44th ITS cieca congress ISTANBUL
13-16 June 2012

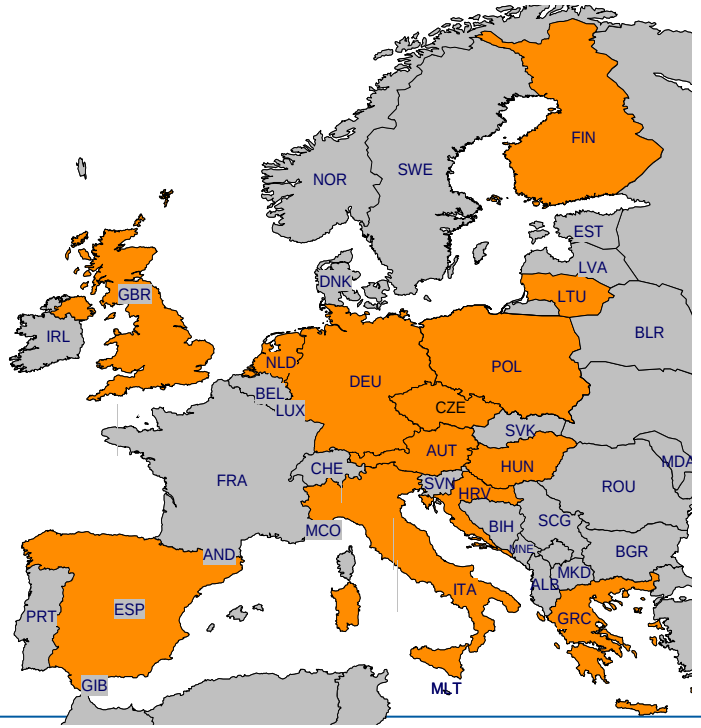
ECO Safe Driving through an eCoaching Tool

cieca
The International Commission for Driver Testing

TÜV SÜD

Backround:

- **Ecowill: Ecodriving-Widespread Implementation for Learner drivers and Licensed Drivers**



- **Hermes: High impact approach for Enhancing Road safety through More Effective communication Skills for driving instructors**

EU Coaching Project HERMES

First of all

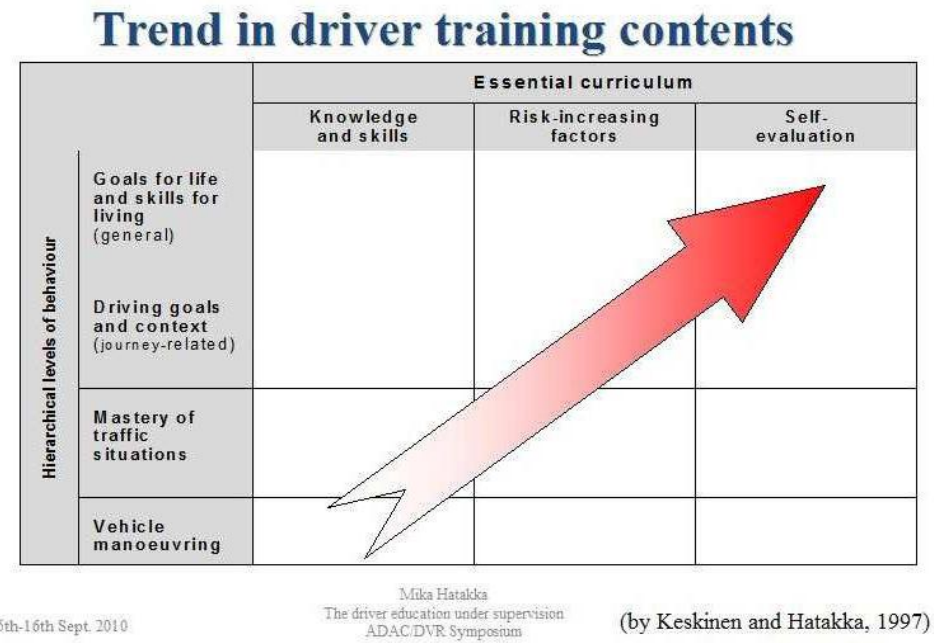
How many of you know the average fuel consumption you normally have in your car while driving?

What could you improve in your own driving to get it lower?

Results

- In ecodriving courses we have already found out that the result of training, the 10-15% decrease of fuel consumption, normally lowers to 5-7% during a year or so.
- Is it the lack of knowledge or the lack of the feedback after a course?
- After the driving examination the first year is the most dangerous for a novice driver.
- Is it the lack of knowledge or the lack of self evaluation and feedback?

What could you improve in your own driving?



- What is your goal?
- What are your strengths?
- Where are your weaknesses?
- What exactly would you like to learn next?
- When do you start practicing?

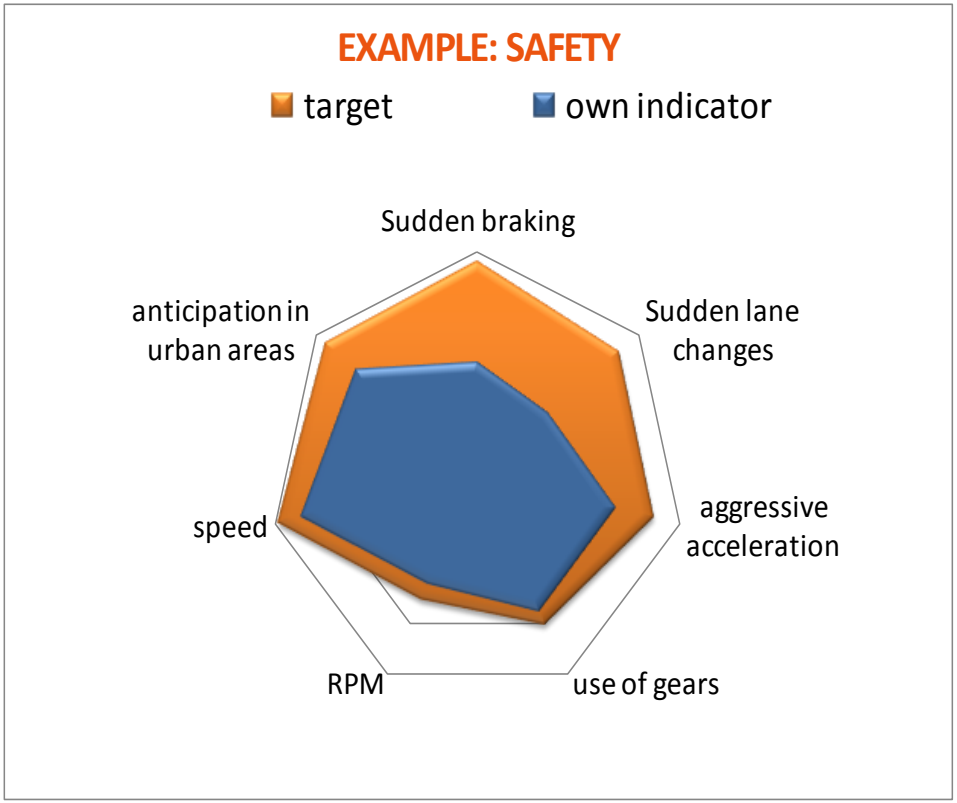
Our IDEA

We have developed and developing an easy to adjust tool to remind people of the meaning of safe and environmental way of driving by collecting data, analyzing it and then giving feedback via internet.

AN INDIVIDUAL TRAINING PROGRAMME

- Our tool calculates the driving indicators in the specific areas and analyses individual figures and relates them to a comparison group selected from the previous collected database.

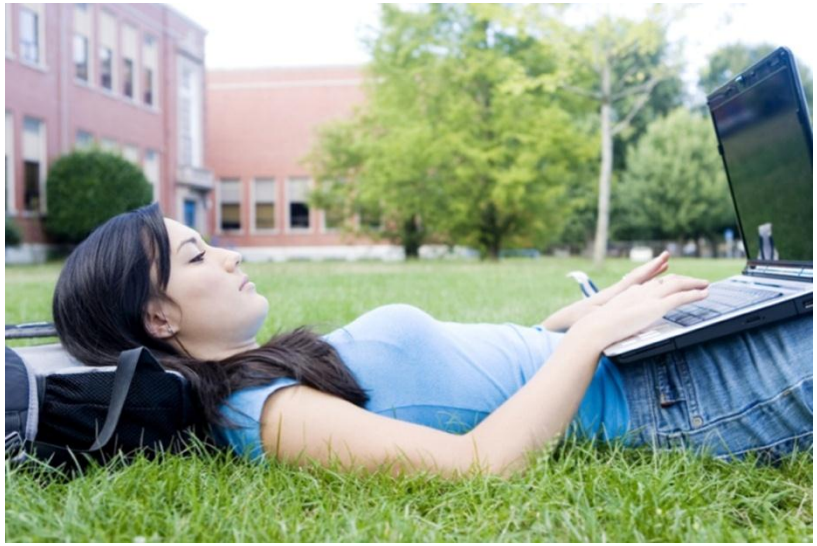
- The more personal the follow-up data that is collected the more individual development is taken into account when forming personal training programme.



For learner drivers

- Enter to a course.
  - in driving school or in internet
- Get your own password.
  - so you can get to your own pages
- Fill your self-evaluation form with your goal in internet.

E.g.
- What would you like to train?
- What are your expectations?



DRIVING EVALUATION

What would you like to learn / your goal?

…….

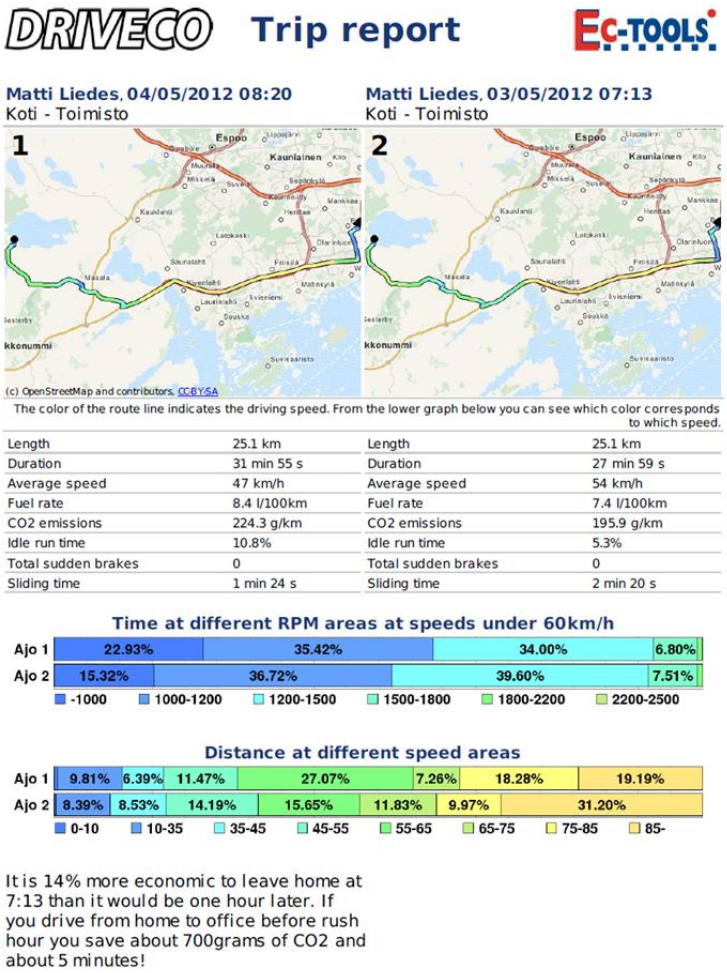
Evaluate your driving skills according to: to improve ----------very good

MANOEUVRING SKILLS	1	10
CHOOSING LANES	1	10
FLEXIBILITY	1	10
DETECTING RISKS	1	10
OBSERVING LIGHT TRAFFIC	1	10
TOLERATING PRESSURE	1	10
OBEYING TRAFFIC RULES	1	10

- Go to the driving lesson.
  1. Drive route and collect the data.
- Evaluate yourself and define your goal.
  E.g. - What tips do you already know?
  - What contents would you like to try out ?
  2. Drive route and collect the data.
- Get the feedback by the tool.
- Compare yours and the tool's "results".
- Find some personal tips, make commitment for the future.

Comparison

- Map where we were driving
- Distance
- Time
- Average speed
- Average fuel consumption
- CO_2 emissions
- Idling time
- Sudden brakings
- Engine braking time



DRIVECO Trip report

EC-TOOLS

Matti Liedes, 04/05/2012 08:20
Koti - Toimisto

Matti Liedes, 03/05/2012 07:13
Koti - Toimisto

The color of the route line indicates the driving speed. From the lower graph below you can see which color corresponds to which speed.

Length	25.1 km	Length	25.1 km
Duration	31 min 55 s	Duration	27 min 59 s
Average speed	47 km/h	Average speed	54 km/h
Fuel rate	8.4 l/100km	Fuel rate	7.4 l/100km
CO2 emissions	224.3 g/km	CO2 emissions	195.9 g/km
Idle run time	10.8%	Idle run time	5.3%
Total sudden brakes	0	Total sudden brakes	0
Sliding time	1 min 24 s	Sliding time	2 min 20 s

Time at different RPM areas at speeds under 60km/h

Distance at different speed areas

It is 14% more economic to leave home at 7:13 than it would be one hour later. If you drive from home to office before rush hour you save about 700grams of CO2 and about 5 minutes!

Social networking

- It is well known that people are spending more and more of their time hanging in Facebook and Twitter.

- We are now giving them an opportunity to share their driving lessons with their friends and learn from each other.

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NEW LEARNING ENVIRONMENT AS A PART OF FINNISH DRIVING SCHOOL CURRICULUM (idea)

BASIC PHASE 1-6 month

•When ever needed 10-15 times

SECTOR	SELF EVALUATION
Attitude	
Driving situatio	
Knowing rules	
Manouvring	

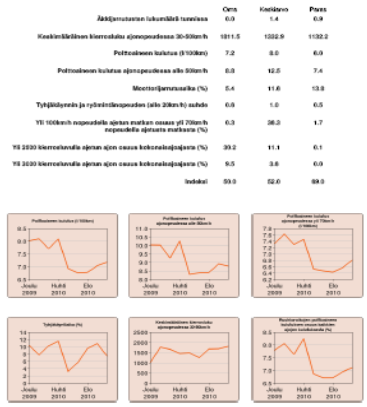
•Automatic feedback

PRACTISING PHASE

•Once a month

SECTOR	SELF EVALUATION
Attitude	
Driving situation	
Knowing rules	
Manouvring	

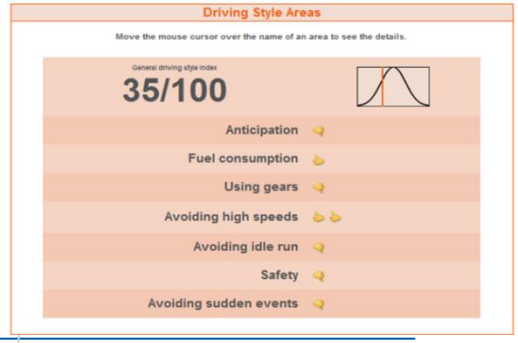
•Automatic feedback



DEEPENING PHASE 3-24 month

•Comparative evaluation

ROUTE 1	ROUTE 2



cieca The International Commission for Driver Testing

TÜV SÜD

For professionals

- Because of the Directive there must be 35 hour training for truck or bus driver to conserve their ability to continue in their profession.
- In many countries one of the topics is ecodriving.
- In 7 hour courses we can use data collected earlier in their daily work.

TOOLS FOR MANAGERS AND DRIVERS

Summaries

Verbal description

Month by month development

Detailed comparison in selected group

Graphics to Highlight the differences in driving styles

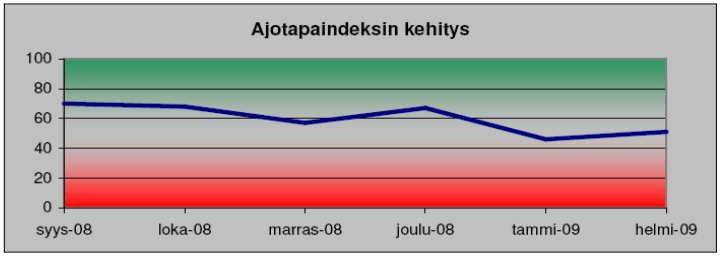
KULUTUS- JA AJOTAPASEURANTA

KULUTUSRAPORTTI, helmikuu 2009

Kuljettaja: 2323 firstname lastname

	ajoaika	matka (km)	kulutus (l/100km)	autoryhmän ka. (l/100km)	indeksi
Yhteensä	**124 h 58 min**	**3919**	**30,0**		**51**
autoryhmittäin					
	124 h 58 min	3919	30,0	*29,5*	51

Kulutuksesi oli helmikuussa 30 l/100km ja ajotapaindeksisi tässä kuussa oli 51 pistettä (asteikolla 0-100) joka on hyvä. Tammikuun ajotapaindeksisi oli 46 joten ajotapaindeksisi on pysynyt suurin piirtein ennallaan. Vertailuryhmässäsi oli mukana 11 kuljettajaa. Muihin kuljettajiin verrattuna sijoitut keskivaiheille. Ajotapaseurantaan osallistui helmikuussa 14 kuljettajaa.



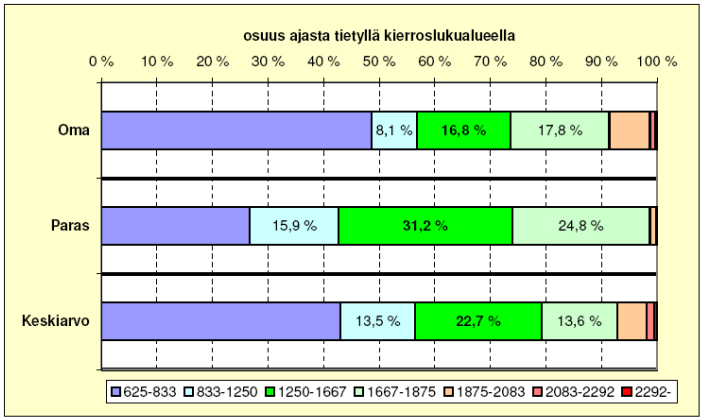
(*) Indeksin laskennassa käytetään kuljettajakohtaisia ajotapaa kuvaavia ominaisuuksia ja ajo-olosuhteita kuvaavia tunnuslukuja. Kuljettajaa verrataan ainoastaan samalla autolla ajaviin muihin kuljettajiin.

Indeksin laskennassa on mukana seuraavat tekijät (suluissa painotus):
- polttoaineen kulutus (30%)
- jarrujen käyttökertojen lukumäärä / 100km (20%)
- tyhjäkäyntiaika (15%)
- ajankäyttö kierroksilla yli 2080 (prosentteina ajoajasta) (20%)
- ylinopeus (nopeus yli 82 km/h) maantieajon aikana (15%)

KULUTUS- JA AJOTAPASEURANTA

Esimerkki autoryhmasta XXXX

KULJETTAJA	OMA	keskiarvo	PARAS
kulutus (l/100km)	30,0	29,5	27,0
ylinopeus maantieajon aikana	74 %	56 %	46 %
jarrujenkäyttö (kpl/100km)	157	199	140
tyhjäkäyntikulutus (%)	6 %	8 %	4 %
tyhjäkäyntiaika (%)	34 %	34 %	18 %
ajankäyttö, kierrokset yli 2080 (%)	1 %	2 %	0 %
indeksi	51	50	75



Kierroslukujen käyttö kuvastaa ajotapaasi. Oheisessa kuvaajassa on eriteltynä ajoaikasi eri kierroslukualueilla. Ajankäyttö on laskettu ajoajasta (kierrokset yli 625)

Autoryhmän parhaaksi autoryhmästä kuljettajaksi valitaan kuljettaja jonka ajotapaindeksi on paras. Parhaaksi ei voida kuitenkaan valita kuljettajaa joka on ajanut alle 1000 km ko. autoryhmässä.

Taulukossa on omat tietosi, keskiarvotiedot ja parhaan kuljettajan tiedot autoryhmästä, jossa olet ajanut eniten

Feedback and homework

- **General**

  The Driveco coach has studied your driving for 7 days until your latest driving day. During this time you have driven 31 km with an average fuel consumption of 10.1 l/100km. You have produced a carbondioxide tireprint of 8 kg, or 268 grams per kilometer.

- **Economy**

  In terms of driving economy your greatest weakness seems to be fuel consumption.

- **Homework**

  What could you do to improve your driving style to use less fuel?

- **A tip**

  Slow down well in advance when you approach a crossroads, traffic lights or a vehicle that has stopped; in the best case you can avoid stopping altogether.

ABOUT the FEEDBACK

- ”The mistake I was making was seeing feedback as something teachers provided to students—they typically did not, although they made claims that they did it all the time, and most of the feedback they did provide was social and behavioral. It was only when I discovered that feedback was most powerful when it is from the student to the teacher that I started to understand it better. When teachers seek, or at least are open to, feedback from students as to what students know, what they understand, where they make errors, when they have misconceptions, when they are not engaged—then teaching and learning can be synchronized and powerful. Feedback to teachers helps make learning visible”. **Hattie, 2009; 173**

- # THANK YOU VERY MUCH!

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