



Probe data, RTTI and TISA

iMobility Forum plenary 17-04-2013
Theo Kamalski, Manager Regulatory Affairs TomTom

Content

➤ PROBE DATA

- State of the Art
- Privacy
- Examples what can be done
- Customers

➤ RTTI

- Historical data
- Real time Traffic Flow
- State of the art

➤ TISA

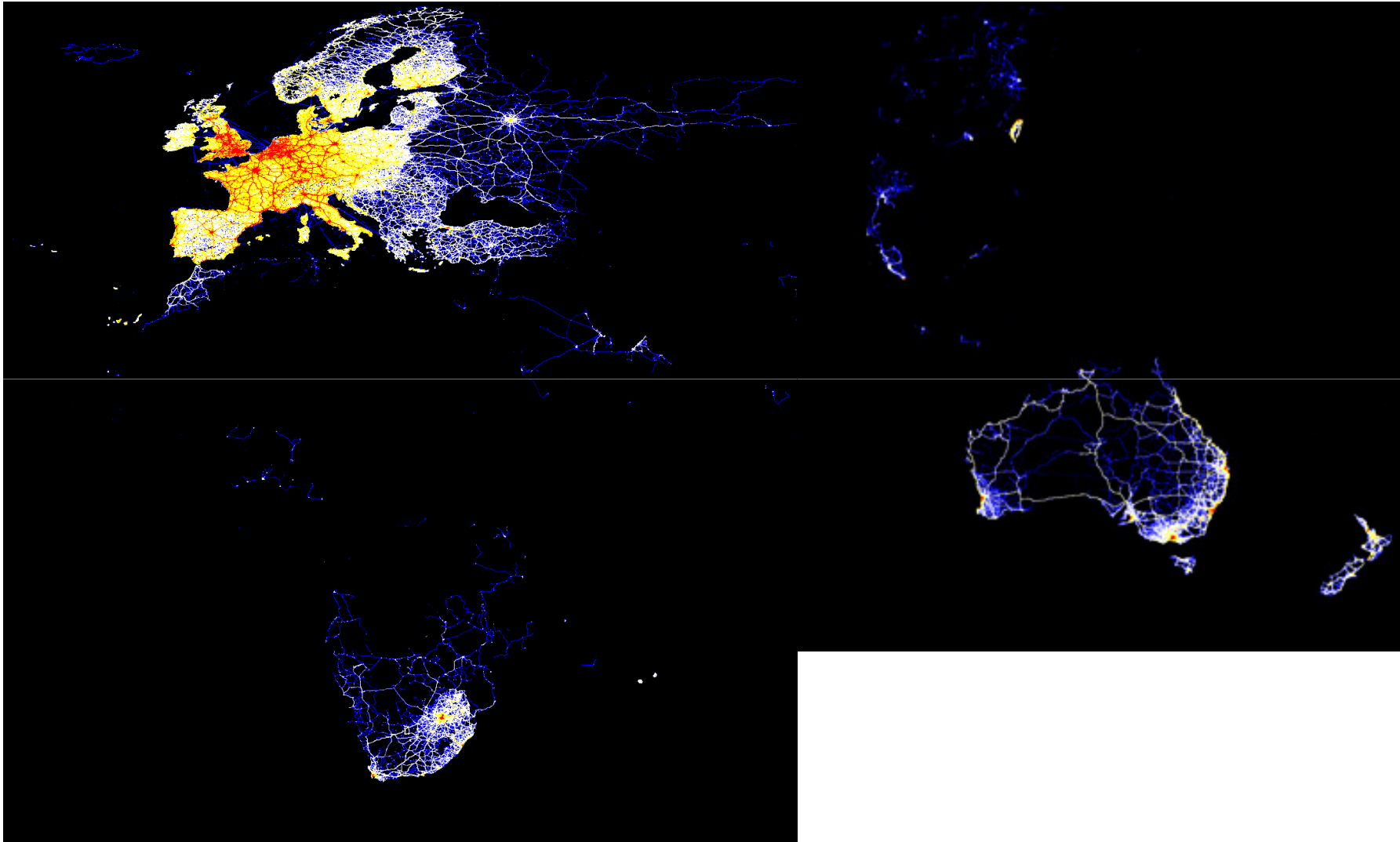
- Introduction
 - Product portfolio
 - Service portfolio
-

Using Community feedback

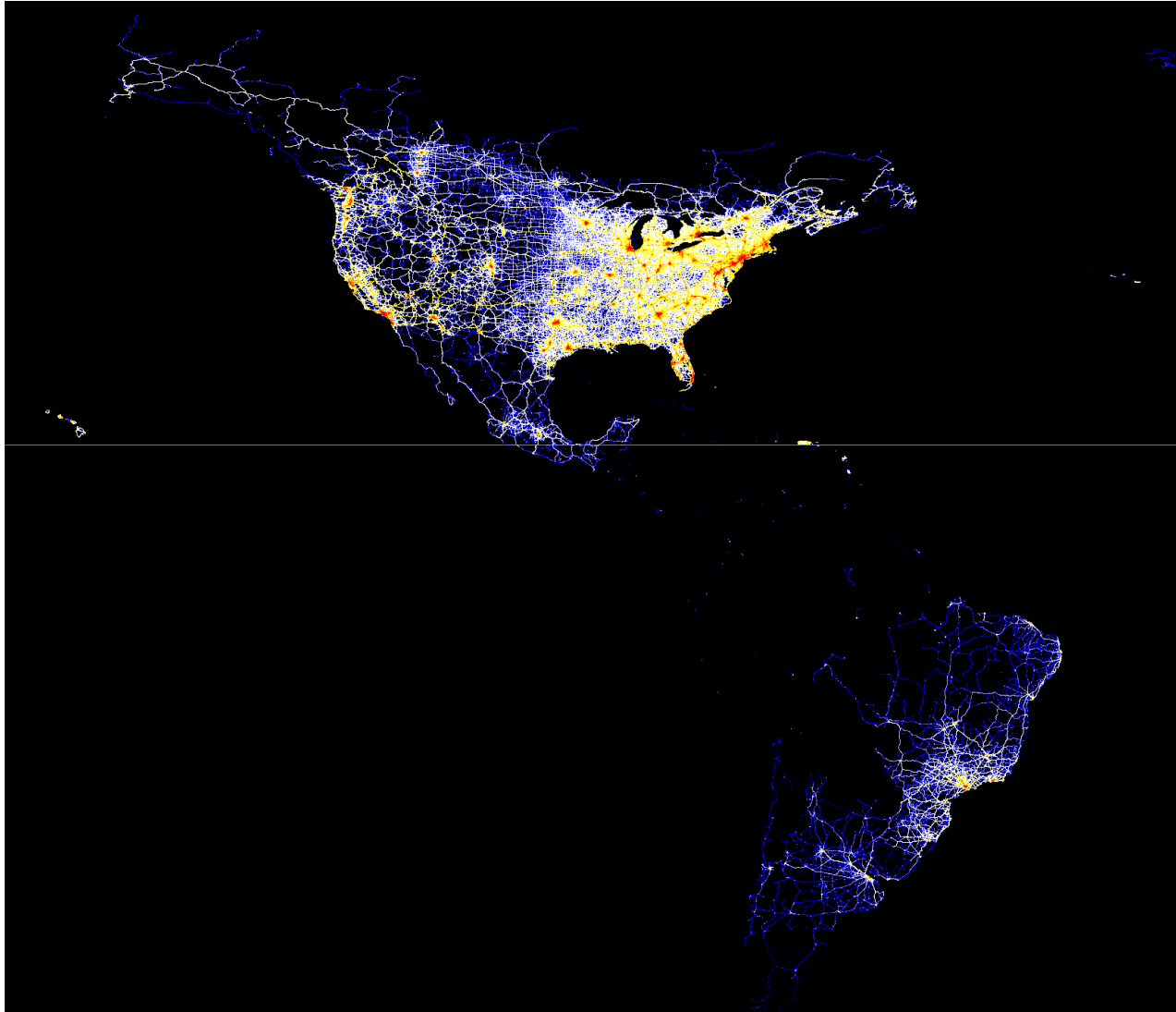
- TomTom has more than 80 Million customers
- Most of them are willing to contribute to make TomTom's systems better (eg Mapshare)
- TomTom uses its connected navigation strategy to establish this



TomTom Floating Car Data



TomTom Floating Car Data



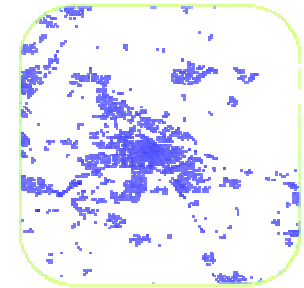
TomTom Floating Car Data

Historical data:

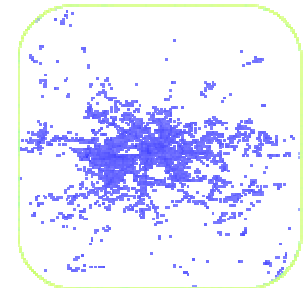
- 6 billion measurements per day,
- added to our historical database of over 6,000 billion measurements

Real-time Floating Car Data from a fast-growing fleet of connected cars, vans and trucks:

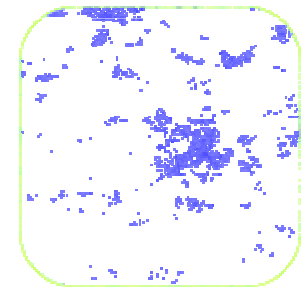
- *Anonymous, compliant to privacy regulations*
- *High sample frequency (1 position per second)*
- *High user ratio*
- *Accurate positioning*
- *High synchronization frequency (once per 1-3 minutes)*



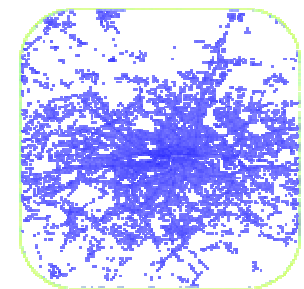
Amsterdam



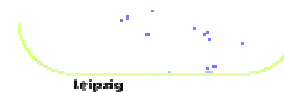
Berlin



Eindhoven



London



Leipzig

Expanding LIVE Services

23 countries across the world

Austria
Belgium
Czech Republic
Denmark
Finland
France
Germany
Ireland
Italy

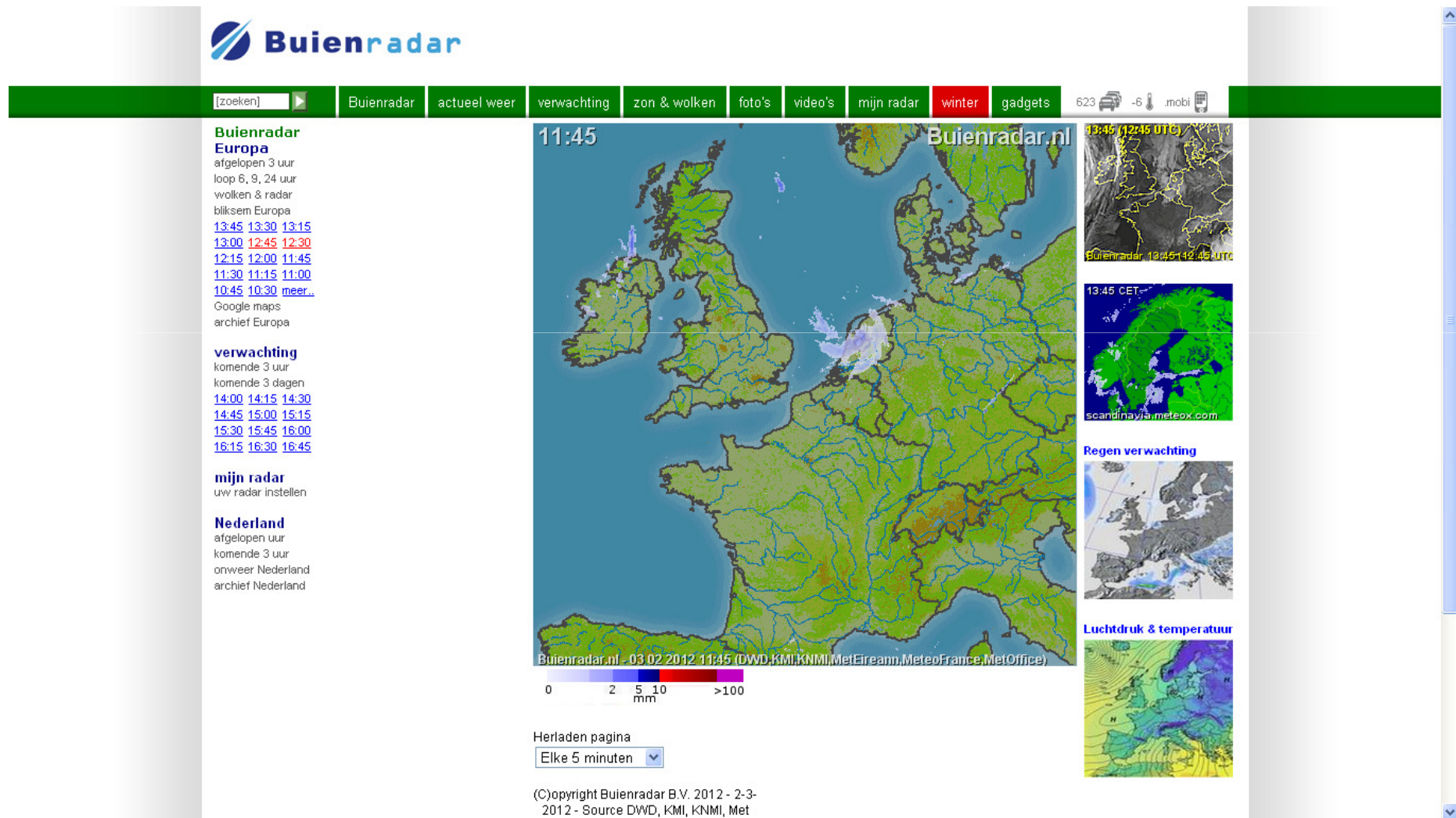
The Netherlands
Norway
Poland
Portugal
Spain
Sweden
Switzerland
United Kingdom



Australia
Canada
New Zealand
South Africa
USA



February 3rd, 2012. 11.45; Snow in the Netherlands



February 3rd, 2012. 11.45; Snow in the Netherlands



[Shopping cart](#) | [MyTomTom login](#) | [Create account](#)

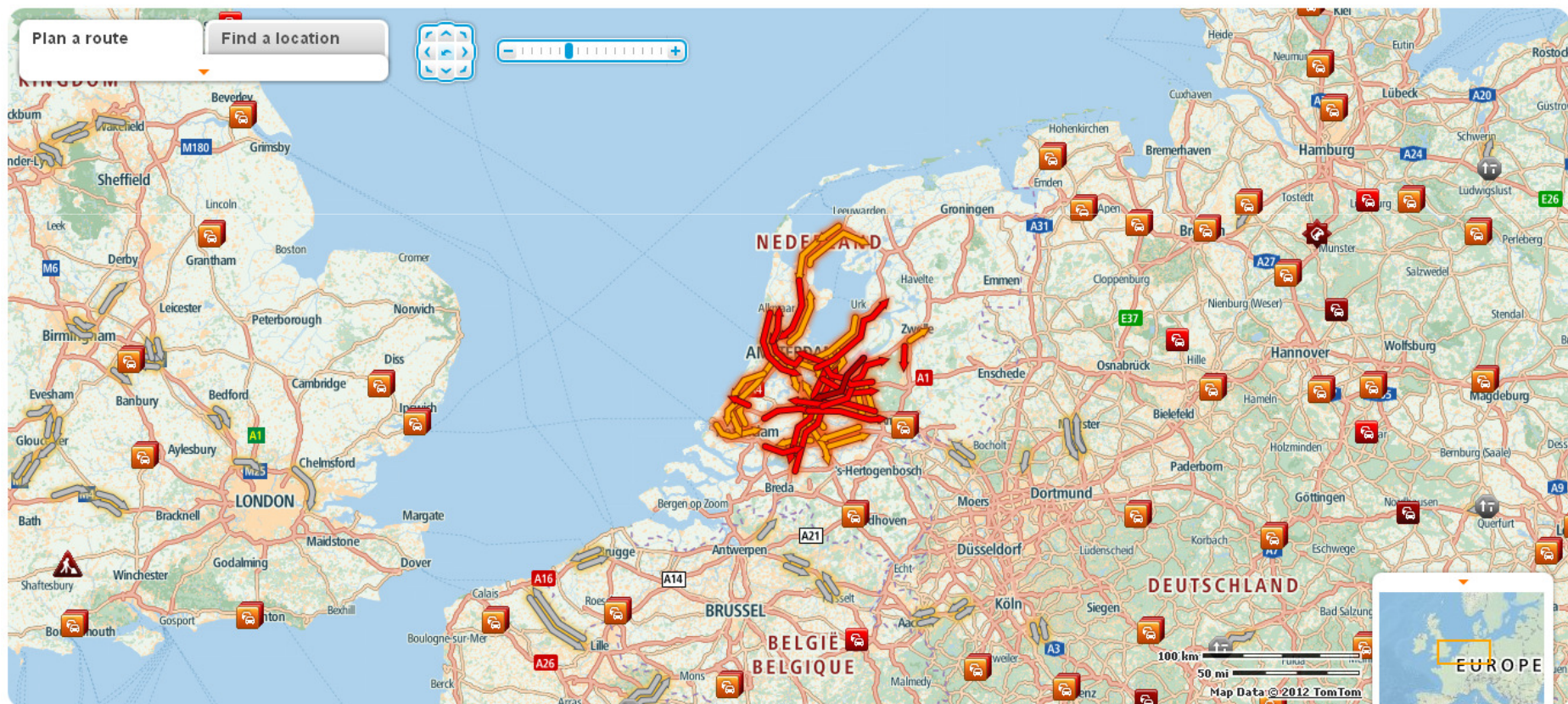
[Home](#) | [Products](#) | [Maps](#) | [Services](#) | [Live Traffic](#) | [Where to Buy](#) | [Support](#) | [About TomTom](#)

English

Route Planner

[Link](#) [Legend](#) [Help](#) [Print](#) [Home location](#)

☒ Show traffic information
updated 2 min ago



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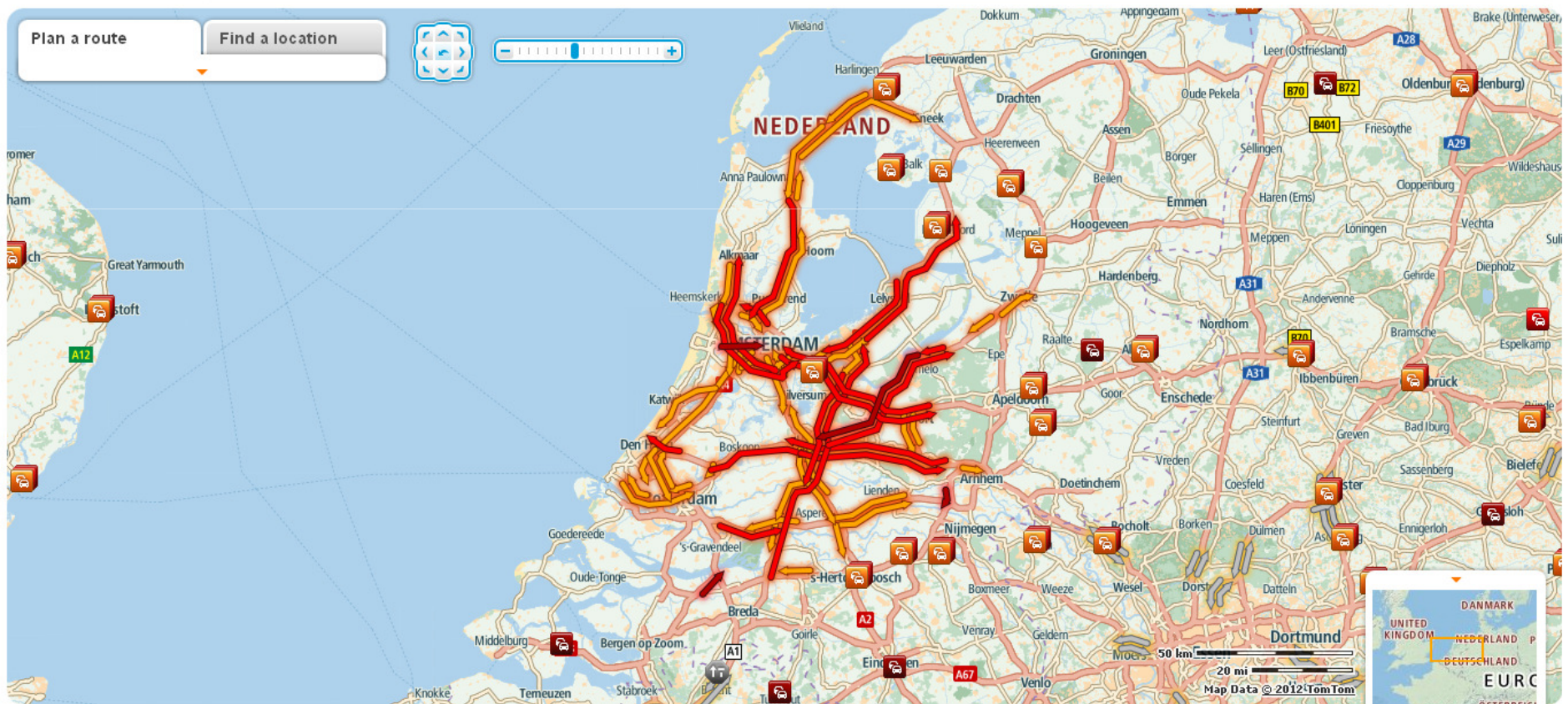
[Home](#) | [Products](#) | [Maps](#) | [Services](#) | [Live Traffic](#) | [Where to Buy](#) | [Support](#) | [About TomTom](#)

English

Route Planner

[Link](#) [Legend](#) [Help](#) [Print](#) [Home location](#)

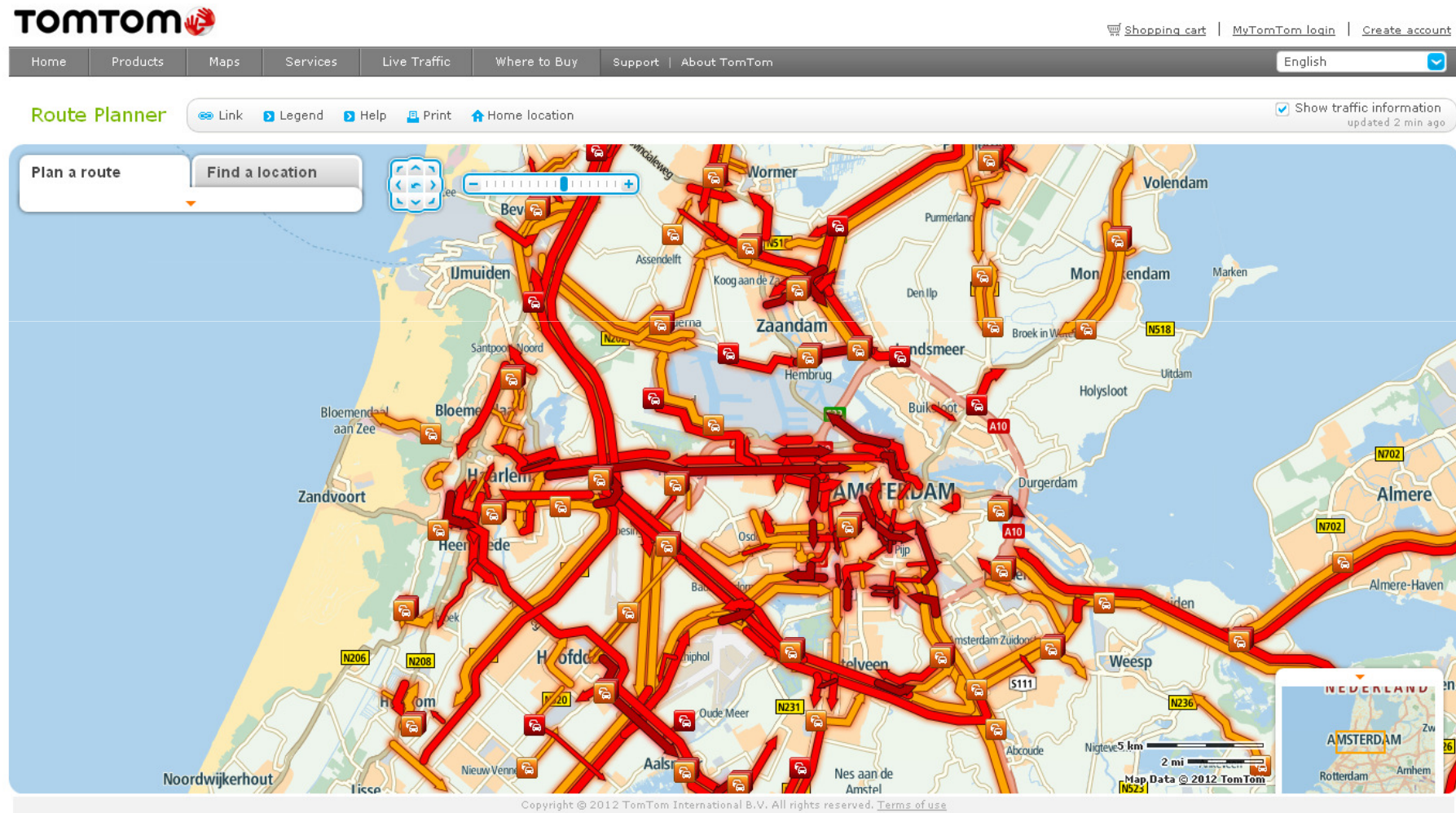
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updated 1 min ago



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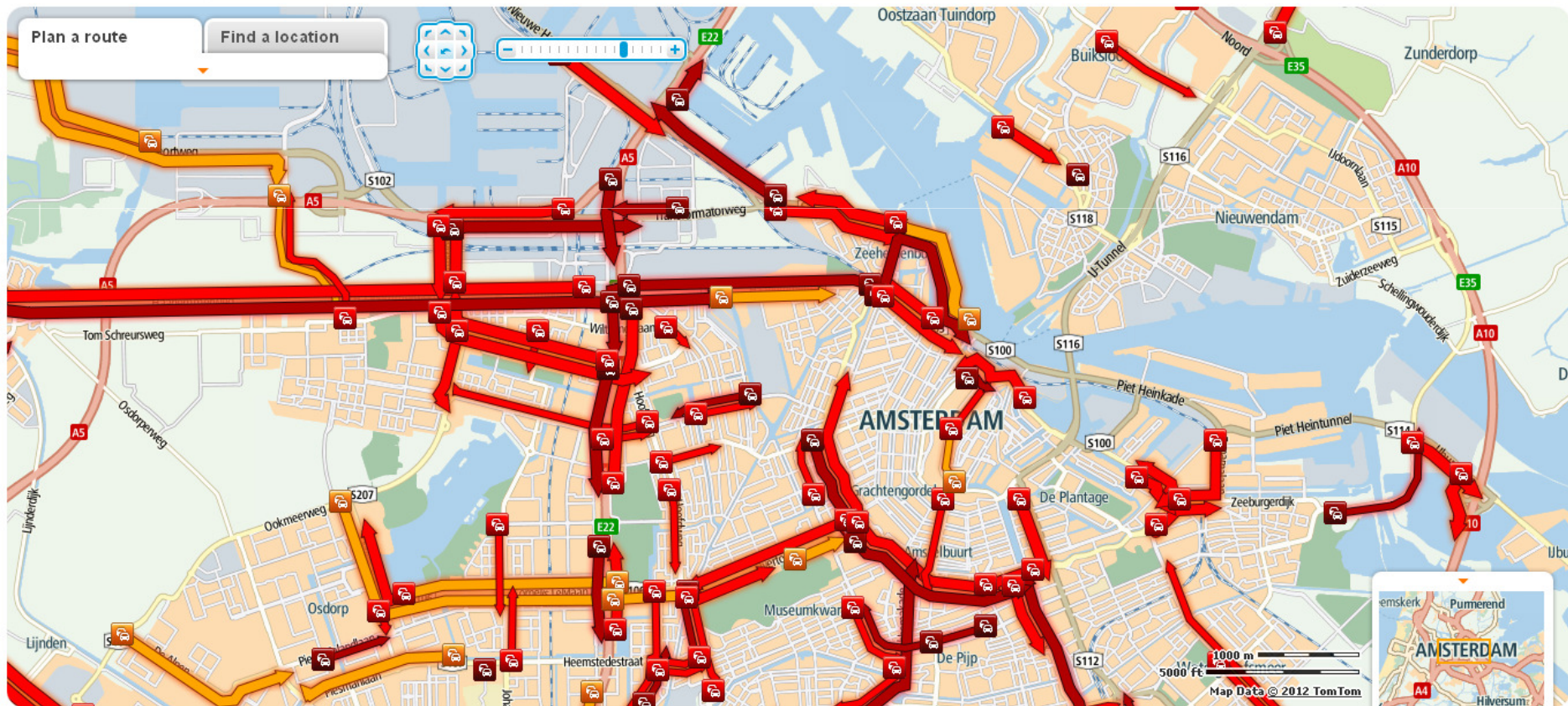


February 3rd, 2012. 11.45; Snow in the Netherlands



Route Planner

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February 3rd, 2012. 11.45; Snow in the Netherlands

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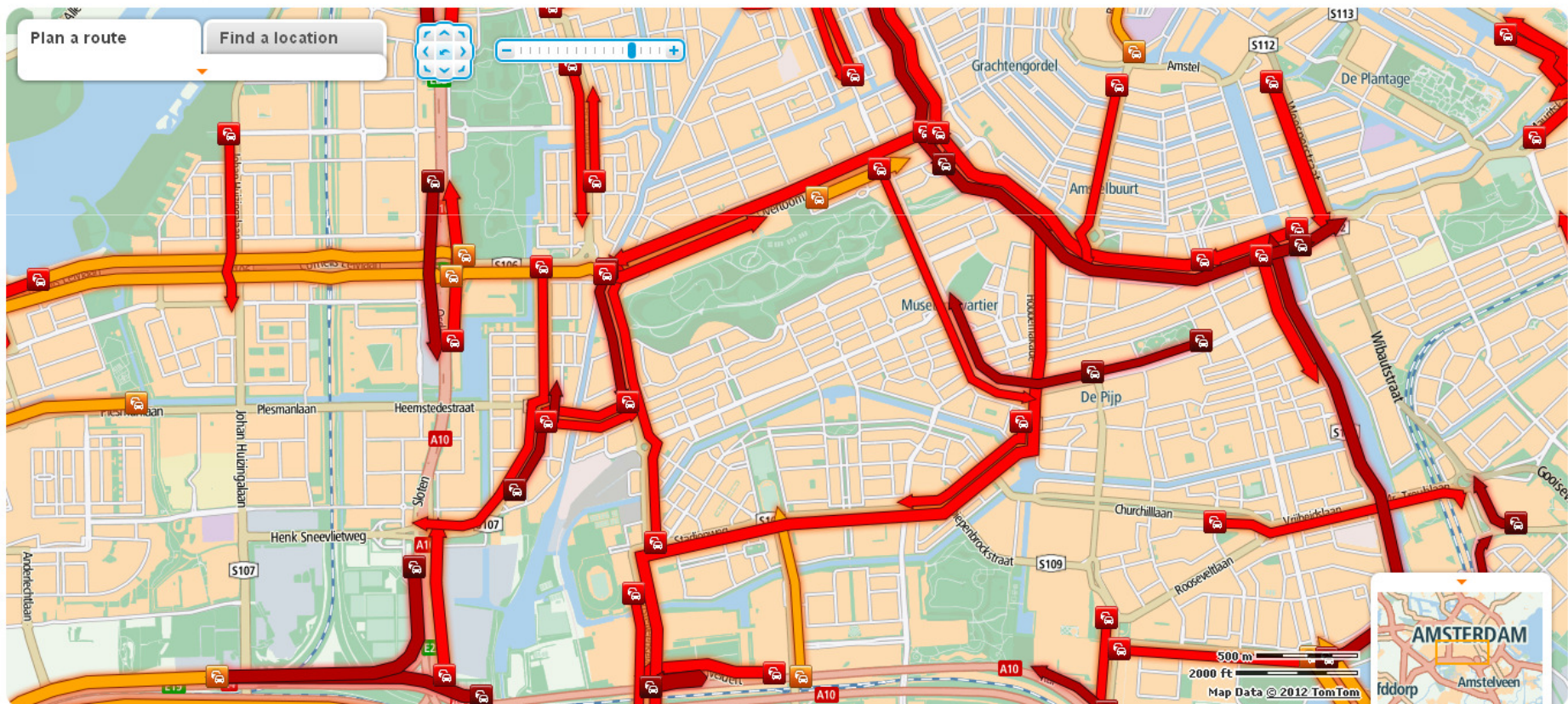
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English

Route Planner

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updated 1 min ago



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December 3rd, 2012. 09:06; Truck on fire

Maandag 3 december 2012 - 9u06:44

[Aanmelden](#) [Mijn bewaarde artikelen](#) [service](#) [digikrant](#) [abonneer je](#) [shop](#)

U zoekt?

AD.nl

NEDERLAND **BUITENLAND** **SPORTWERELD** **SHOWBIZZ** **MEER AD**

NEDERLAND **VERKEER**

A20 bij Rotterdam dicht door vrachtwagenbrand

BEWAAR

Door: redactie
3-12-12 - 08:21 bron: ANP

[f](#) [t](#) [g+](#)



De A20, Gouda - Hoek van Holland, is maandagochtend afgesloten bij het Terbregseplein nadat daar een vrachtauto, een tankwagen en een auto op elkaar botsten. De tankwagen is daarbij in brand gevlogen. Een van de chauffeurs zou er slecht aan toe zijn. Of er meer gewonden zijn, is nog onduidelijk

De weg is in beide richtingen afgesloten tussen Prins Alexander en het Terbregseplein, meldde de ANWB maandagochtend.

GERELATEERD NIEUWS

Stichtse Vecht naar rechter over snelheid A2

Verhoging maximumsnelheid A10 en A12 nog niet zeker

Boze boeren nemen maandag Limburgse snelwegen over

MEER OVER

VERKEER

ROTTERDAM

NEDERLAND

ZUID-HOLLAND

AD NIEUW

08:52 Hulpverleners vrezen fatale ...

08:28 Steeds meer bouwgrond aan ...


08:21 A20 bij Rotterdam dicht door ...

07:52 Jongen (18) gearresteerd na ...


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Sluit

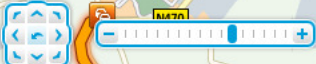
December 3rd, 2012. 09:06; Truck on fire


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Route Planner       Show traffic information updated 0 min ago

Plan a route Find a location 



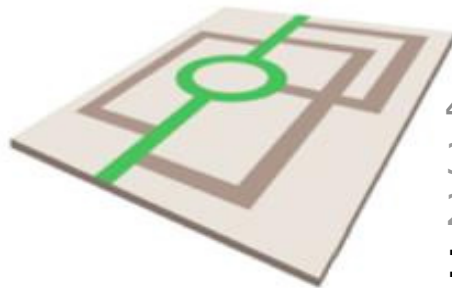
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Top 15 Licensing customers

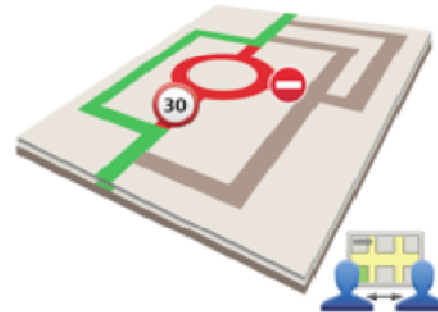


State of the art navigation

In 4 steps



4. TomTom HD Traffic
3. IQ Routes
2. Map Share
- 1. Base maps**



4. TomTom HD Traffic
3. IQ Routes
- 2. Map Share**
1. Base maps

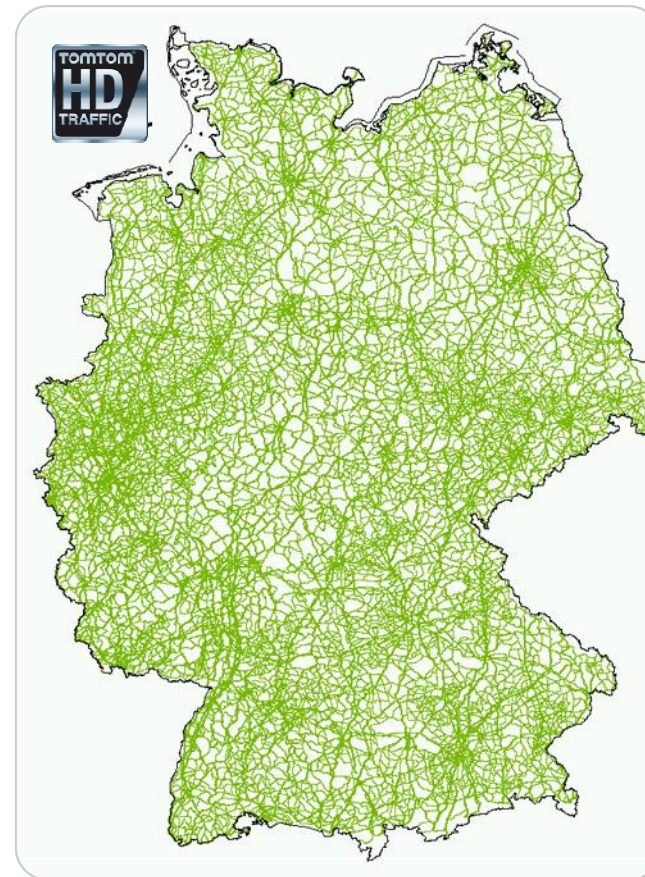
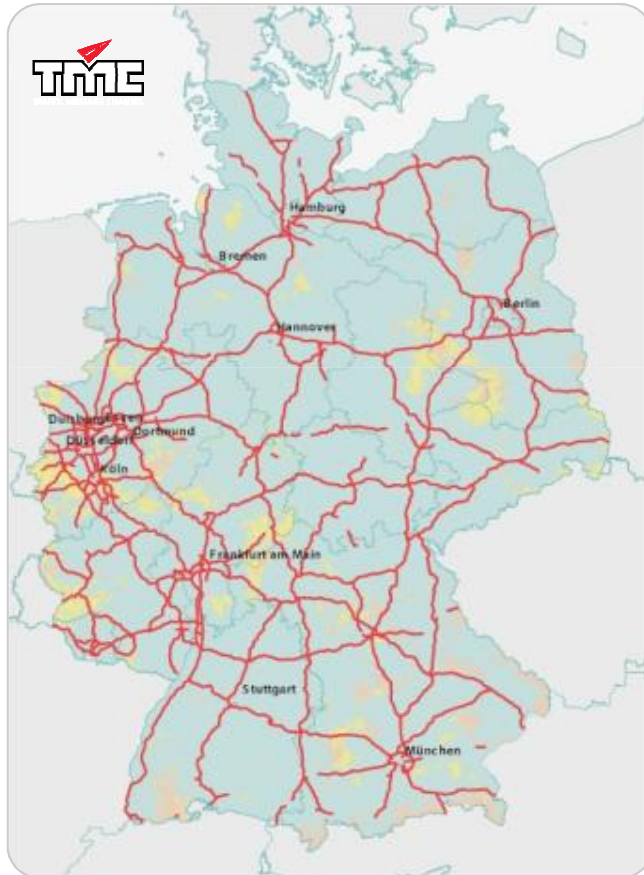


4. TomTom HD Traffic
- 3. IQ Routes**
2. Map Share
1. Base maps



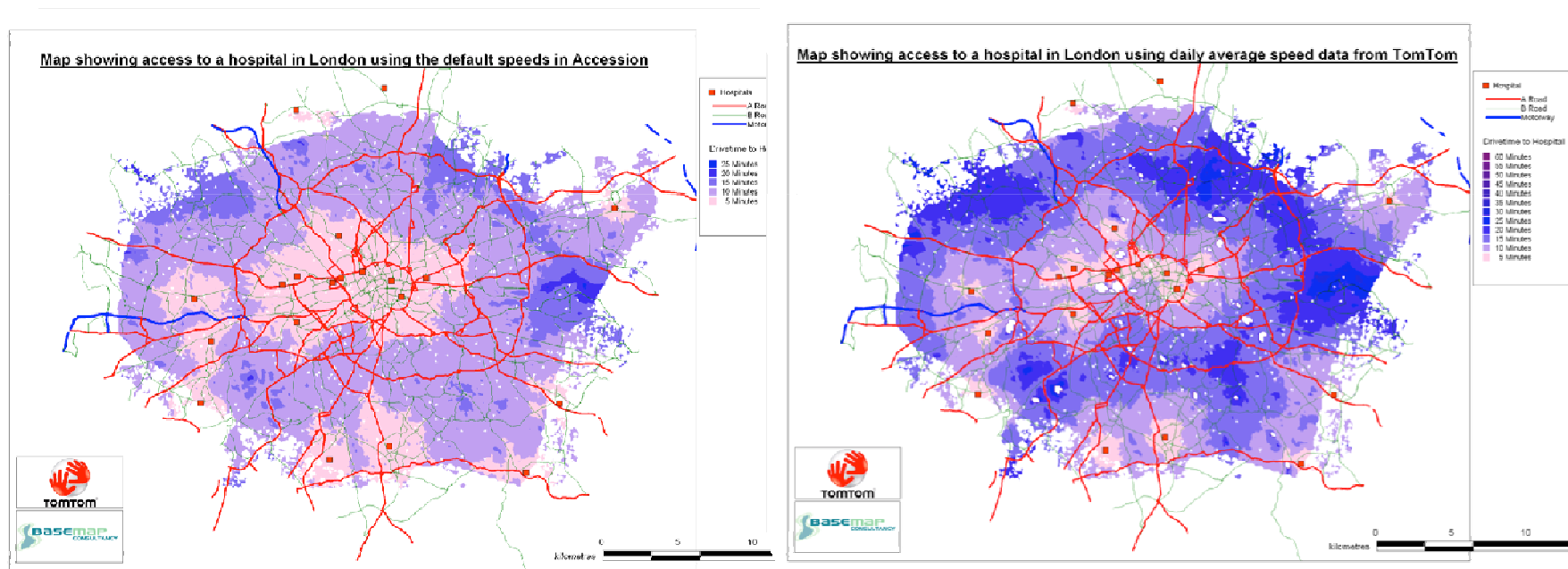
- 4. TomTom HD Traffic**
3. IQ Routes
2. Map Share
1. Base maps

State of the art RTTI with FCD



Travel times to hospital

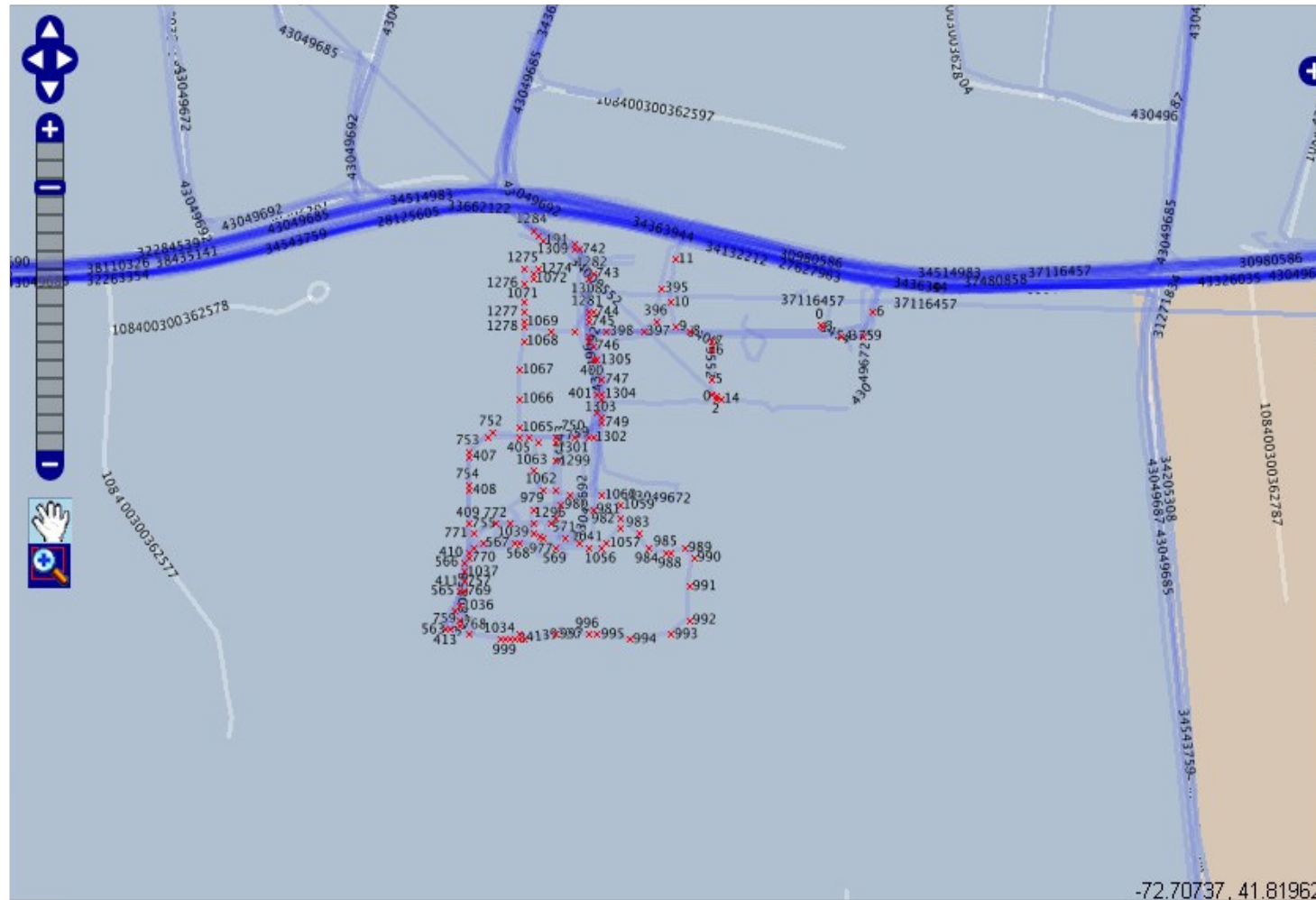
LONDON



Previously
based on maximum speeds

State of the art
based on real speeds

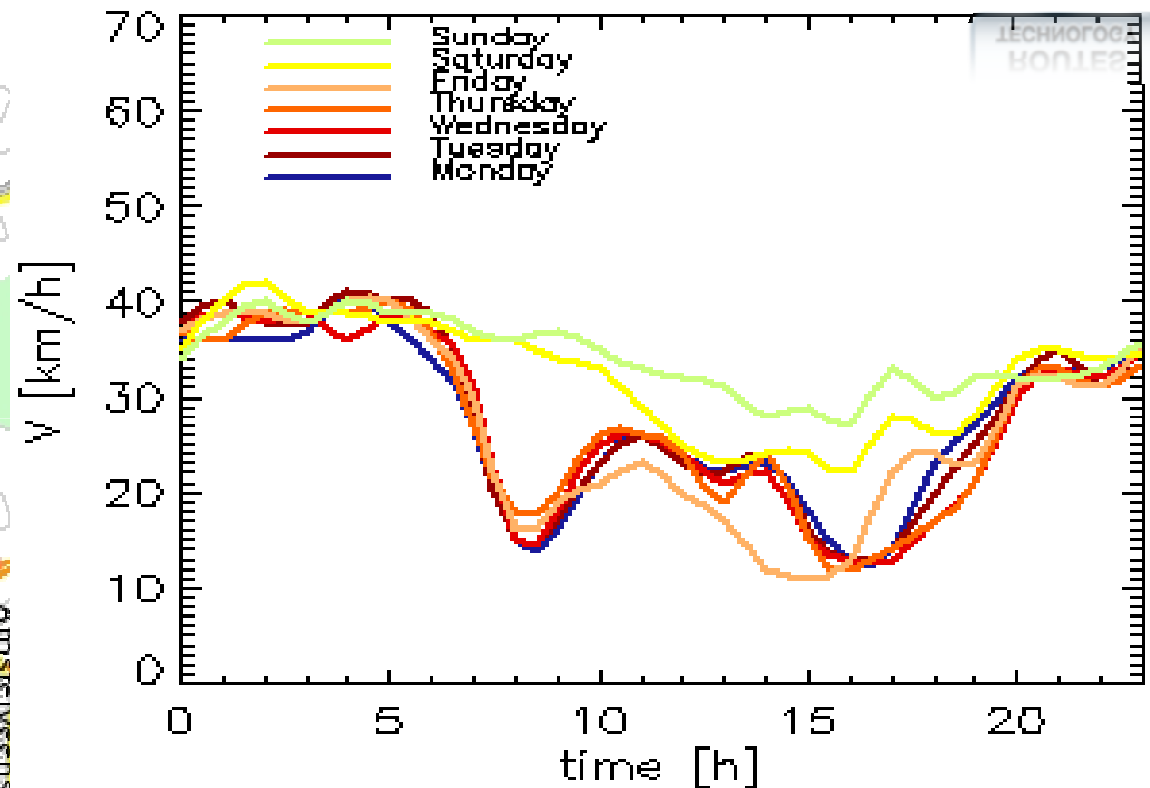
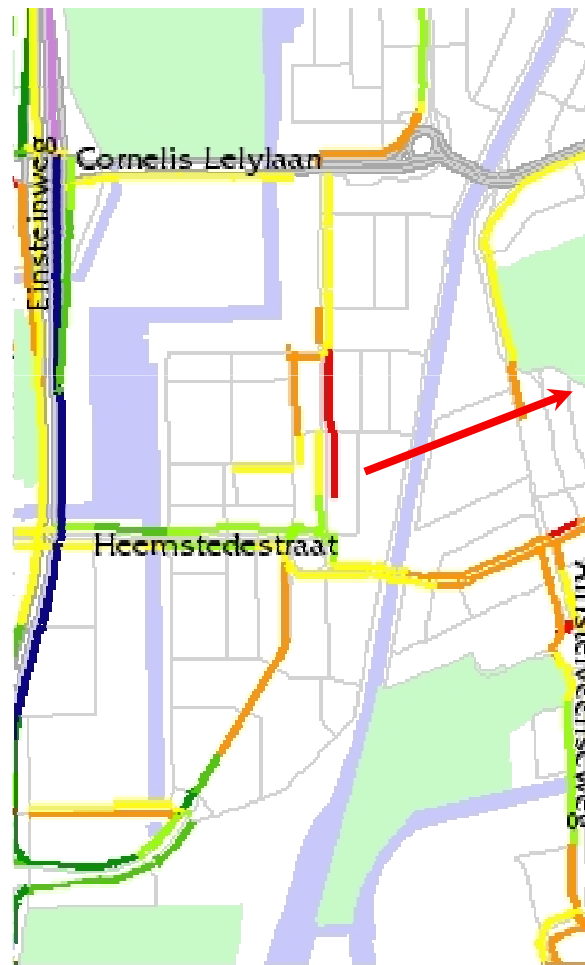
Geographical deviations located with FCD



Geographical deviations located with FCD

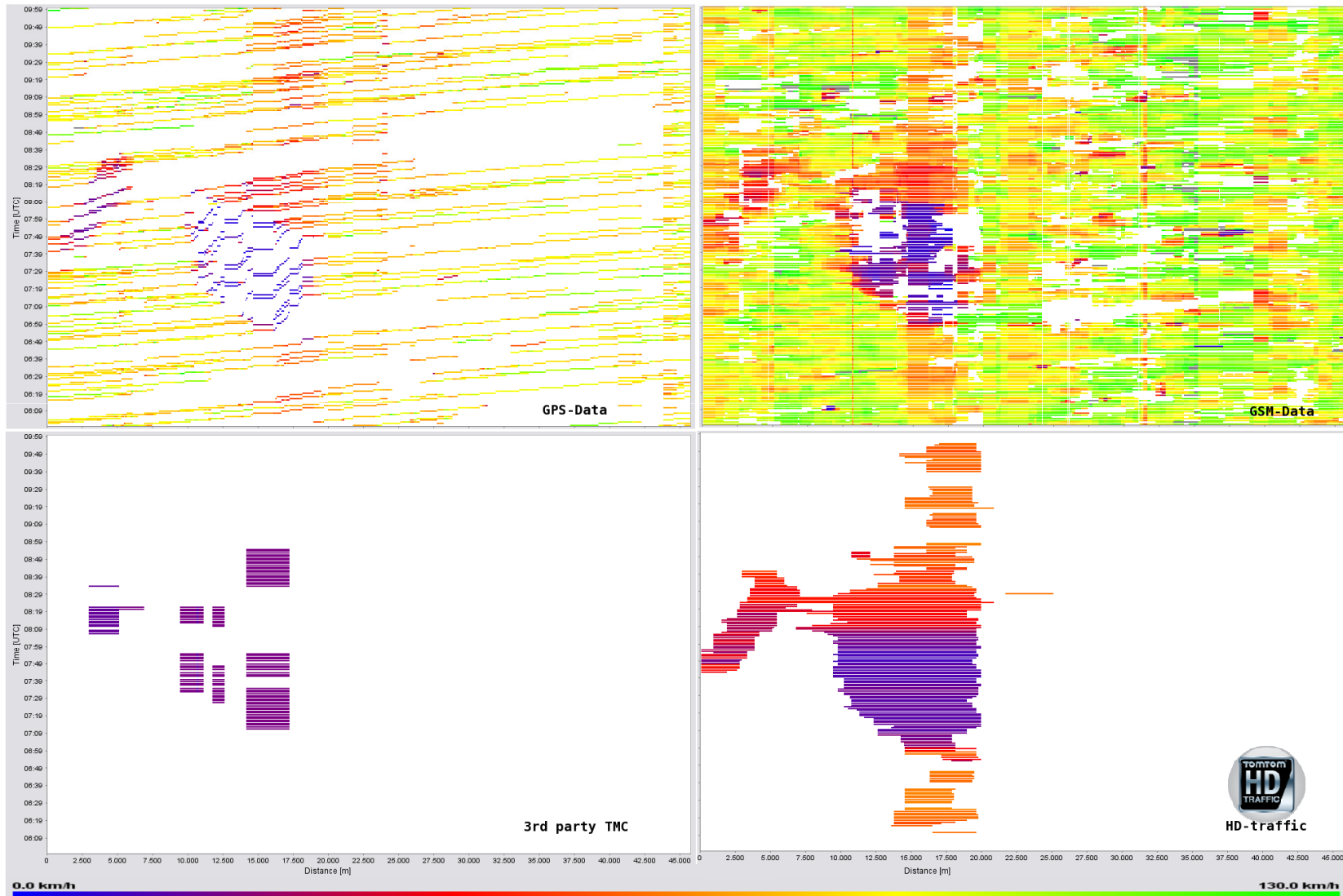


Detailed information on all important roads



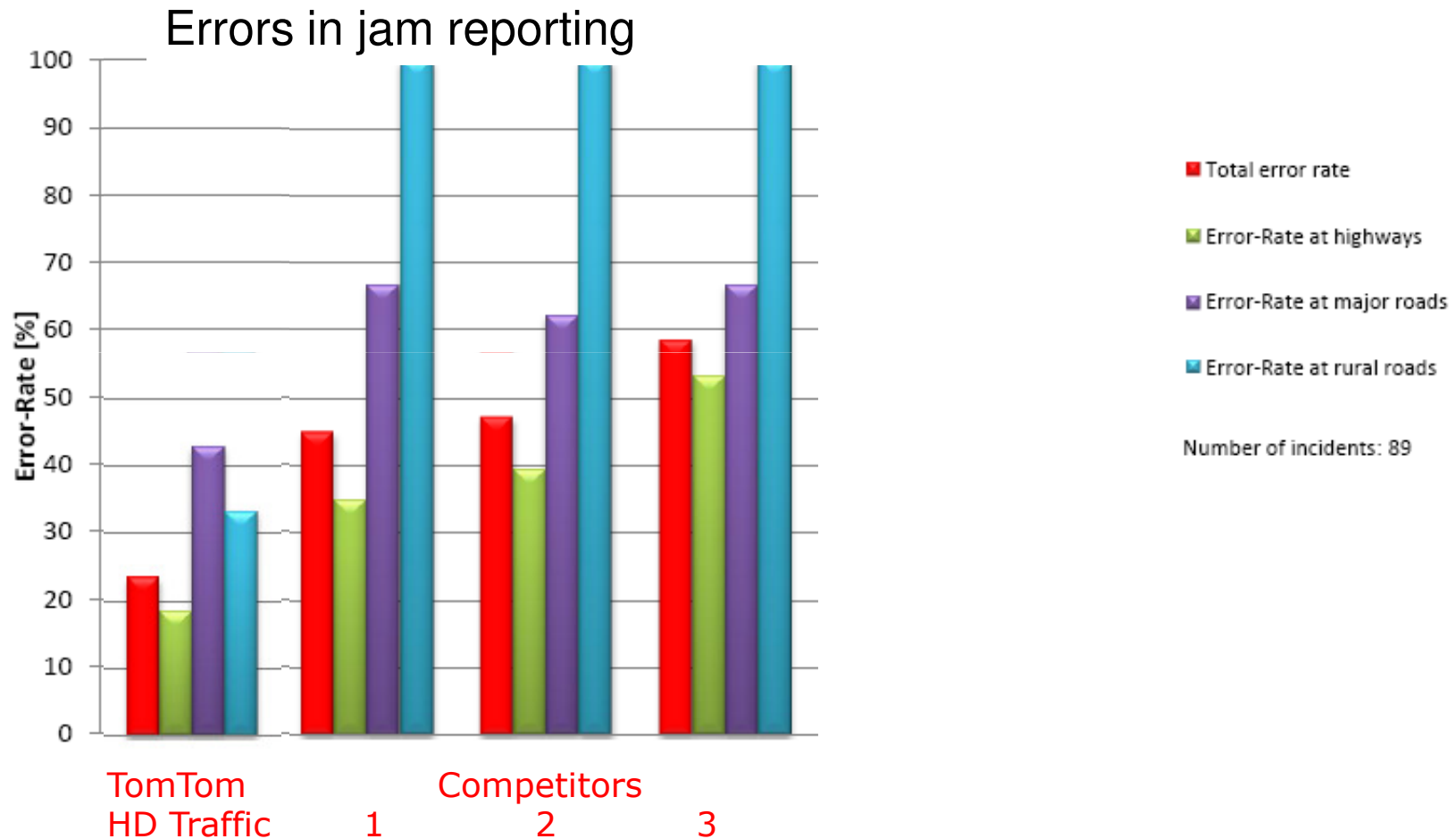
Feed Comparison – 16.06.2009

A40: Dortmund → Duisburg



Traffic Service Benchmark by TÜV, March 2010

Test Area “Ruhrgebiet” DE, 2800 km drive test: TomTom takes 1st place



Privacy a key issue for FCD

Apple and Google To Be The Whipping Boys for Location Privacy

Facebook, FTC Reach Settlement Over Alleged Privacy Violations

Commission proposes a comprehensive reform of the data protection rules

Vivian Reding: Many Android Apps are Illegal

March 5th, 2012 by Arjan Olsder Posted in [Current Affairs](#) | [No Comments](#) -

Apple Sued (Again) Over App Privacy, Location Data

Mark Zuckerberg: Google, Microsoft Are Violating Your Privacy--Not Us

New Google Privacy Policy May Violate European Law

Nokia details what location data its smartphones collect - finally

- TomTom investigated by leading European Data Protection Authority in 2011
- TomTom's use of location data is in accordance with EU Data Protection Laws
- Processing and delivery to third parties 100% OK
- Informing users needed to be more explicit, including opt-in

ZDNet / News / Hardware

TomTom cleared of data violation allegations

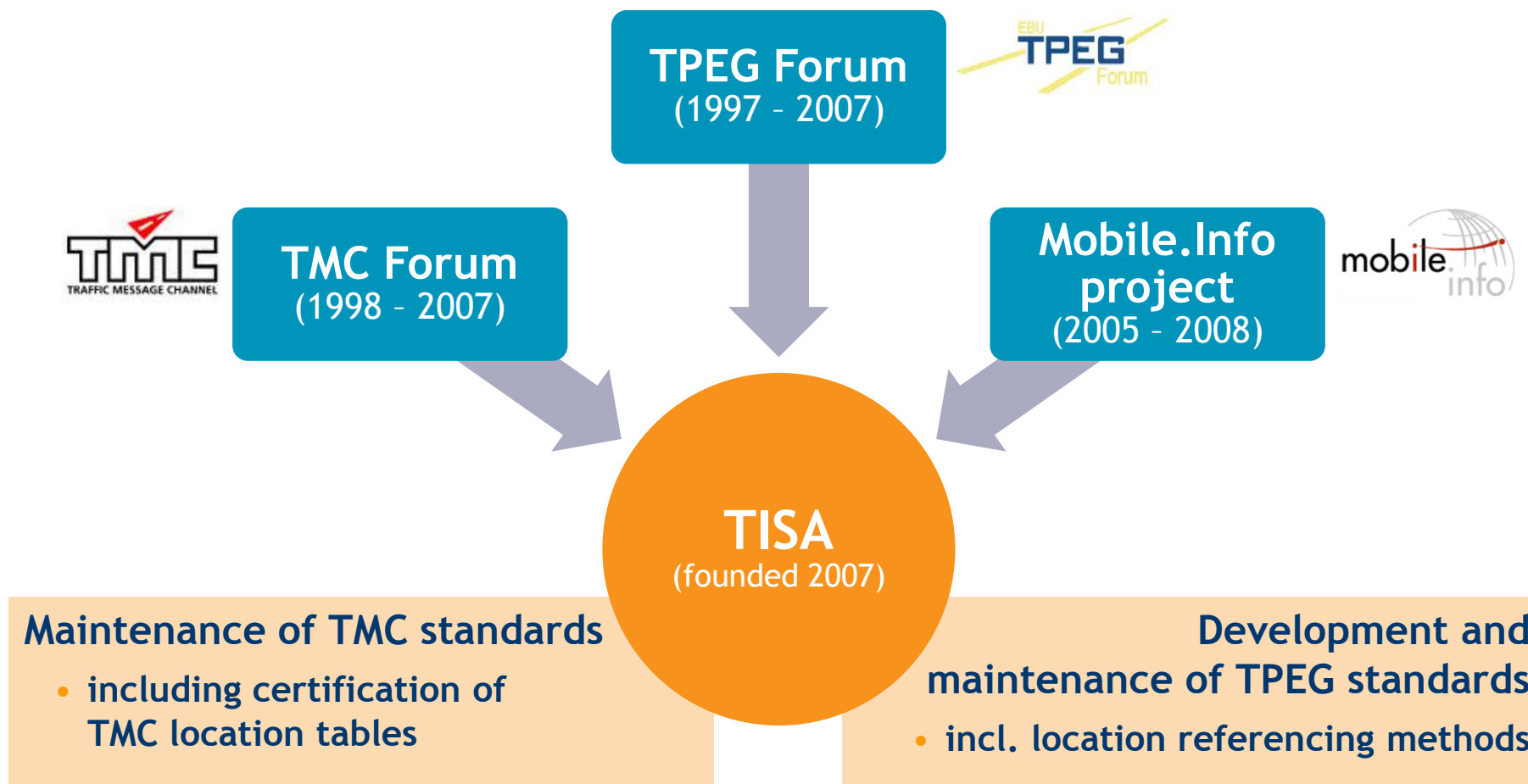


Introduction

Theo Kamalski, TomTom
TISA Products Committee Chair



Where it all began ...



Traveller Information Services Association

■ Culture

TISA offers an environment where the values and needs of traffic and traveller information service and content providers, public authorities, auto manufacturers, product industry, broadcasters and transmission operators meet

■ Mission

TISA creates and maintains global, open traffic and traveller information standards and policies that increase the safety and efficiency of travelling for all

■ Vision

TISA coordinates the concerns and contributions of its global membership with the aim: to foster business, customer and society value of TISA standards-based services and products

Manifested in TISA Statutes

TISA Mission in detail

■ Development of new Applications and Specifications

- New ideas are input into the development process via Use Case Proposals
- Work carried out through active member participation in WGs and TFs

■ Standardization

- Preparation of ISO submissions and follow-through of standardization process

■ Maintenance & Update of Specifications & Standards

- Update of TISA specifications and ISO standards

■ Products & Services for Members

- Guidelines
- Certification of TMC Location Tables
- New: Certification of TPEG Services & Devices (*in progress*)

■ Contribution to the ITS Community

- Publication of Position Papers
- Participation in the Public Discussion and Political Agenda-setting

Global membership

Per region

USA & South America	7
Europe	71
Asia	15
Australia	4

Per sector

Device manufacturers	23
Car manufacturers	6
Public Authorities	15
Broadcasters	5
Service & Content	48

TISA a membership organisation

- Public & Private
- Across the value chain
 - Car OEM
 - Suppliers
 - Service Providers
 - Public Authorities
 - Broadcasters
 - Road operators
 - ...



- Membership-funded – Membership-driven

TPEG Services / Application Types

- Road Traffic Information (RTI)
- Public Transport Information (PTI)
- Traffic Event Compact (TEC)
- Weather Information (WEA)
- Parking Information (PKI)
- Congestion & Travel Time (CTI)
- Traffic Flow Prediction (TFP)
- Fuel Price Information (FPI)

... and more currently under development

Housekeeping functions:

- Service & Network Information (SNI)
- Conditional Access Information (CAI)
- various location referencing methods

TISA Products

TMC

TISA products are in principle the documents, software, tools and services for setting up and maintaining services and equipment.

Concrete examples are:

- TISA technical specifications and implementation guidelines
- Message lists in various languages
- Conditional access and Encryption keys
- Development tools (TMC Inspector)
- Certification tools
- Overview lists (e.g. certified products, global travel services, location table owners, ...)
- Website

TISA Products

TPEG

TISA products are in principle the documents, software, tools and services for setting up and maintaining services and equipment.

Concrete examples are:

- TISA technical specifications and implementation guidelines
- Message tables in various languages
- Development tools (tpegUMLconvertor)
- Certification (under study)
- Overview lists (e.g. global travel services, location table owners, registered SIDs, registered Encryption Keys (TISA EO confidential), registered TPEG profiles)
- Website



TPEG Logo TF (1/2):

TPEG Wordmark

■ History

- TISA purchased the wordmark on the TPEG letters
- European Community trade mark registration no. 000574038
- Classes: 9 and 39

■ Extension

- Additional Countries: Australia, China, Japan, South-Korea, Russian Federation, Singapore, USA, Malaysia, Taiwan
- Registration Number: 1369563T/MAD
- Classes 9 and 39
- Registration Period: 10 Years
- Registration Filing date: 13 November 2012

TPEG Logo TF (2/2): TPEG Logo

■ TPEG Primary Logo (& Variants)

- Fully descriptive logo
- Non-profession situations



■ TPEG Secondary Logo (& Variants)

- Descriptive w/o full-wording
- Profession situations



TISA Services

TISA services are in principle products to support the industrial process and to improve overall quality.

Concrete examples are:

- TISA position papers
- TISA procedures
- Licensing and protection of TISA Intellectual Property
- Distribution and registration of TMC Encryption keys
- Distribution and registration of SIDs
- Certification of TMC location tables
- Fast track certification of TMC location tables
- Pricing of TISA products for third parties
- Support of workshops organized by members
- Marketing (TISA attendance on ITS Events, leaflets)
- Database for prior-art reasons (helping members in case of lawsuits)
-

[Priority Areas for International Cooperation



1. Privacy “by design”

- Data that leaves the vehicle shall not leave a fingerprint
- It shall be prevented that fingerprints can be recovered in value chain.
- System openness and privacy and data security

2. Distribution channel/s and bandwidth for public traffic and travel information

3. Adequate public sector involvement at TISA to get the public needs designed in time



tomtom



Thank you for your attention

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