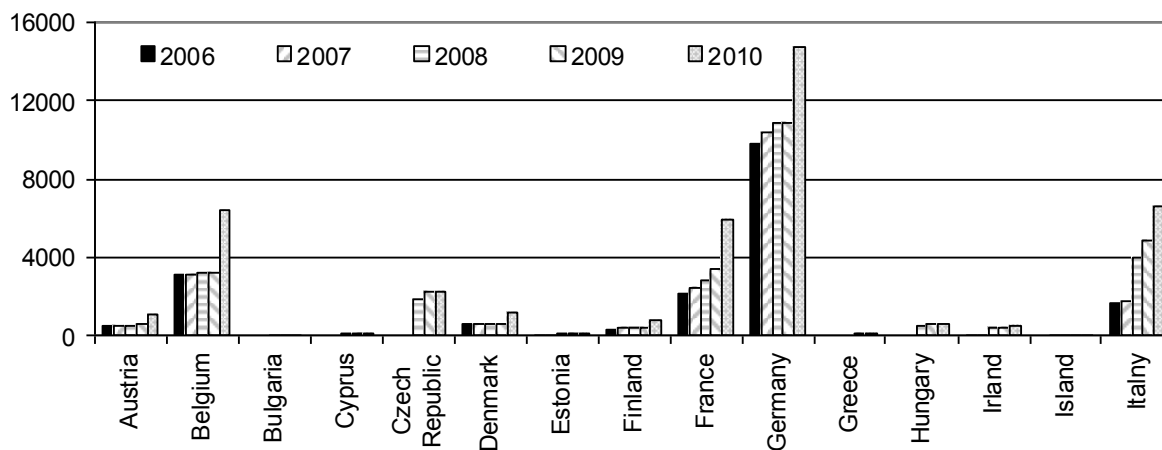


Fig. 3. Number of issued control cards in Europe in 2006–2009 (part 1)

Rys. 3. Ilość wydanych kart kontrolnych w Europie w latach 2006–2009 (cz. 1)

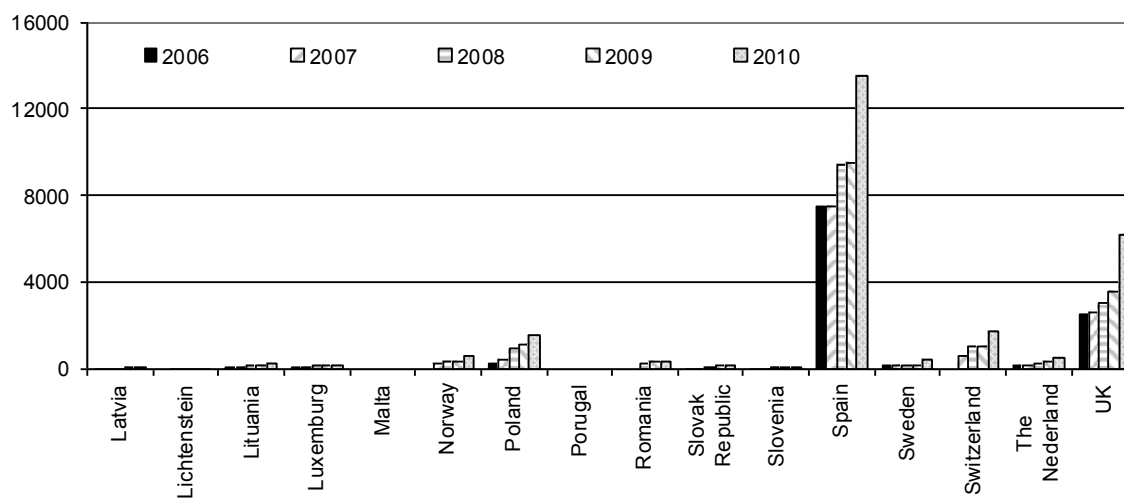


Fig. 4. Number of issued control cards in Europe in 2006–2009 (part 2)

Rys. 4. Ilość wydanych kart kontrolnych w Europie w latach 2006–2009 (cz. 2)

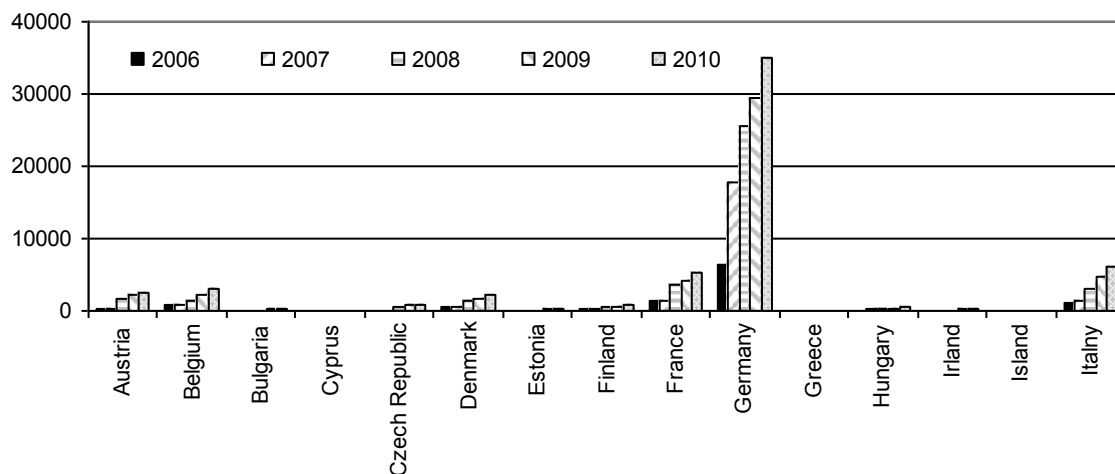


Fig. 5. Number of issued workshop cards in Europe in 2006–2009 (part 1)
 Rys. 5. Ilość wydanych kart warsztatowych w Europie w latach 2006–2009 (cz. 1)

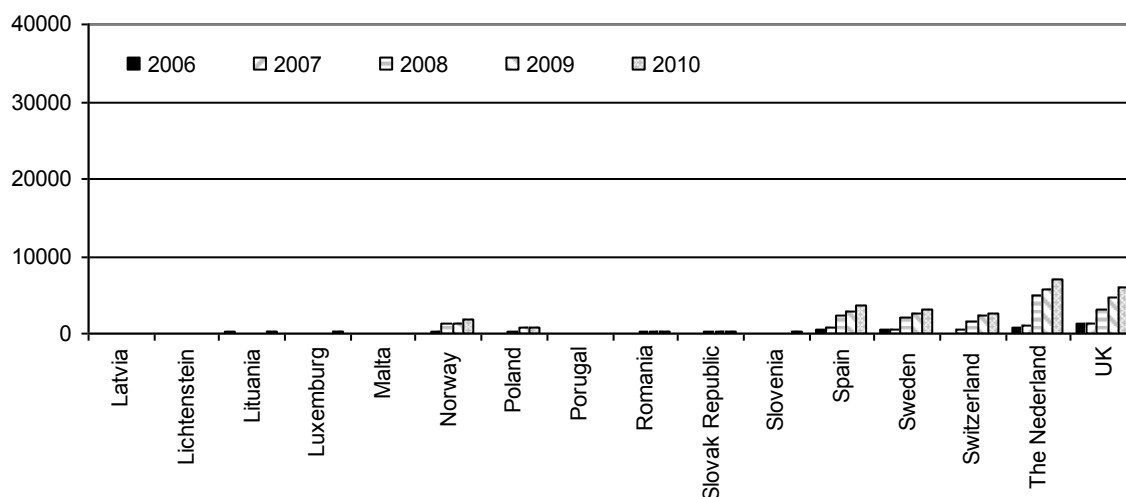


Fig. 6. Number of issued workshop cards in Europe in 2006–2009 (part 2)
 Rys. 6. Ilość wydanych kart warsztatowych w Europie w latach 2006–2009 (cz. 2)

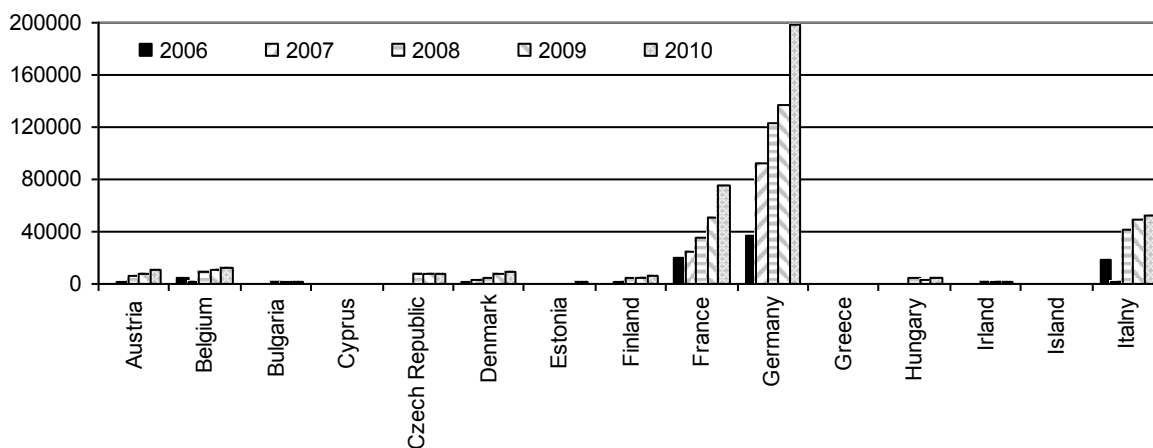


Fig. 7. Number of issued company cards in Europe in 2006–2009 (part 1)
 Rys. 7. Ilość wydanych kart przedsiębiorcy w Europie w latach 2006–2009 (cz. 1)

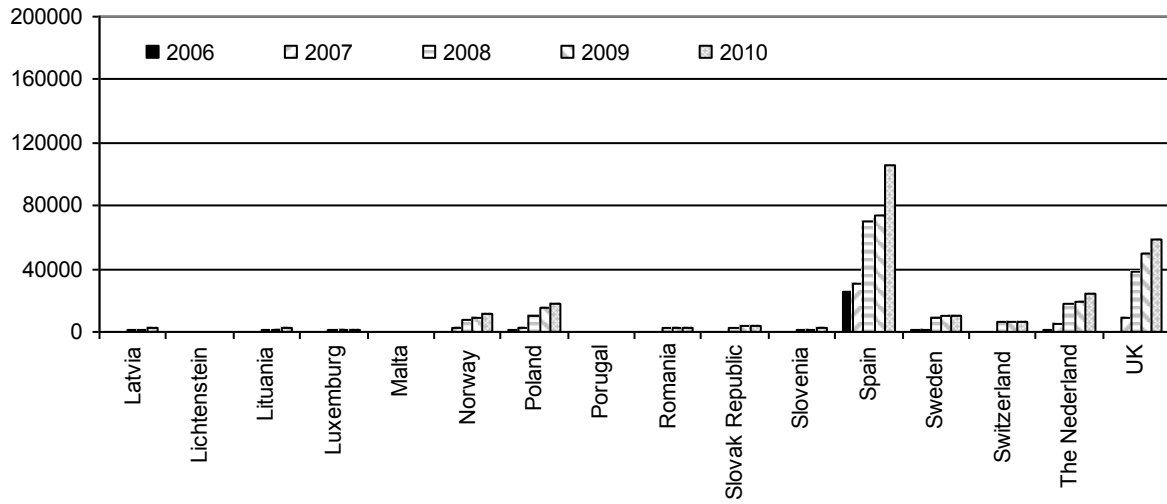


Fig. 8. Number of issued company cards in Europe in 2006–2009 (part 2)

Rys. 8. Ilość wydanych kart przedsiębiorcy w Europie w latach 2006–2009 (cz. 2)

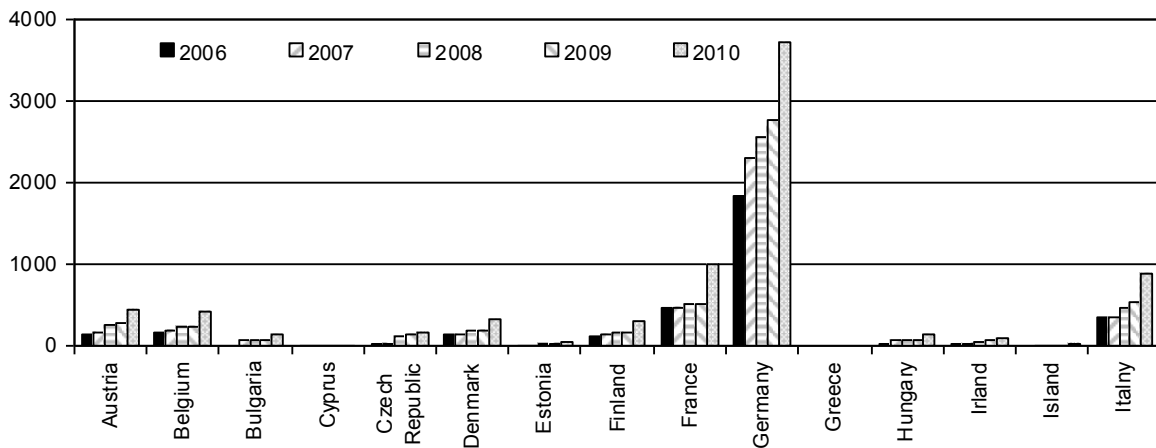


Fig. 9. Number of approved tachograph workshops in Europe in 2006–2009 (part 1)

Rys. 9. Ilość wydanych zatwierdzonych warsztatów tachografowych w Europie w latach 2006–2009 (cz. 1)

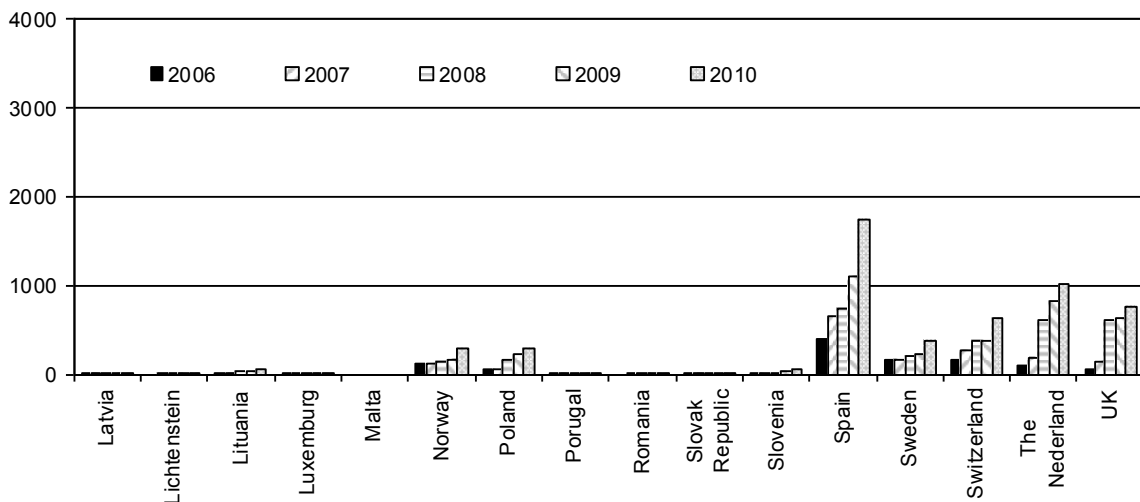


Fig. 10. Number of approved tachograph workshops in Europe in 2006–2009 (part 2)

Rys. 10. Ilość wydanych zatwierdzonych warsztatów tachografowych w Europie w latach 2006–2009 (cz. 2)

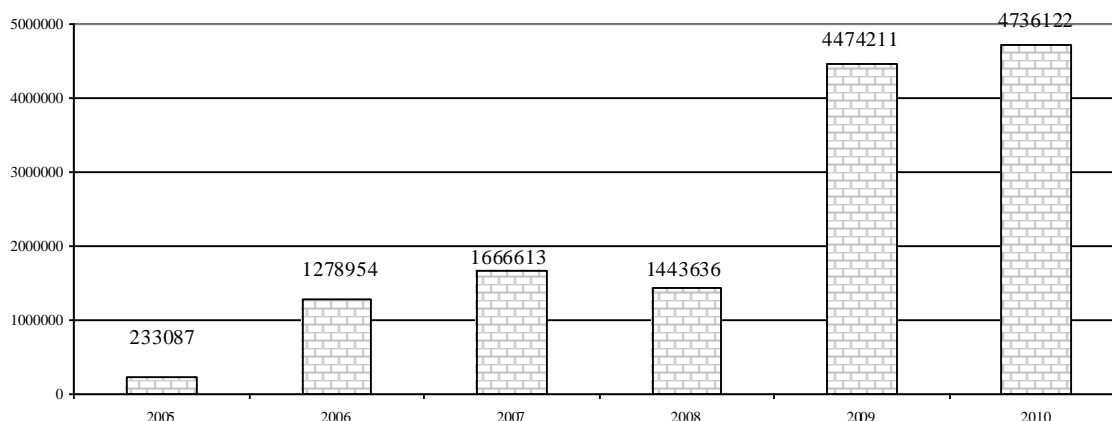


Fig. 11. Number of issued cards in Europe to the end of 2008 by 32 card issuing

Rys. 11. Ilość wydanych kart do tachografu w Europie do końca 2009 roku przez 32 instytucje uprawnione do wydawania kart do tachografu

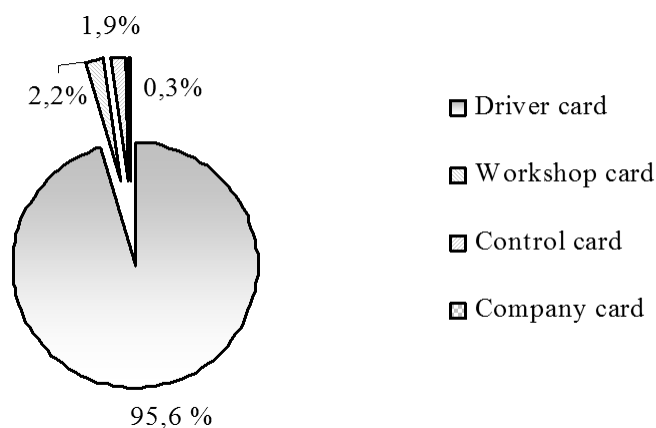


Fig. 12. Percentage participation of malfunction cards in issued all cards (2,1% of issued cards)

Rys. 12. Procentowy udział uszkodzonych kart do tachografu w świetle wszystkich wydanych kart (2,1% wydanych kart)

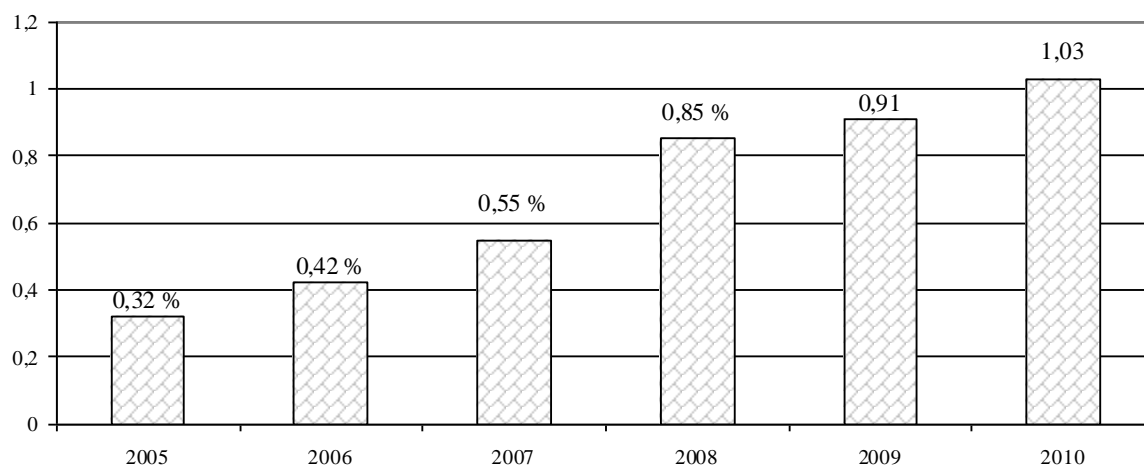


Fig. 13. Percentage participation of lost or stolen issued cards in 2005–2008

Rys. 13. Procentowy udział zagubionych lub skradzionych kart w latach 2005–2009

The number of issued cards in individual countries of Europe is diversified enough. This number depends on the size of the transport market in the given state and from the starting date of issuing

cards to tachographs. Greece began issuing cards only in 2008 and they issued 1076 cards to drivers, in Germany in the period of 5 years 1600529 cards to drivers were issued, however in Poland 2916677 cards were issued in this period.

In the coincidence of time sheets, the biggest numbers were issued in Germany (19415), of Spain (9741), United Kingdom (8566), however in Poland (1469); in Greece to date 675 time sheets were issued.

In Germany they issued 51795 of workshop cards, and in Spain 3953, in Poland 1870. Malta, on account of the quite small transport marketplace, isn't inserting digital tachographs workshops.

The most cards for the entrepreneur were issued in Germany - 181742, in Spain 83213, in France 50193, in Italy 74825, however in Poland 22110, in Greece they only issued 145.

In the case of approved workshops, checking digital tachographs, most of them stayed opened in Germany - 2548 points, in Spain of 1163 workshops, in Poland of 225 workshop points; in Greece 34 workshop points were opened.

On the states of Europe which led STC we have 32 institutions entitled to issue cards to tachographs. These institutions issued, in the period of STC functioning, 15680605 of all kinds of cards.

3. SUMMARY

The Regulation (EC) No 561/2006 of the European Parliament and of the council of 15 march 2006 on the harmonization of certain social legislation relating to road transport and amending Council Regulations (EEC) No 3821/85 and (EC) No 2135/998 and repealing Council Regulation (EEC) No 3820/85 shall apply to the carriage by road of:

- goods where the maximum permissible mass of the vehicle, including any trailer or semi-trailer, exceeds 3,5 tones,
- passengers by vehicles which are constructed or permanently adapted for carrying more than nine persons including driver, and are intended for that purpose.

This Regulation shall not apply to carriage by road by:

- vehicles used for the carriage of passengers on regular services where the route covered by the service in question does not exceed 50 kilometres;
- vehicles with a maximum authorised speed not exceeding 40 kilometres per hour;
- vehicles owned or hired without a driver by the armed services, civil defence services, fire services, and forces responsible for maintaining public order when the carriage is undertaken as a consequence of the tasks assigned to these services and is under their control;
- vehicles, including vehicles used in the non-commercial transport of humanitarian aid, used in emergencies or rescue operations;
- specialised vehicles used for medical purposes;
- specialised breakdown vehicles operating within a 100 km radius of their base;
- vehicles undergoing road tests for technical development, repair or maintenance purposes, and new or rebuilt vehicles which have not yet been put into service;
- vehicles or combinations of vehicles with a maximum permissible mass not exceeding 7,5 tonnes used for the non-commercial carriage of goods;
- commercial vehicles, which have a historic status according to the legislation of the Member State in which they are being driven and which are used for the non-commercial carriage of passengers or goods.

Bibliography

1. EU-MIDT/CINC/005-2005_rev4, Identification of the Card Issuing Authorities (CIA) in EU and EEA Member States and Switzerland.
2. EU-MIDT/ENC/016-2008, Minutes of the meeting held on 14 October 2008 in Tallinn.
3. EU-MIDT/IPC/006-2008, Minutes of the meeting held on 23 June 2008 in Bled.

4. EU–MIDT/PLE/007–2008, Minutes of the plenary meeting held on 15 October 2008 in Tallinn.
5. Rychter M.: *Budowa i zastosowanie systemu tachografii cyfrowej*. Wydawnictwo ITS, 2010.
6. Merkiś J., Mazurek S.: *Tachograf cyfrowy*. WITB–PIB, Warszawa, 2006.
7. Rozporządzenie (WE) nr 561/2006 Parlamentu Europejskiego i Rady z dnia 15 marca 2006 roku w sprawie harmonizacji niektórych przepisów socjalnych odnoszących się do transportu drogowego oraz zmieniające rozporządzenia Rady (EWG) nr 3821/85 i (WE) nr 2135/98 jak również uchylające rozporządzenia Rady (EWG) nr 3820/85, Dz. Urz. UE L Nr 102 z 11.4.2006r.
8. Rozporządzenie Komisji (WE) nr 1360/2002 z dnia 13 czerwca 2002 roku, dostosowujące po raz siódmy do postępu technicznego rozporządzenie Rady (EWG) nr 3821/85 w sprawie urządzeń rejestrujących stosowanych w transporcie drogowym, Dz. Urz. UE L Nr 207 z 5.8.2002 r.
9. Ustawa o systemie tachografów cyfrowych z dnia 29 lipca 2005 roku, Dz. U. Nr 180, poz. 1494 ze zm.

Received 25.06.2011; accepted in revised form 11.09.2011