

KARTTAKESKUS

A nighttime photograph of a cityscape, likely Split, Croatia. The image shows a bridge with long-exposure light trails from cars, a harbor with a ship, and a city skyline with a prominent church spire. The sky is a deep blue, and the city lights are visible.

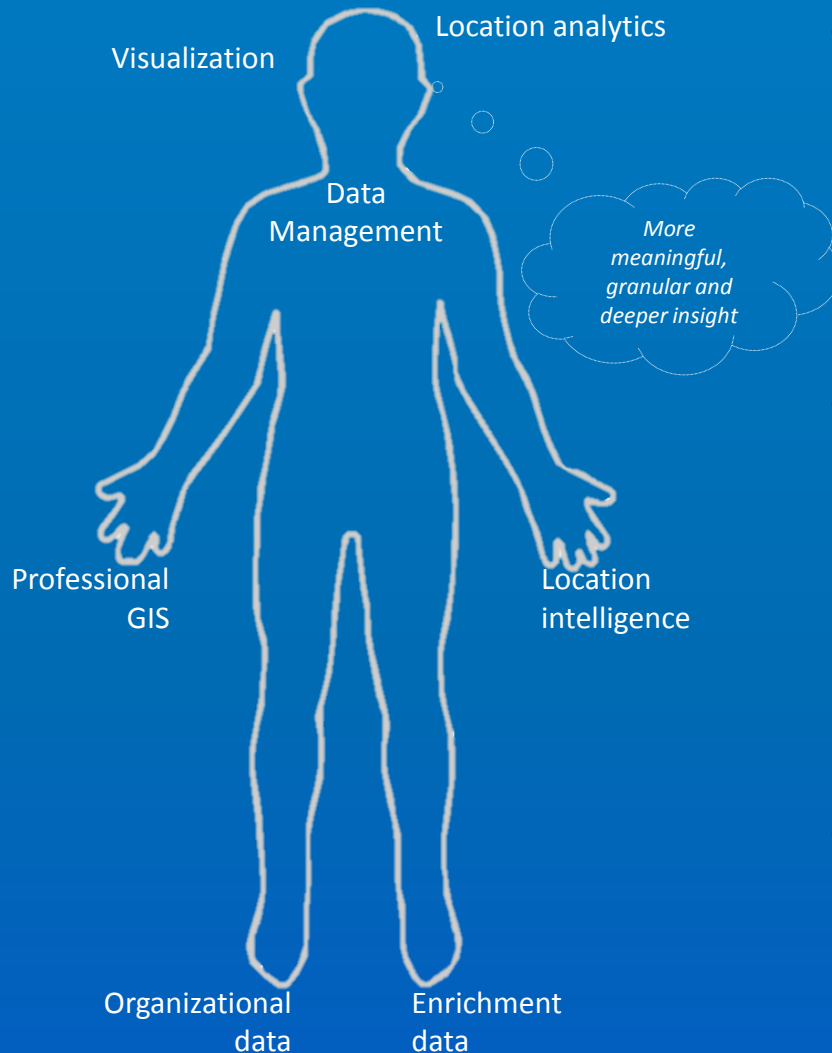
PRESENTING REAL-TIME TRAFFIC INFORMATION WITH ESRI ARCGIS ONLINE

2014 ESRI EUROPEAN USER CONFERENCE

Split, Croatia, October 13–15

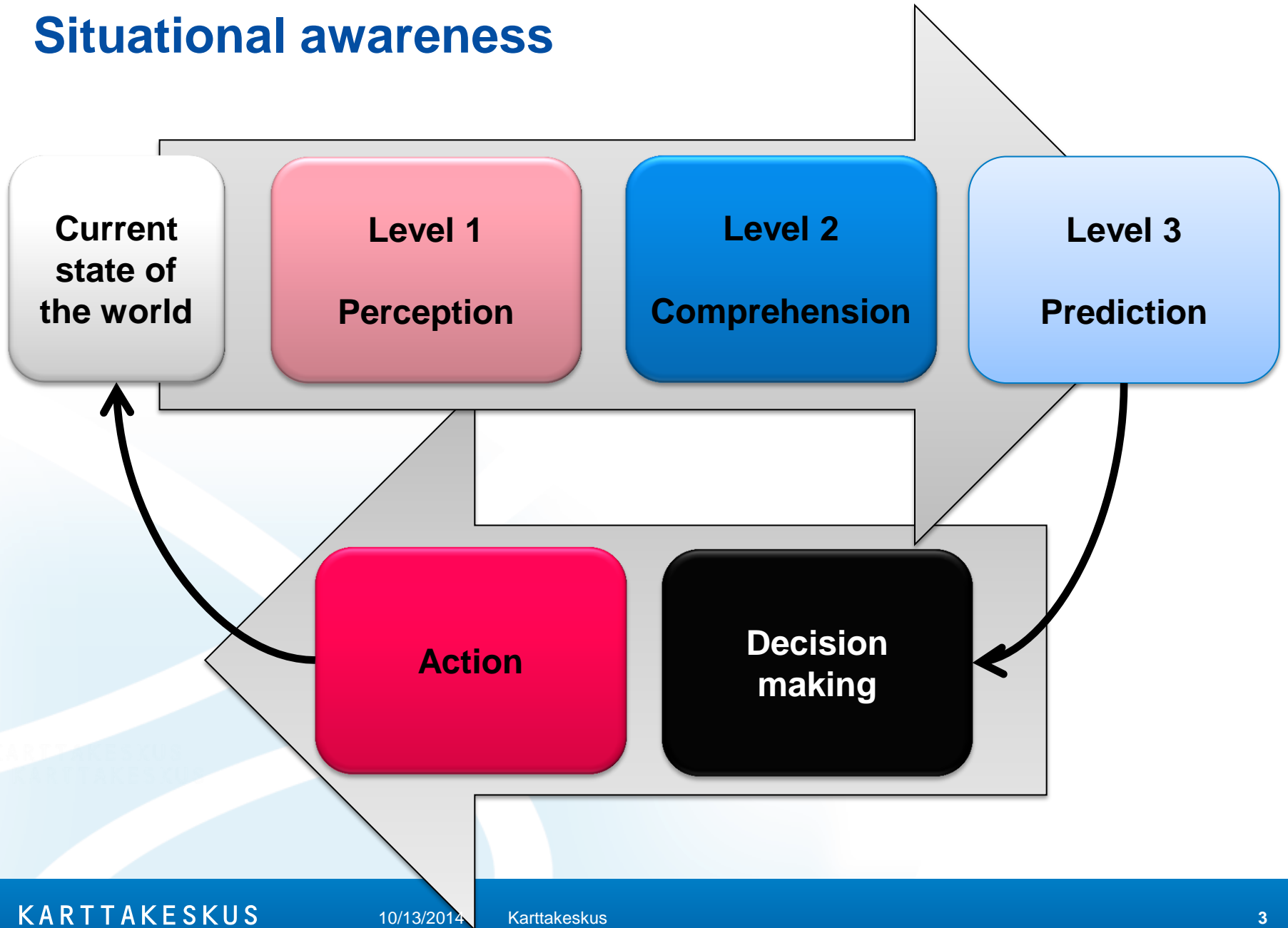
TERO DUBROVIN

Karttakeskus in brief



- The largest Finnish company focusing solely on location intelligence, location analytics, professional GIS and Geo-ICT services
- Holistic and technology independent approach – we can recommend and consult the customer to always find the best possible solution for their environment
- Expertise and comprehensive services for location intelligence and location data management

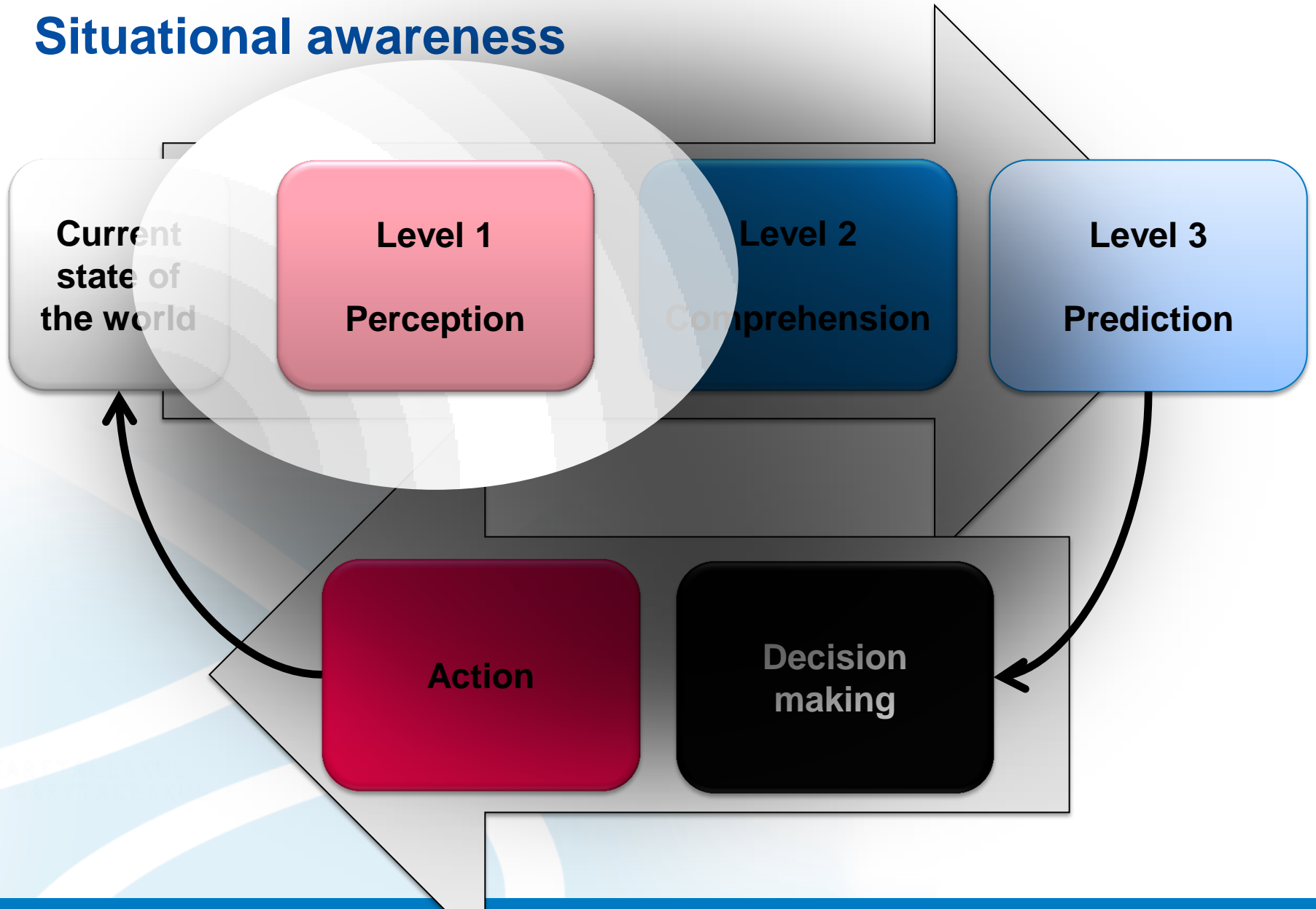
Situational awareness



Situational awareness enables a 360° view

- 360° view
- Organizational data sources
- Open data
- Big data
- Real-time
- Importance of visualization, *to be on the map at a glance*

Situational awareness



Requirements of the Finnish Transport Agency

- The key tool for operational transport management
- Strategic tool for experts and agency management in interference and other exceptional circumstances
- Spatiotemporal picture of various incidents, emergency and interference situations
- Usable, public, mobile, social

ArcGIS Online

“

ArcGIS Online is a **collaborative, cloud-based** platform that allows members of an organization to use, create, and **share** maps, apps, and data, including authoritative basemaps published by Esri.

Through ArcGIS Online, you get access to Esri's secure cloud, where you can **manage, create, store, and access data** as published web layers, and because ArcGIS Online is an integral part of the ArcGIS system, you can use it to extend the capabilities of ArcGIS for Desktop, ArcGIS for Server, ArcGIS apps, and ArcGIS Web APIs and ArcGIS Runtime SDKs.

“

<http://doc.arcgis.com/en/arcgis-online/reference/what-is-agol.htm>

The layout of the UI

1 Liikennetilanne

2 Suomi | Svenska

3 Häiriöt ja tietyöt Ajokeli Ruuhkat Painorajotukset Jäätiet Haku

4 Navigation controls (compass, zoom)

5 Time slots: NYT, 00.00, 02.00, 04.00, 10.00

6 Näytä menu: Ajokeli, Kellkamerat, Häiriöt, Tietyöt, Gray, Streets, Topo

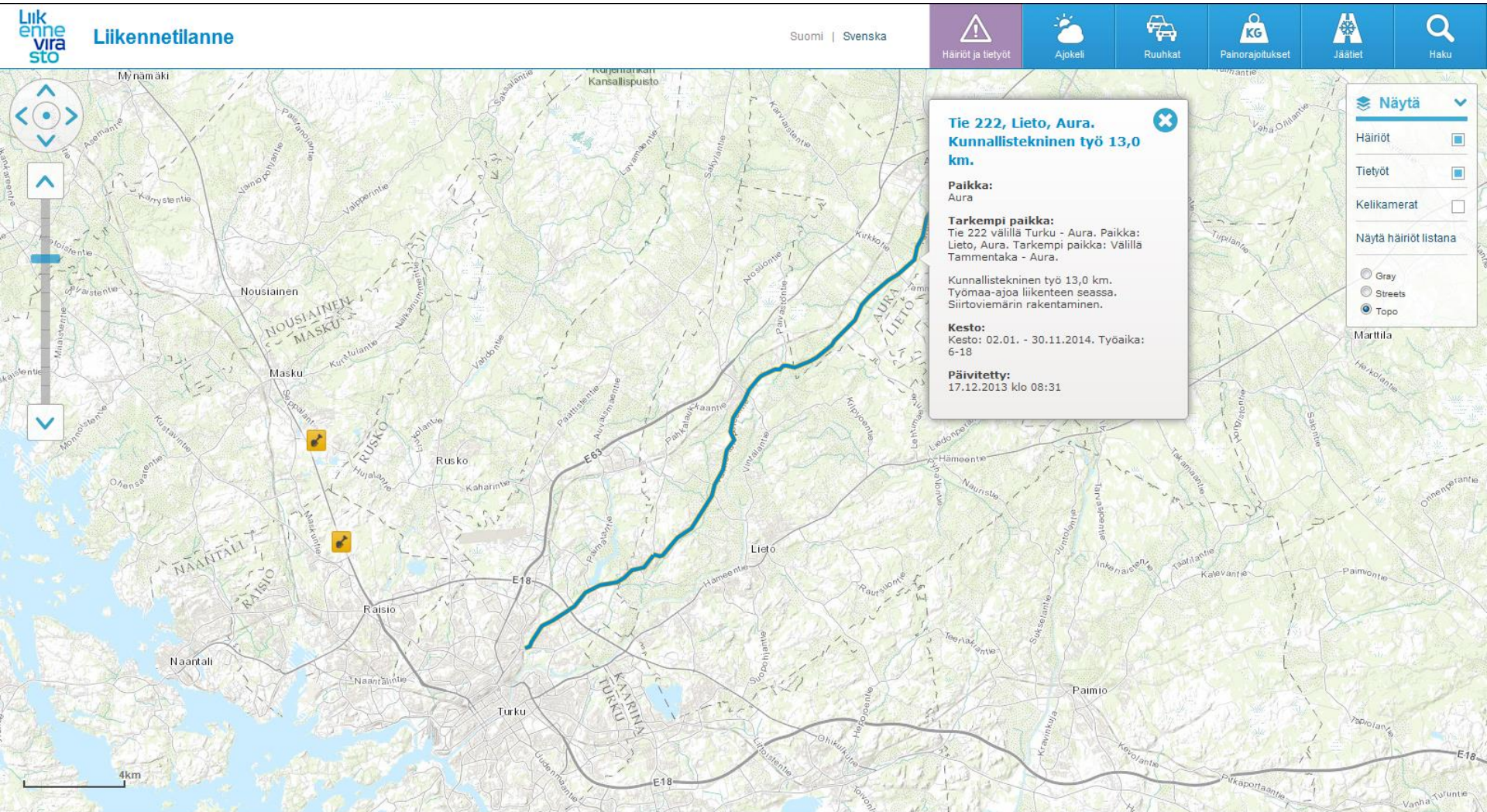
7 Weather popup: Vt 4 Viitasaari - Elämäjärvi

	SÄÄ	TUULI	ILMA	TIE
NYT		1	3	-1
00.00		1	3	-1
02.00		4	1	-1
04.00		4	1	-1
10.00		3	2	0

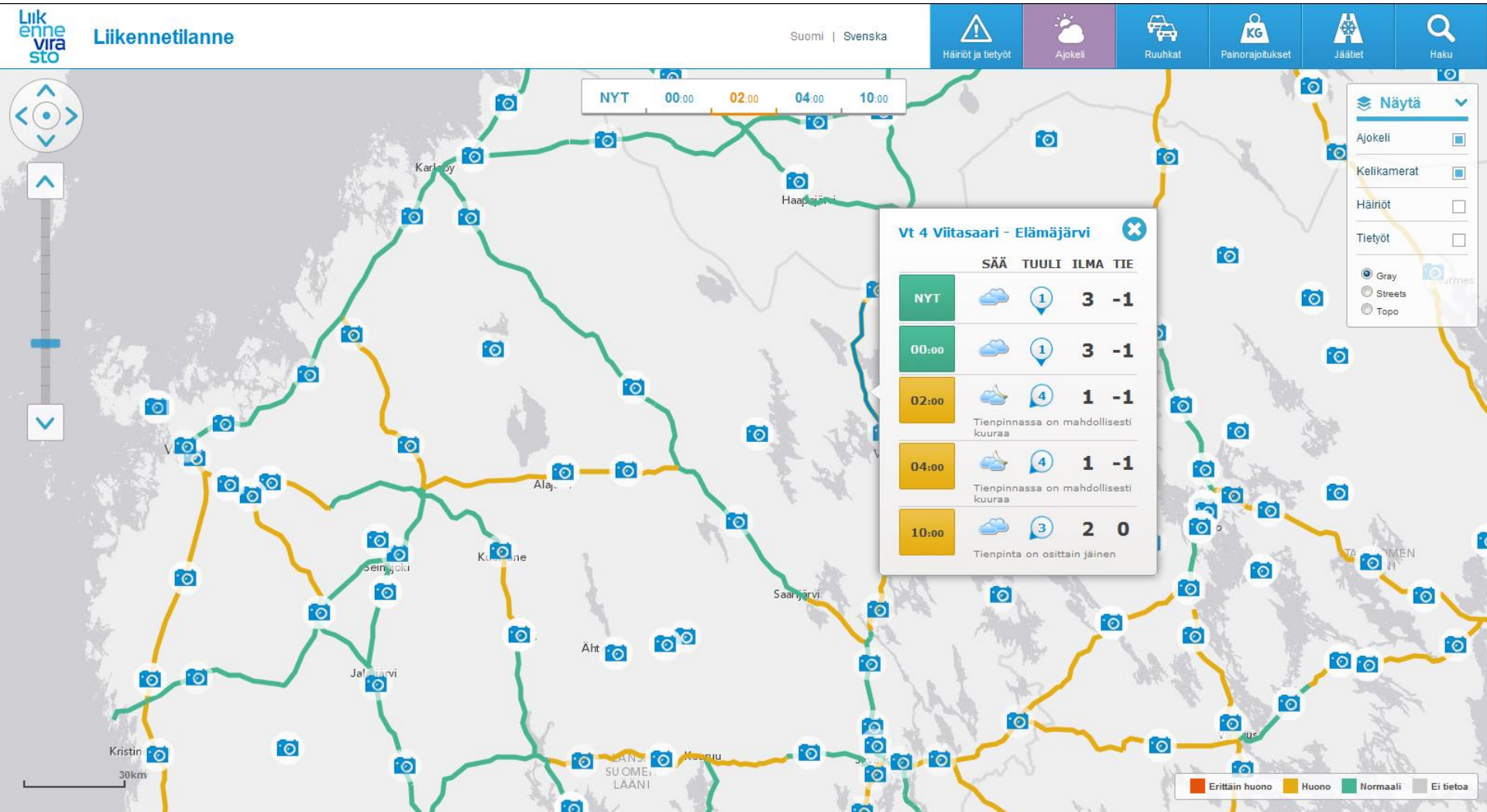
8 Legend: Erittäin huono, Huono, Normaali, Ei tietoa

9 Footer: Ohjeet | Anna palautetta | Permalink | Mobiiliversio © 2013 Liikennevirasto

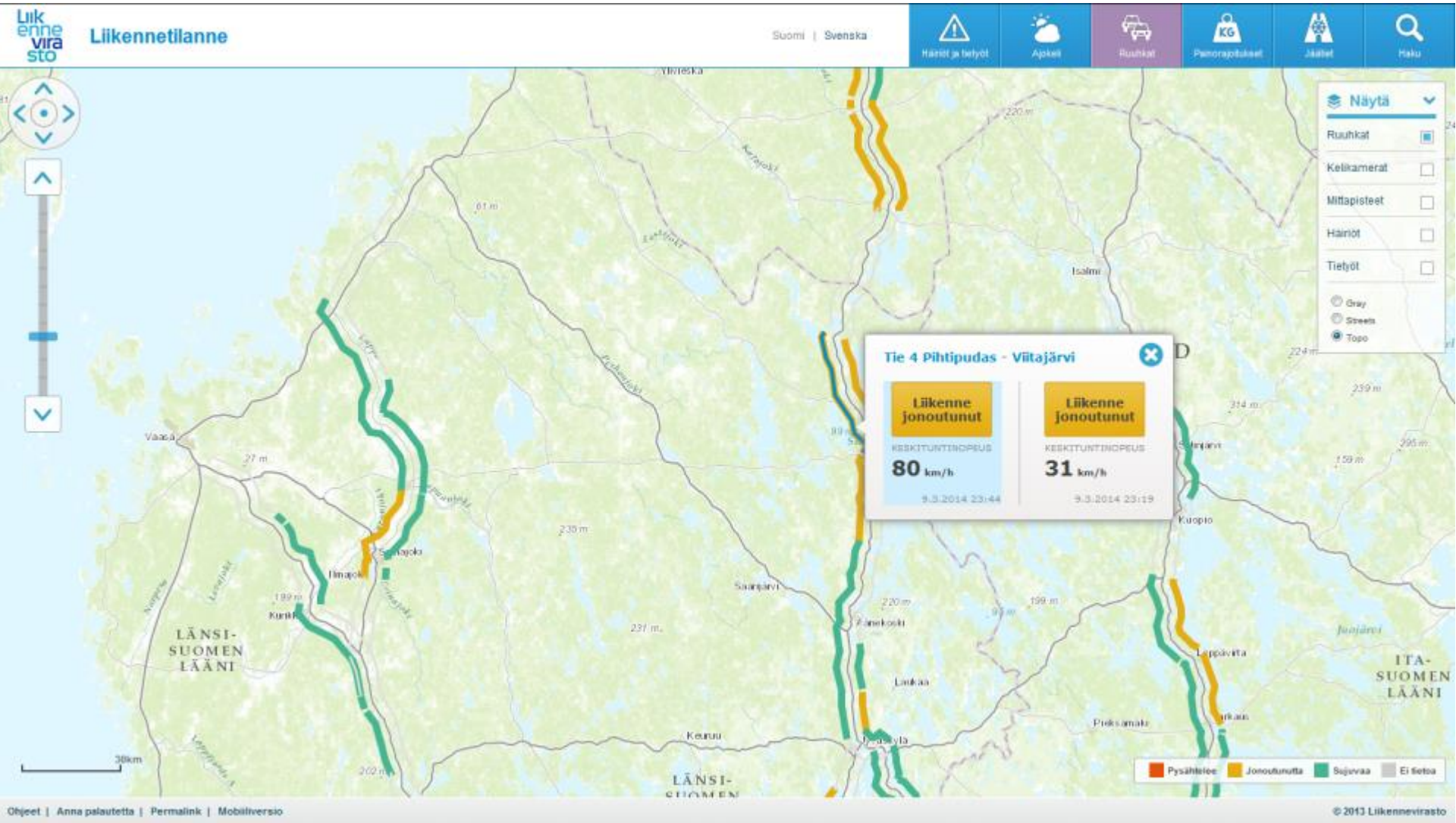
Tab 1: Traffic interruptions and road maintenance



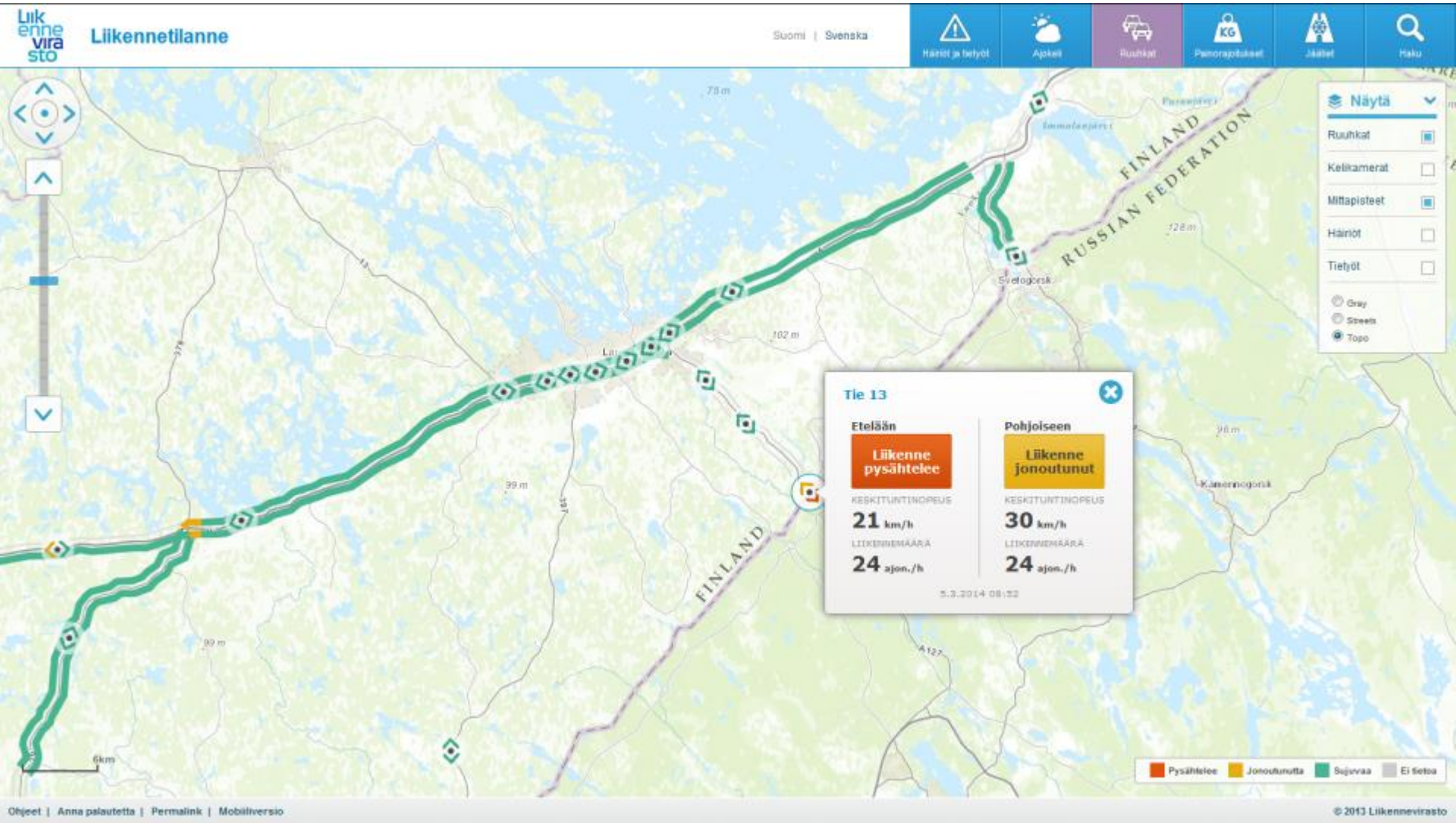
Tab 2: Road condition



Tab 3: Traffic flow and traffic jams



Tab 3: Traffic flow and traffic jams



Tab 4: Weight limits

Liikennevirasto Liikennetilanne

Tie 14371, Virrat, Kelirikko.
Paikka: Virrat
Tarkempi paikka: Tie 14371 eli Ajannevan tie. Paikka: Virrat. Tarkempi paikka: Paikasta tien 23 liittymä 18,5 km suuntaan Kaarre.
Kelirikko. Ajoneuvorajoitukset massa: 12 t.
Kesto: Kesto: 23.12.2013 toistaiseksi
Päivitetty: 23.12.2013 klo 11:10

Painorajoitukset Arvaa kaikki Printti Sulje

- ▶ Tie 17499, Laihia, Kelirikko.
- ▶ Tie 17503, Laihia, Kurikka, Kelirikko.
- ▶ Tie 15268, Mikkeli, Kelirikko.
- ▶ Tie 13979, Pälkäne, Kelirikko.
- ▼ Tie 14371, Virrat, Kelirikko.
Paikka: Virrat
Tarkempi paikka: Tie 14371 eli Ajannevan tie. Paikka: Virrat. Tarkempi paikka: Paikasta tien 23 liittymä 18,5 km suuntaan Kaarre.
Kelirikko. Ajoneuvorajoitukset massa: 12 t.
Kesto: Kesto: 23.12.2013 toistaiseksi
Päivitetty: 23.12.2013 klo 11:10
- ▶ Tie 14152, Asikkala, Kelirikko.
- ▶ Tie 17747, Vaasa, Mustasaari, Kelirikko.

Näytä
Voimassa olevat
Näytä painorajoitukset listana
Gray
Streets
Topo

Ohjeet | Anna palautetta | Permalink | Mobiiliversio

© 2013 Liikennevirasto

Road weather cameras

Liikennetilanne Suomi | Svenska

Hae paikkakuntaa

NYT 00:00 02:00 04:00 10:00

Tie 4 Taimoniemi

Ouluun 23:34 ▶

Sääasema: vt4 Viitasaari

TUULI	ILMA	TIE
1	3	0

9.3.2014 23:31

[Siirry kameran sivulle >](#)

Näytä

- Ajokeli
- Kellikamerat
- Häiriöt
- Tiettyöt

Gray Stress Topo

20km

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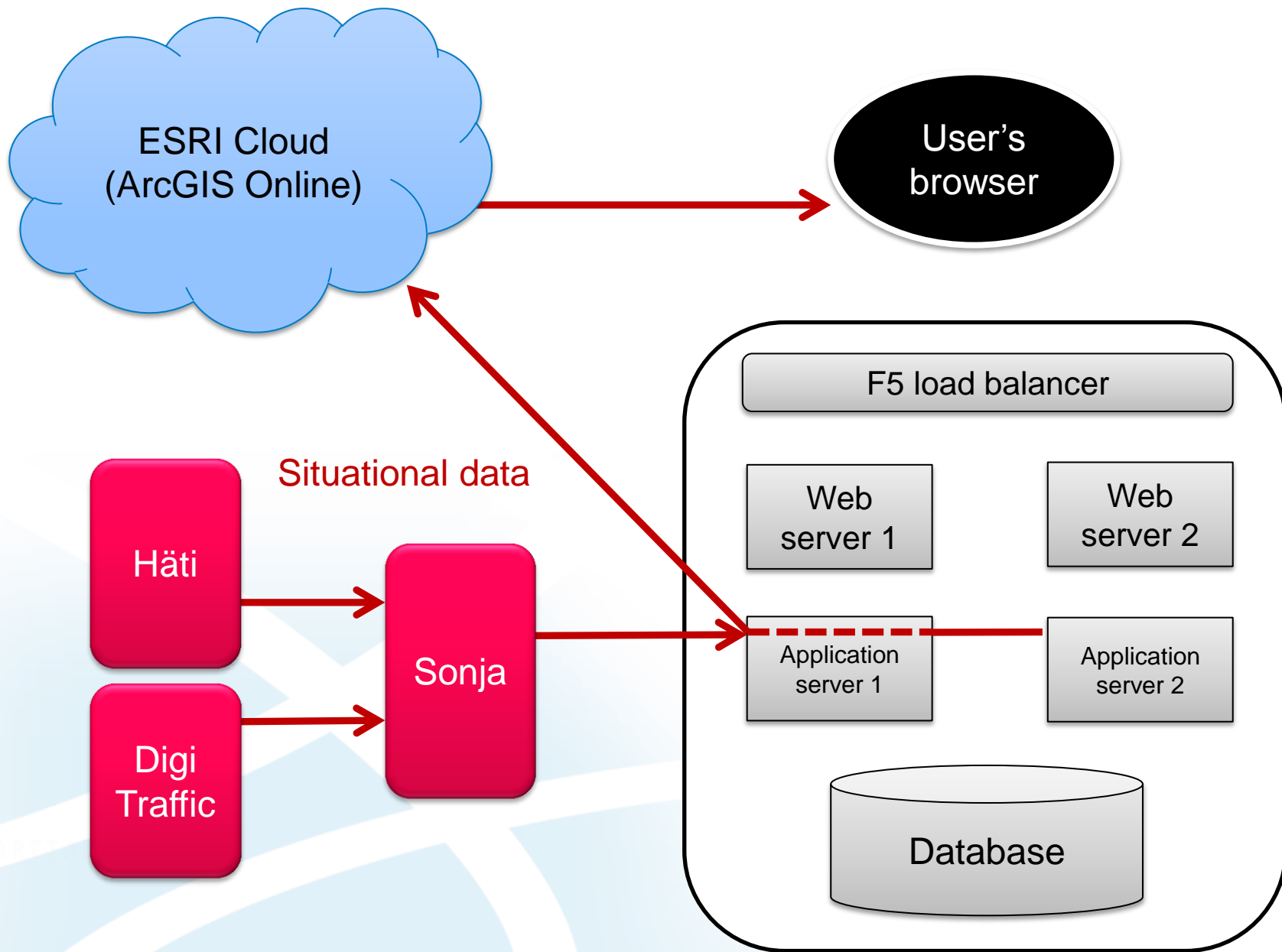
28062013 12:21:00

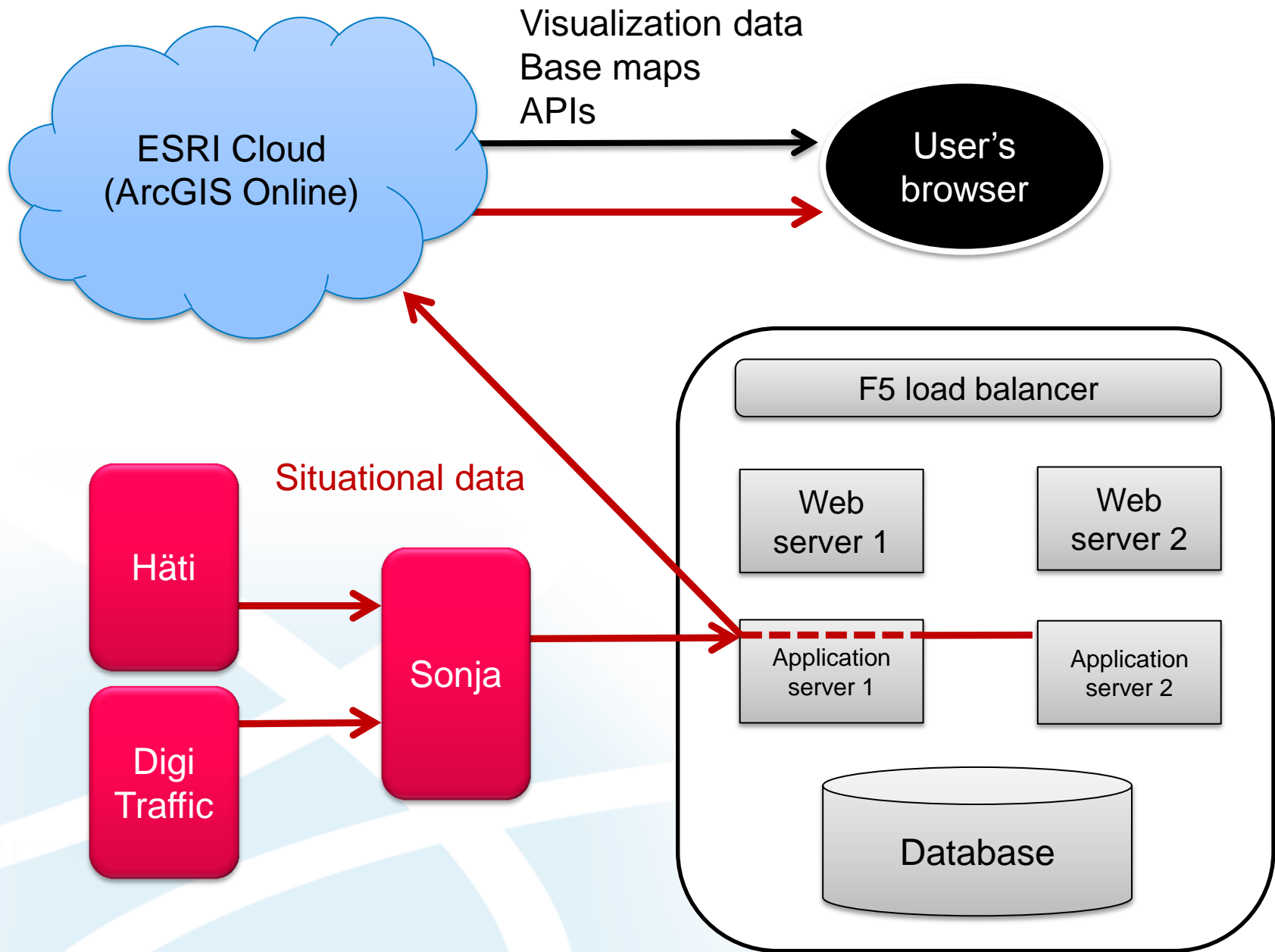
Road weather cameras

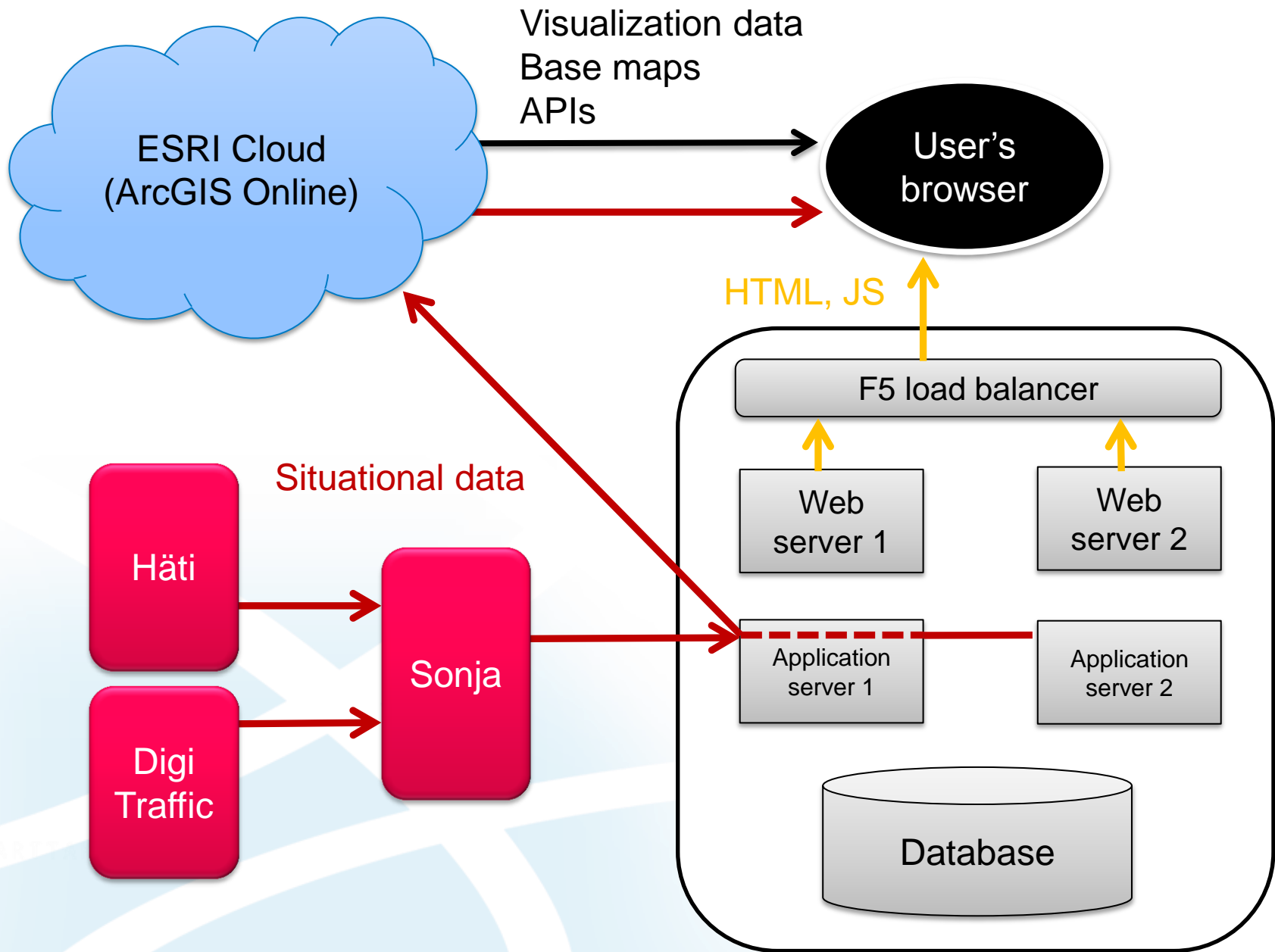


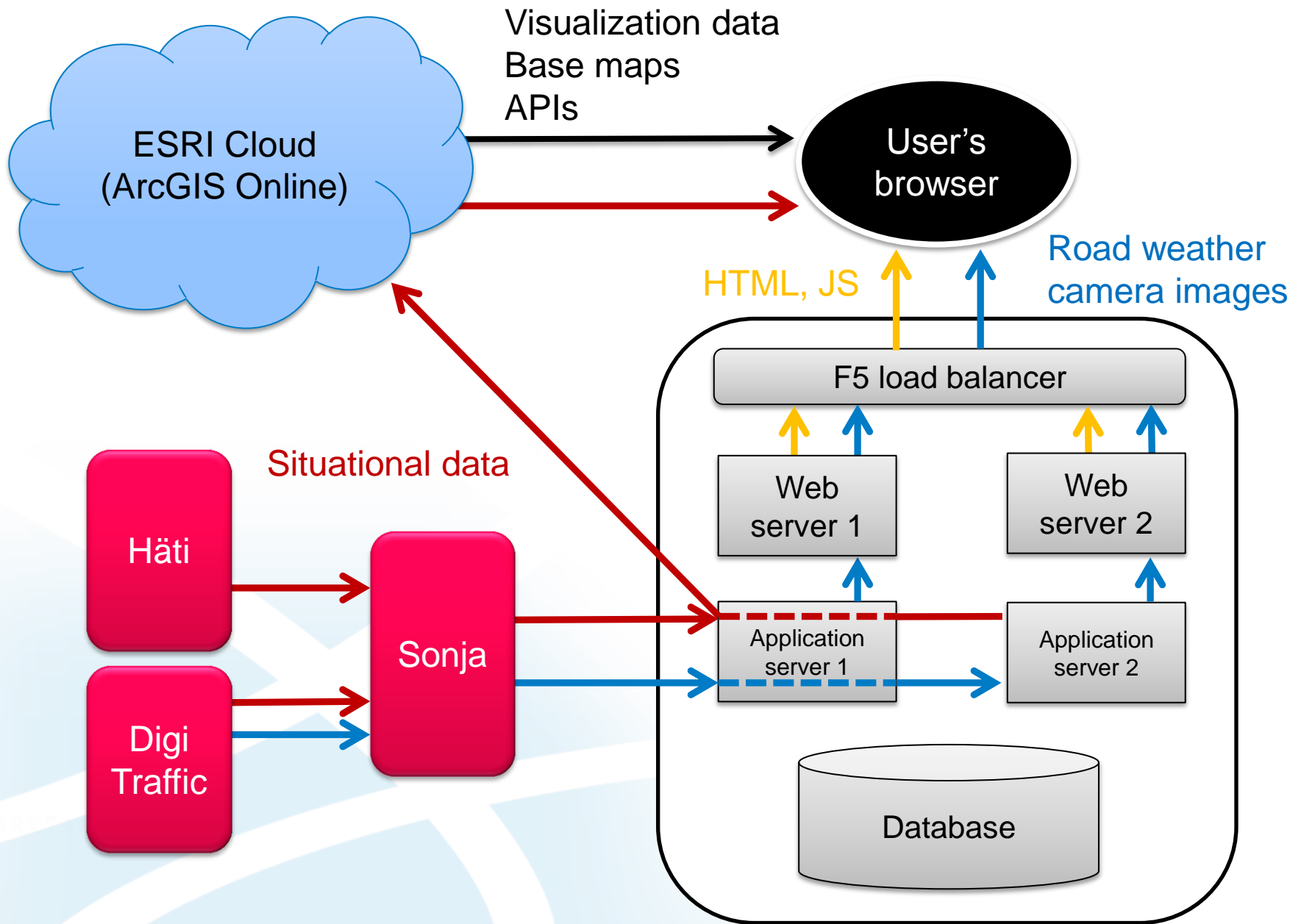
Mobile UI











The project – **HOW** it was done

- No database
 - > No database server
 - > No database license
 - > No database administration
 - > No database connections
 - > No SQL
 - > Simple architecture
- Stand-alone components:
 - UI on web servers
 - Integration application on application servers

The project – **HOW** it was done

- ESRI JavaScript API
 - Seamless integration to ArcGIS Online
- Styling settings and rules are managed ArcGIS Online instead of the client application.
- Mobile and desktop UI
 - Separate ESRI JS API for desktop and mobile interface
 - Separate HTML, JS and CSS files
 - Other resources shared between the two interfaces

Data types

- Static – Situational
- Observed - Predicted
- Geographical – Non-geographical
- Business data – Metadata
- Independent updating intervals

The project – **WHAT** was done

- Dispersed information and forecasts collected and rearranged
- Different data types presented visually
- Ensuring that data can be detached and shared
- **One easy-to-use map interface for all devices, presenting traffic and conditions information**

http://www.ely-keskus.fi/documents/10191/562006/Tieliikenteen_tilannekuva_tiesaapaivat_Koistinen.pdf/8b7c559c-3785-4905-bef1-819d42202565

Q&A

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karttakeskus.fi

Liikennetilanne service of the Finnish Transport Agency:

Liikennetilanne.Liikennevirasto.fi

Road traffic situational awareness – ideas for improvement

- Integration to the Finnish Transport Agency's dashboard system
- Adding new data types according to need
- More utilization of historical information
- Other modes of transportation
- Sharing information through APIs – open data