



Smart City Solutions for Small City

JELGAVA CITY INFRASTRUCTURE AND MUNICIPALITY OPERATIVE INFORMATION CENTER

GINTS REINSONS

HEAD OF JELGAVA OPERATIVE
INFORMATION CENTER

Definition of Smart City

Smart cities use information and communication technologies (ICT) to be more intelligent and efficient in the use of resources, resulting in cost and energy savings, improved service delivery and quality of life, and reduced environmental footprint-all supporting innovation and the low-carbon economy.



"Smart Cities" includes

- Smart Living
- Smart Building & Home
- Smart Transportation
- Smart Energy (Renewable generation & storage, AMI, PQM, PLM, OMS)
- Smart Water Management
- Smart Waste Management (Recycling of waste, residual management, Recovery of waste organics & Energy)
- Smart Education (e-Education)
- Open Data
- Urban Mobility
- Smart Governance (e-governance)
- Smart Medical Facility (e-Medical)
- Smart Communications
- Smart Networks
- Environmental Awareness (i.e. changing weather conditions; human defined changes)
- Smart Crisis Management
- Metrics and performance indicators

Jelgava – Smart City for Development!



Jelgava city

Jelgava – the fourth largest city in Latvia

Distance to Riga - 42 km

City area - 60 km²

Population - 62 000

One of 9 state importance cities

Member of Latvian Big Cities

Association and Latvian Association of

Local and Regional Governments



Jelgava - 750

Jelgavai 750 ANNO 1265
Tourism 2015
www.visit.jelgava.lv

Tourism opportunities in Jelgava City, Jelgava Municipality and Ozolnieki Municipality

Send your electronic postcard with greetings from Jelgava!

In the Tourist Information Centre in Jelgava Holy Trinity Church Tower, visitors have an opportunity to send a virtual greeting – an electronic postcard from Jelgava. The addressee will receive the card with views of Jelgava and your special greeting in his/her e-mail box. It is an opportunity to tell friends and relatives about your visit to Jelgava and to share your impressions.

There are available cards with different views of Jelgava. The service of sending an electronic postcard is free of charge.



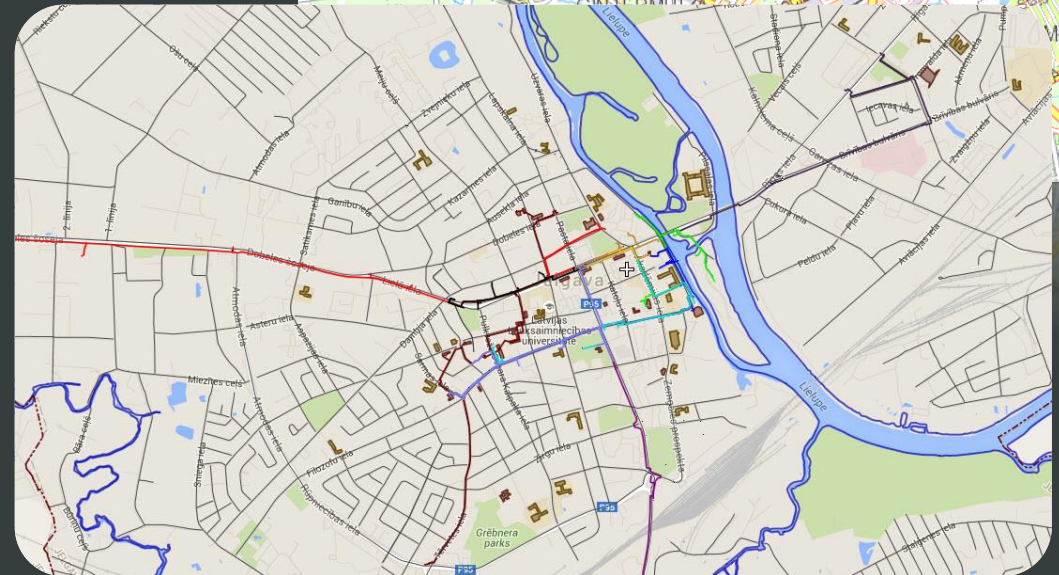
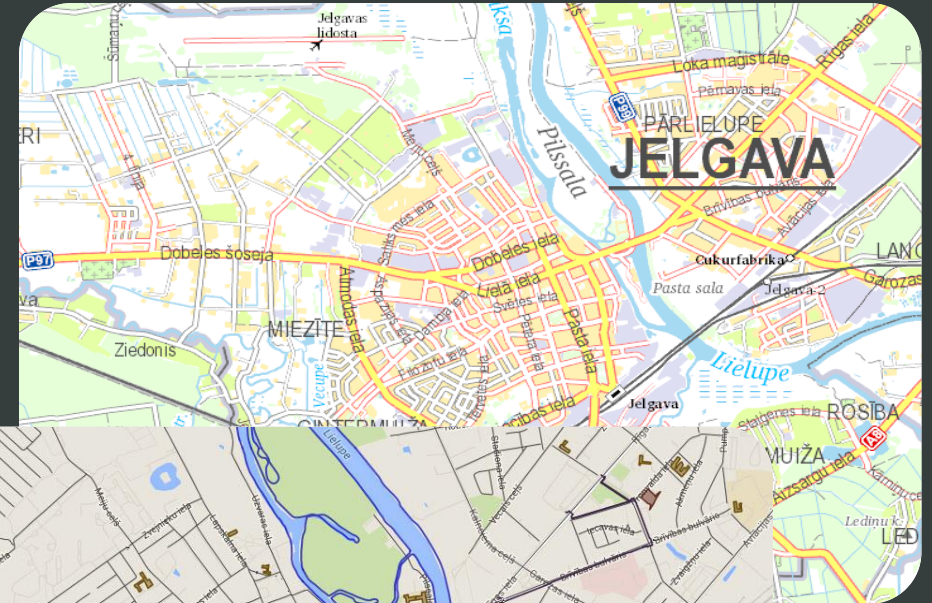
Andris Rāviņš

Chairman of Jelgava

City Council

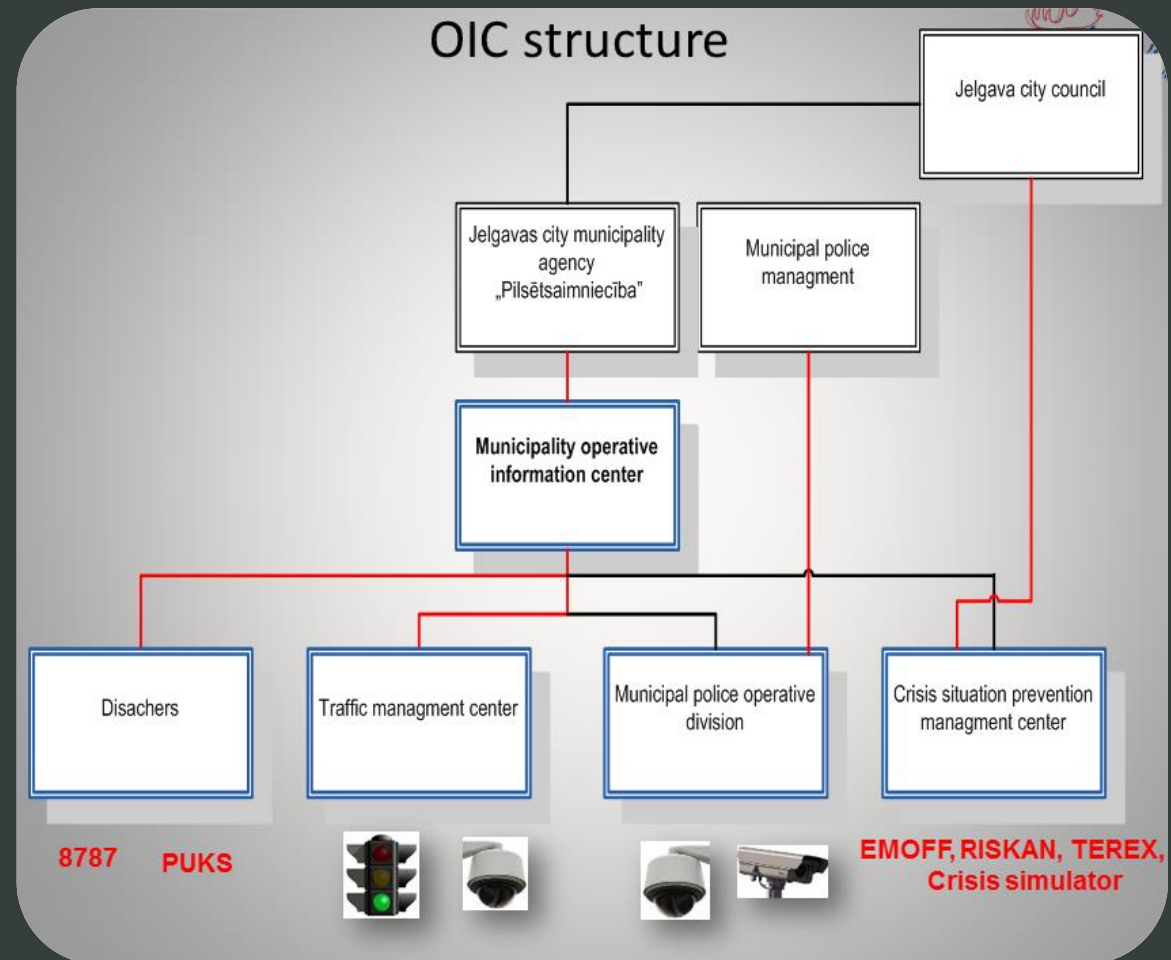
Jelgava City Digital Agenda

- Digital data transfer – shall be safe and fast
- Secured digital net – shall cover biggest part of city infrastructure
- Jelgava – has 368 streets with total length 264,05 km
- Magistral communication network- 20 km
- Optical fiber net- 13,99 km (only) and counting
- Latvia have 4th fastest internet speed in the whole world.



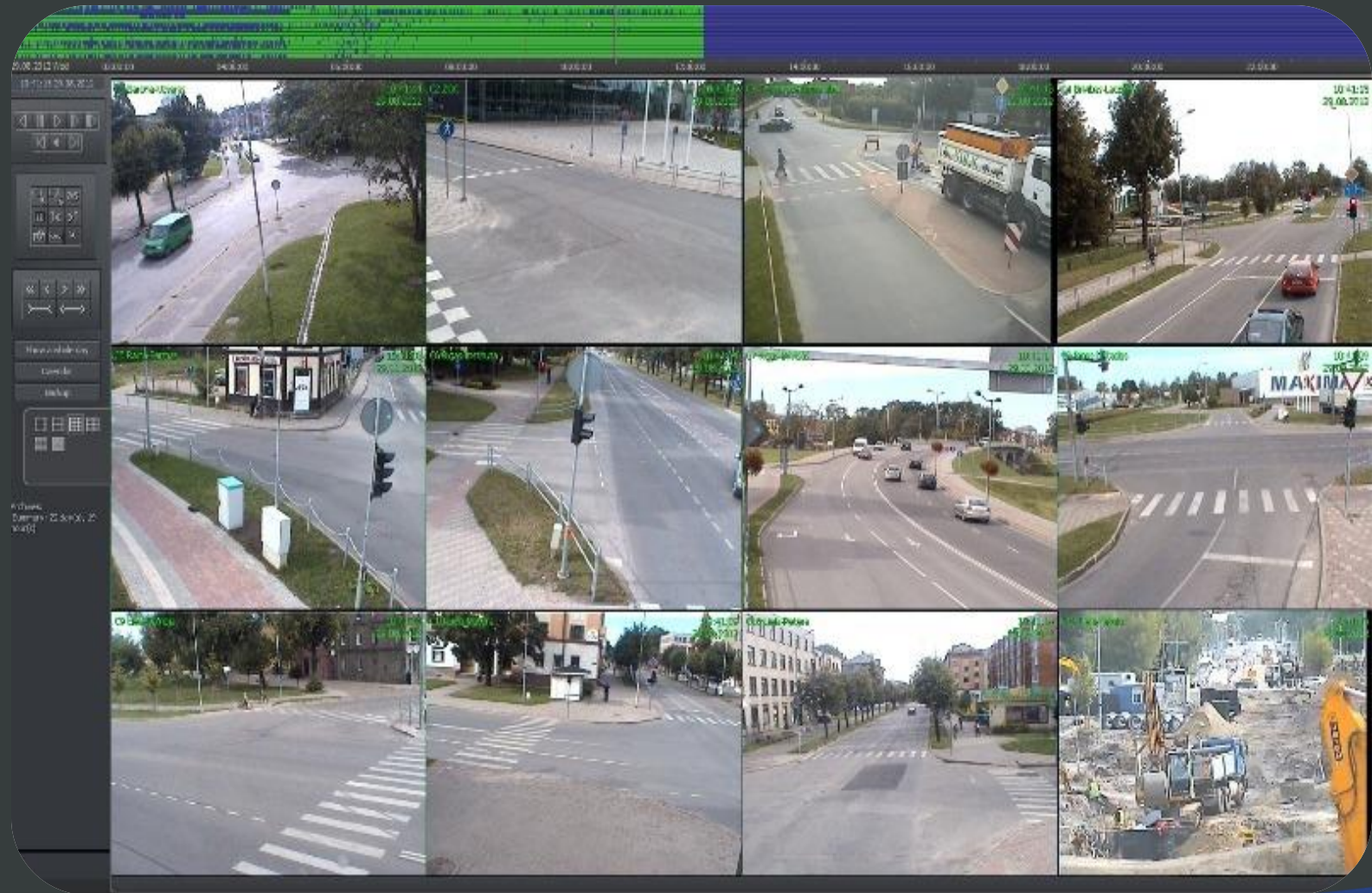
Jelgava City Municipality Operative Information Center

- Jelgava city inhabitant complain and suggestion reception for 24/7
- Nonstop monitoring of different kind of infrastructural object monitoring systems for 24/7 (street light; pumping stations; meteorological stations; intelligent traffic light management system; s.f.)
- Municipality infrastructure maintenance specialist and contractor daily work support and coordination. (night time; winter time)

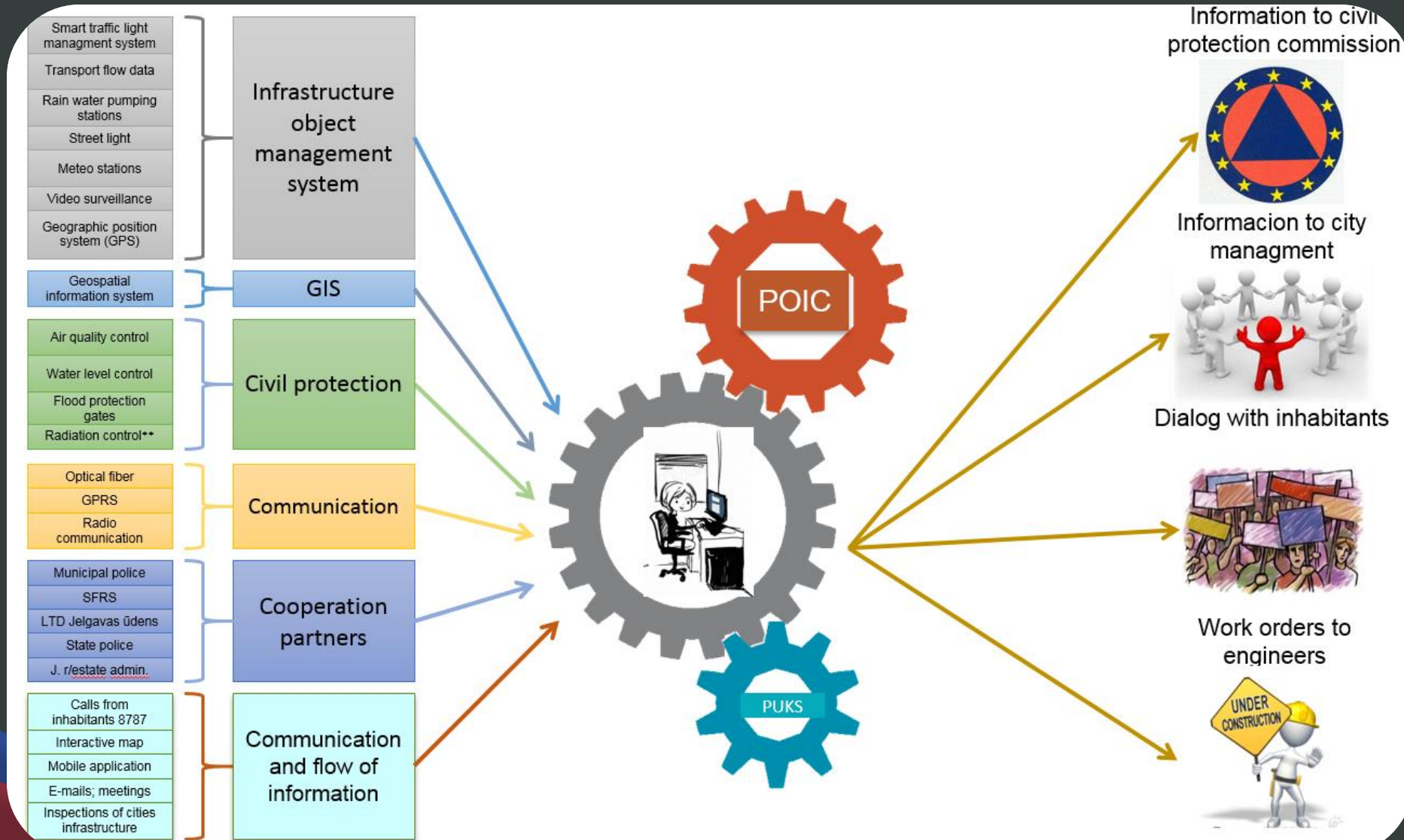


Jelgava City Municipality Operative Information Center

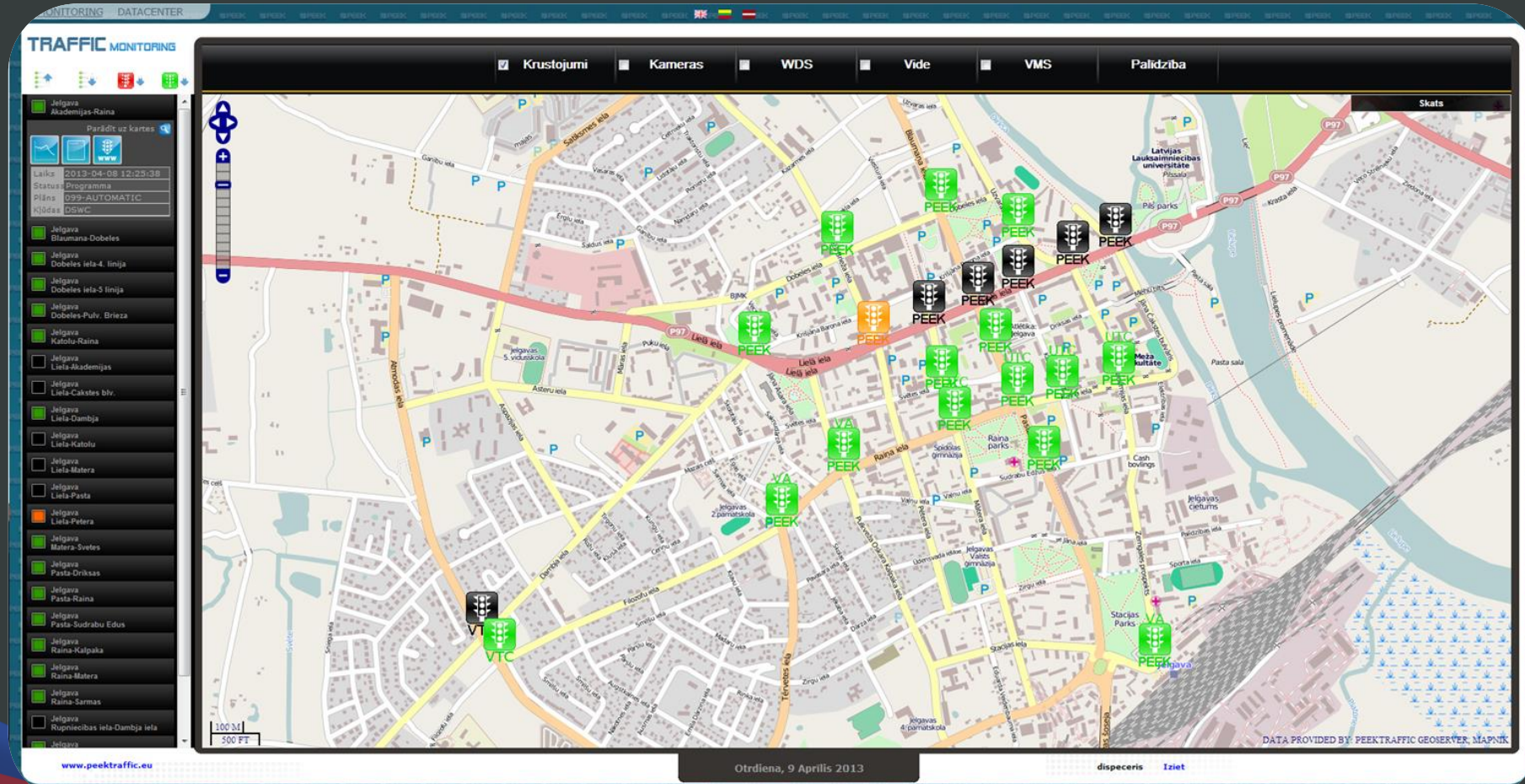
- Public territory and object video surveillance
- Civil protection commission work aid by providing operative and qualitative information



Smart information flow and its elements



Smart Traffic Light Management System



Transport flow data collection

- Analysis and sensor action maintenance solution
- Adaptive/responsive traffic control system
- Wireless vehicle detection solutions



A screenshot of the SENSYS networks web interface. The page is titled 'SENSYS networks' and shows a navigation menu on the left with categories like 'SNAPS', 'System Status', 'Reports', 'Configuration', and 'Congestion Maps'. The main content area is divided into several sections: 'System Status' with a map showing sensor locations (apeg7422, apeg7447, apeg7444) and a '2' in a circle; 'Access Points' Status' with a green pie chart and the number '8'; and 'Volume Occupancy Speed Overview' with a table showing data for 'Dobeles - 4.Linija', 'Dobeles - 5. linija', and 'Raina - Akademijas, ImFlow'. The interface also includes a user login 'maris.skudra (Admin)' and a 'Logout' button.

Real Time Optimisation

The screenshot displays the ImFlow software interface, which is used for real-time traffic optimization. It features a navigation panel on the left, a central map, and a detailed data window for a specific intersection.

Navigation Panel (Left):

- Areas
- Routes
- Intersections
 - JEL3RAMA
 - JEL4RAPA
 - JELRAIKA
 - JELRAIAK

Timing Diagram - JEL3RAMA (Top Left):

03.Apr 2013
08:21:44 08:21:54

Stages:
V4
V10
V6
V12
V1
V7
V3
V9
GP1
GP4
GP7
GP10

Map (Center):

Map of Jelgava Raina area showing intersections and routes. A green line highlights the route through the intersection.

1: JEL3RAMA Raina - Matera (Data Window):

DAAP Status:	Normal
DAAP Mode:	Traffic_Adaptive
TLC Status:	UTC
TLC Mode:	UTC
Policy Plan:	A(Raina:Policy morning rush hour)+R (West2East:Route West2East,East2West:Route East2West)
Total Delay (veh*h/h):	2052
Total Stops (stops/h):	72
H-Queue (m):	87

Map Labels: Raina iela, Katoli iela, Bezaņķiņās Jaunavas Marijas katedrāle, Jelgavas vēstures un mākslas muzejs, Meza fakultāte, Sv. Simeona un Sv. Annas pāreiztīģio katedrāle, Rimi stāvlaukums, Swedbank, Junda, Raina parks, J.Š. dienesta viesi.

Smart Licence Plate Recognition



Control

- Stop
- Logoff
- Complex
- Register
- Placement
- Errors
- Save
- Exit
- Logon
- System
- Access
- Combine
- User
- Journal
- About

Camera 4

- Open all
- Close all

Video

- Detail
- Input
- Signal
- Detector
- Radar
- Record
- Sending
- Result
- Channel
- Files
- Auto
- Plates
- Speed
- Traffic
- Logs

Camera	Vehicle	Speed	License Plate
Camera 1	White van (MJ PARTNER)	0 Kmph	HR-2251
Camera 2	White bus (Agrokimija)	0 Kmph	FR-1233
Camera 3	Dark car (Peugeot)		AH-79
Camera 4	White car (Vauxhall)		GT-9372

Crisis Management System

EMOFF

114 Saturs / Līvelnes lapa

Analīze
Risks, draudi

Atbalsta resursi

Plānošana

Par...

Par...

Par...

Apziņoj...

670 Versijas: 3,0

952 Skatums

743 Draudi

1367 Riski

793 Pasākumi

1987 Procedūras

15 Resursi

425 Personis

162 Organizācijas

6 Katluma

559 Apziņojumi

6 Katluma protokols

1985 Mājaslapa un tīmekļa lapas

1526 Dokumenti

1406 Pasākumi

1854 Reģistrācija

1927 Riska drošības

557 Pasākumi

176 Riska vadība

364 Organizācijas

1678 Grupu vadība

491 Savstarpēji

174 Pasākuma

876 Pasākumu

Reģistrācija

114 Saturs / Līvelnes lapa

Substance: **Vinylchloride** CH2=CHCl
State: **Liquid gas**

Formula UN 1086

Substance parameters

Basic parameters	Emergency and toxic properties	Incident models	Physical properties	Description
Temperature [°C]				
Sublim.	Fusing	-162	Boiling	-13,2
Specific density [kg/m ³]				
900	Vapour spec. density / air	2,2	Relative mol. mass	
Heat [kJ/kg]				
of vapor.	365,1	of combus.	18852	Thermal power [kJ/kg]
Specific heat for [kJ/kg·K]				
gas	0,878	liquid	1,431	Cp/Cv ratio for
Others				
Diffusion coef.	0,1191	Lower expl.limit [%]	3,6	Partial press. 2
Emit.rad. ratio	0,35	Upper expl.limit [%]	33	Partial press. 1
Burning speed	0,09	Critical press.[MPa]	5,67	Critical temp. [K]
Satur.vap.press.		Evaporability [mg/l]		Ignition temper. [°C]
				183,58
				0,043
				432

ERG 2004 NIOSH

Terex - Google Maps

Map Satellite Hybrid

500 m 2000 ft

Imagery ©2008 DigitalGlobe - Terms of Use

Latitude, Longitude

56.645516,23.725319 Go

City, Country code

Jelgava.LT Go

GPS

SKYBRAKE
AUTOPARKU UZRAUDZĪBAS SISTĒMA

Kartes Apskaites Degviela Notikumi Bīdinājumi Maršruti Uzstādījumi Atbalsts Iziet LV

ATLASE

Visas Grupas Meklēt...
Iezīmēt Atcelt Sekot Parādīt

Nosaukums (Reģ. nr.)	Statuss	Pieturā
8055 Schmit (CU5567)	15d	24d
8059 MAZ PO 1633 (PO 1633 Zalovs)	14d	34d
8060 MAZ Pasizg K14 (CU 7763)	13:03 h	16:13 h
8065 MAN Auziņš (HO 3591)	00:04 h	01:58 h
8076 Multicar M 26 (PO 1228)	06:34 h	08:44 h
8108 DZ143 greideris (T3935LC)	22:50 h	5d
8128 Bobcat K19 (T5244LR)	00:04 h	6d
8131 Belarus Brodvej K08 (T LT-70)	11d	12d
8132 Belarus BAR (8132 T744 LR)	00:04 h	6d
8142 JCB3CX K22 (T 44 LT)	00:02 h	2d
8147 JCB3CX (T43LL)	00:02 h	06:29 h
8149 JCB3CX (8149 / LL-6542)	00:01 h	
8167 JCB4CX (8167)	0 sec	00:18 h
8169 Kubota (T5645HT)	18:20 h	3d
R174 1CB4CX (T8995 T)	00:02 h	7d

MARŠRUTA ATLASE
NOTIKUMU VĒSTURE, PĒDĒJĀS 24H
SAGLABĀTIE MARŠRUTI

600 m

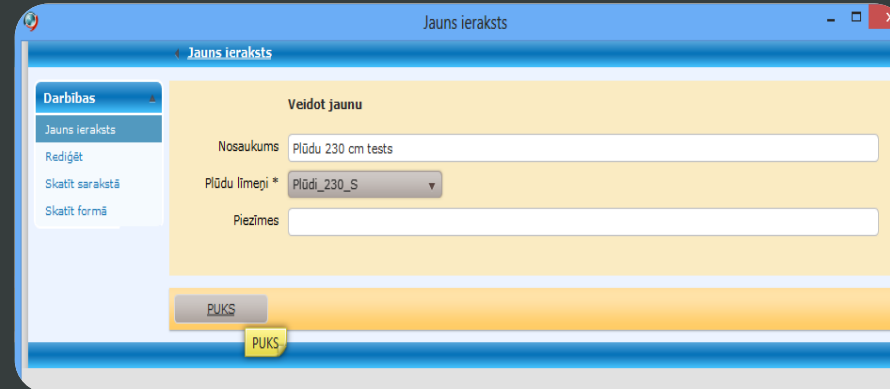
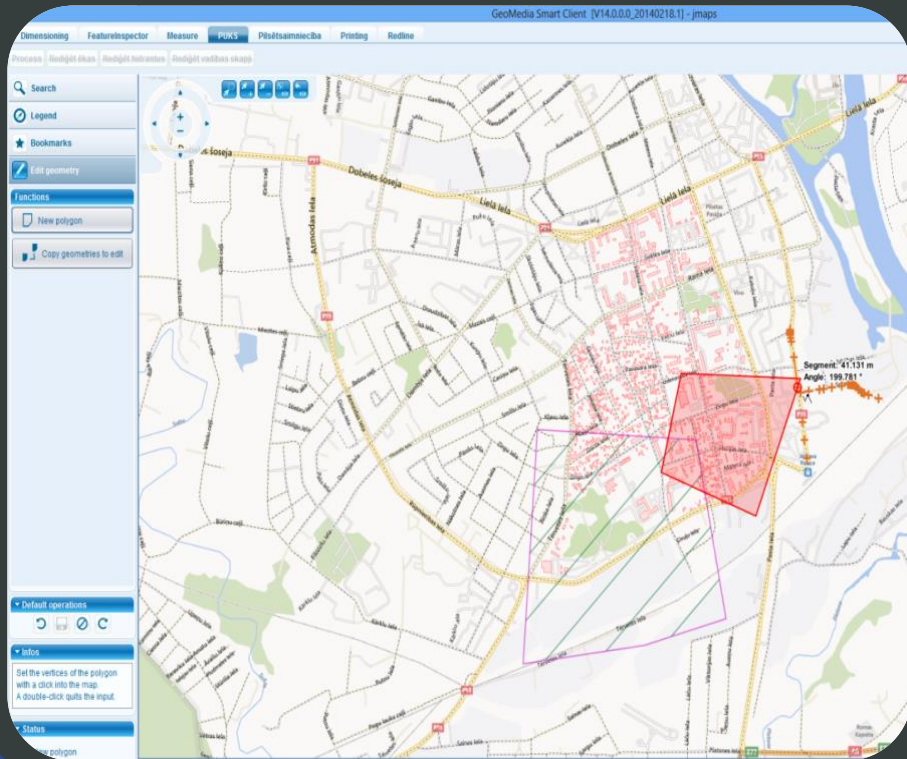
© Karšu izdevniecība Jāņa sēta

Geographical information system

The screenshot displays a GIS application interface. On the left, a 'Maps' panel shows a list of thematic maps, with 'Plūdi un zemes virsma' (Floods and terrain surface) selected. Below it is a 'Legend' panel with various map layers and their corresponding symbols. The main map area shows an aerial view with red and blue overlays, and a circular inset providing a magnified view of a specific area. On the right, a 'Data Window' window is open, displaying a table of data for 'Būves ar iedzīvotājiem aplūst pie 10 proc varbūtības' (Buildings with residents observed with 10% probability). The table has columns for 'KADAstra_IR', 'ADRESE_NUMURS', and 'CILVEKU_SKAITS_DEKLARETAIS'. The scale at the bottom is 1:59312.

KADAstra_IR	ADRESE_NUMURS	CILVEKU_SKAITS_DEKLARETAIS
0900020003001	6	4
0900020009002	7	3
09000090251001	7F	4
09000090235001	7C	3
09000090090001	19	4
09000090024001	49	8
09000090070001	15	4
09000090071001	13	3
09000090093002	11	3
09000090044001	9	4
09000090045001	14	4
09000090175001	24A	3
09000090022001	30	3
09000090025001	28	3
09000090034001	36	5
09000090018001	27	4
09000090019001	29	3
09000090020001	31	3
09000090041001	25	5
09000090036001	5	10
09000090030001	13	2
09000090002001	11	5
09000090029001	9	2

Early Warning System



Atskaites

Pārskats par objektiem | Darbību pārskats | Apsekojumu žurnāls

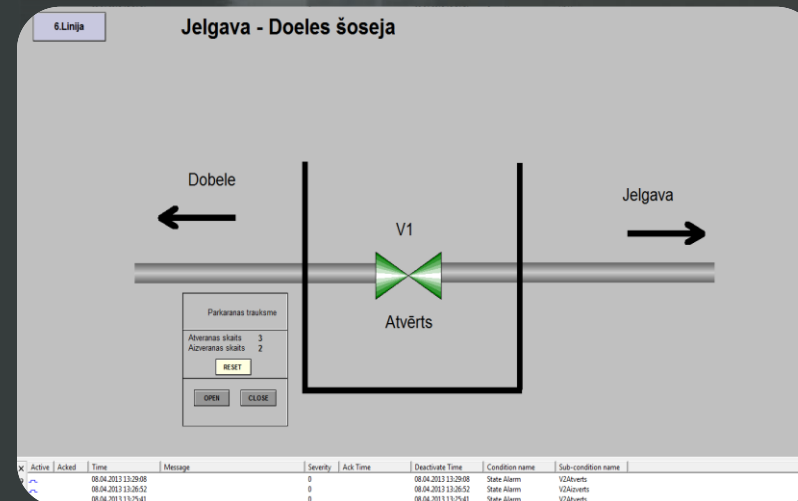
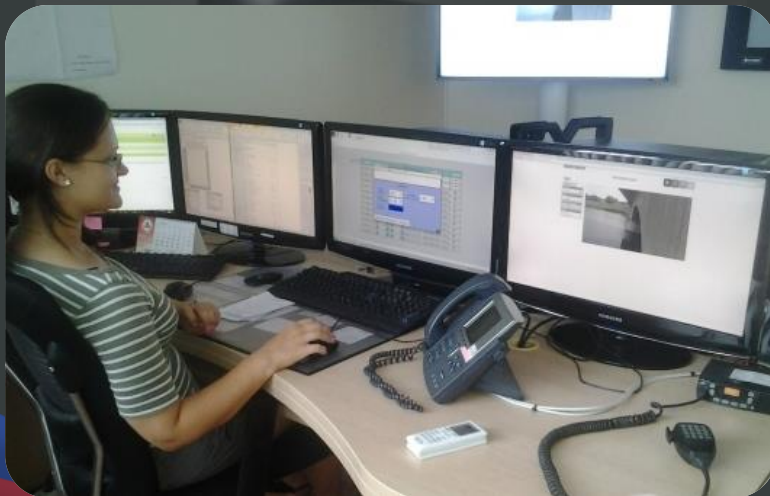
Bez tipa

Saziņas statuss: 1/10 | SMS: 0/10 | Zvani: 1/10 | Epasti: 0/10 | Apmeklējumi: 0/10 | Pātraukti: 0/10 | Vēl nav darbu: 9 90.00%

	Veids	Nosaukums	Adrese	Tālrunis	Epasts	Karte	Darbības
▣	Ēka	Aspazijas iela 20	Aspazijas iela 20, Jelgava, LV-3001	21234567	tests@tests.lv	NAV	OK
▣	Ēka	Aspazijas iela 29A	Aspazijas iela 29A, Jelgava, LV-3001			OK	OK
▣	Ēka	Dobeles šoseja 24	Dobeles šoseja 24, Jelgava, LV-3007			OK	OK
▣	Ēka	Dobeles šoseja 37	Dobeles šoseja 37, Jelgava, LV-3007			OK	OK
▣	Ēka	Dobeles šoseja 39	Dobeles šoseja 39, Jelgava, LV-3007			OK	OK
▣	Ēka	Dobeles šoseja 4A	Dobeles šoseja 4A, Jelgava, LV-3007			OK	OK
▣	Ēka	Dobeles šoseja 4A	Dobeles šoseja 4A, Jelgava, LV-3007			OK	OK
▣	Ēka	Satiksmes iela 2A	Satiksmes iela 2A			OK	OK
▣	Ēka	Šķūņu iela 16A	Šķūņu iela 16A			OK	OK

audzdzīvokļu ēkas

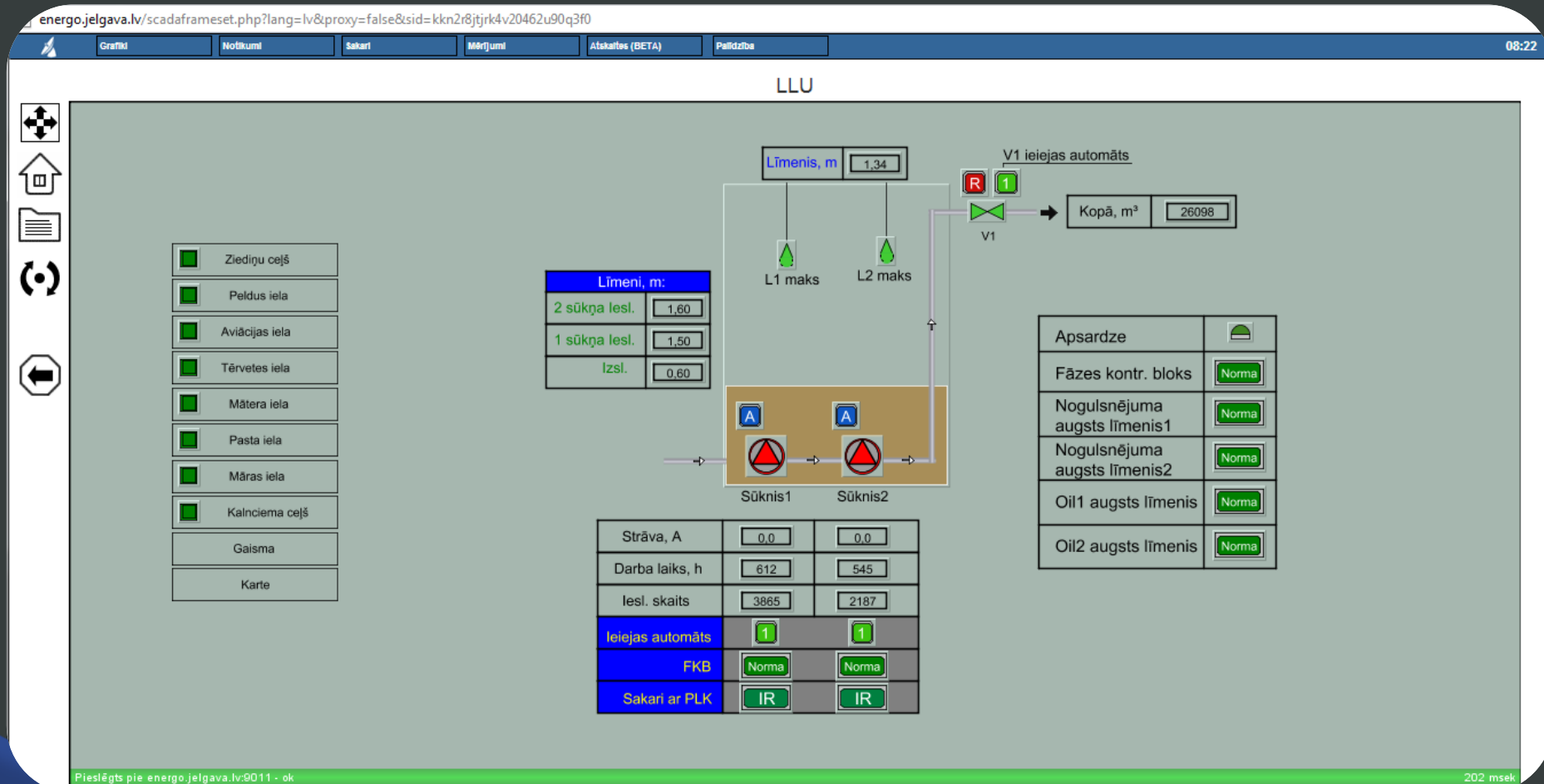
Water Level Control, Flood Protection Gates



Meteo stations



Rain water sewerage



Street Light Control System

energo.jelgava.lv/scadaframeset.php?lang=lv&proxy=false&sid=kkn2r8jtjr4v20462u90q3f0

08:21

Jelgavas gaisma

KSS

Objekts	Pusnakts slēdzis	Nakts slēdzis	Mērījumi	Apsardze
TP-1071-1 G-1	<input type="radio"/>	<input type="radio"/>	0 A 0 A	
TP-1071-2 G-1	<input type="radio"/>	<input type="radio"/>	0 A 0 A	
TP-1018 G-1	<input type="radio"/>	<input type="radio"/>	0 A 0 A	
TP-1037 G-1	<input type="radio"/>	<input type="radio"/>	0 A 0 A	
TP-1062 G-1	<input type="radio"/>	<input type="radio"/>	0 A 0 A	
TP-1208 G-1	<input type="radio"/>	<input type="radio"/>	0 A 0 A	
TP-1502 G-1	<input type="radio"/>	<input type="radio"/>	0 A 0 A	
TP-1506 G-1	<input type="radio"/>	<input type="radio"/>	0 A 0 A	
TP-1825 G-1	<input type="radio"/>	<input type="radio"/>	0 A 0 A	
TP-1605 G-1	<input type="radio"/>	<input type="radio"/>	0 A 0 A	
TP-1007 G-1	<input type="radio"/>	<input type="radio"/>	0 A 0 A	
TP-1042 G-1	<input type="radio"/>	<input type="radio"/>	0 A 0 A	

Pieslēgts pie energo.jelgava.lv:9011 - ok

Sadales skapis TP1129 G-1 Lapskalna iela

Laterna Nr 108226, Luma Lite 2 (66W), C-Node ID 108226, Profils No profile, Pēdējie dati 3h 11m

Merījumi: Līmenis 0%, Jauda 0W, Strāva 0mA, Sprieg. 0V, Cos phi 0.00, Darba stundas 0h

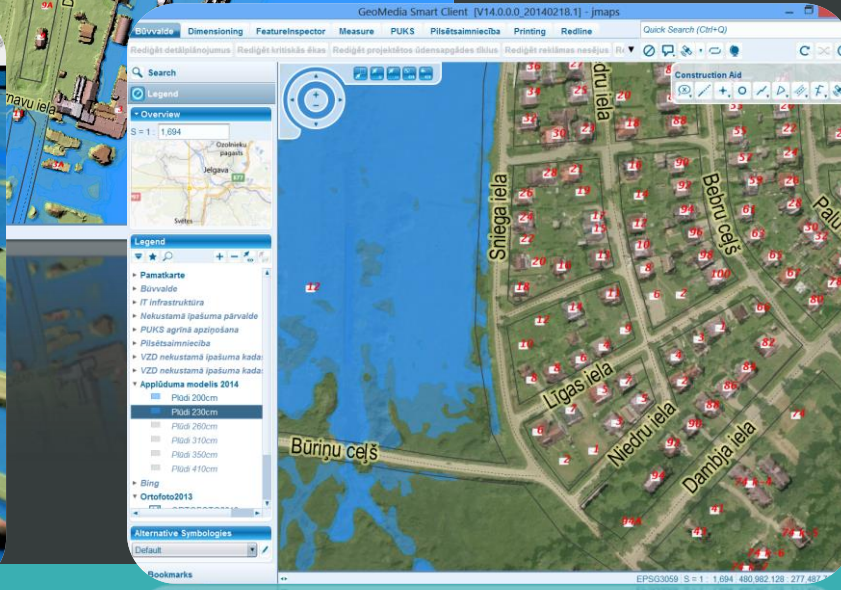
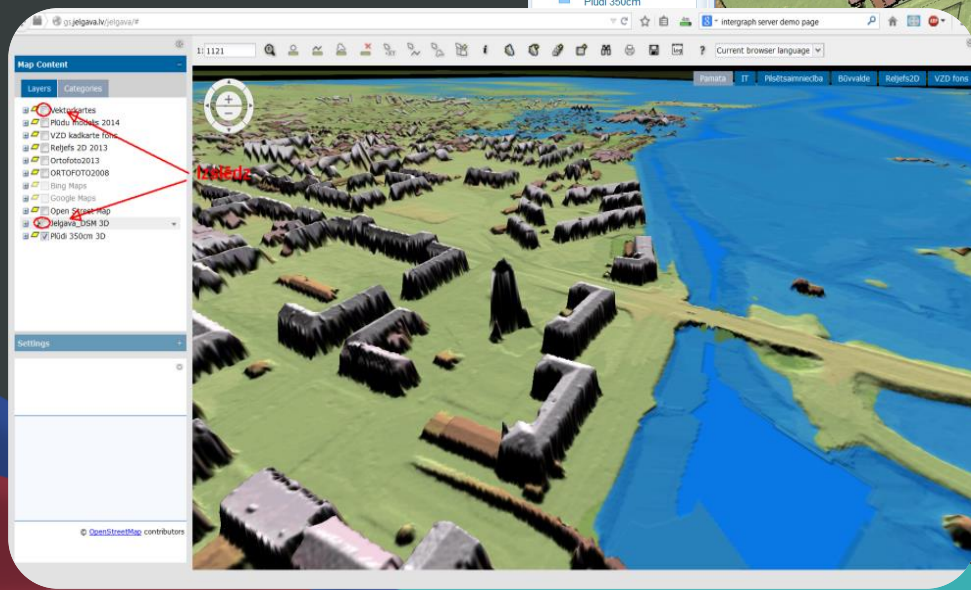
Periods: 24h

dimming_level

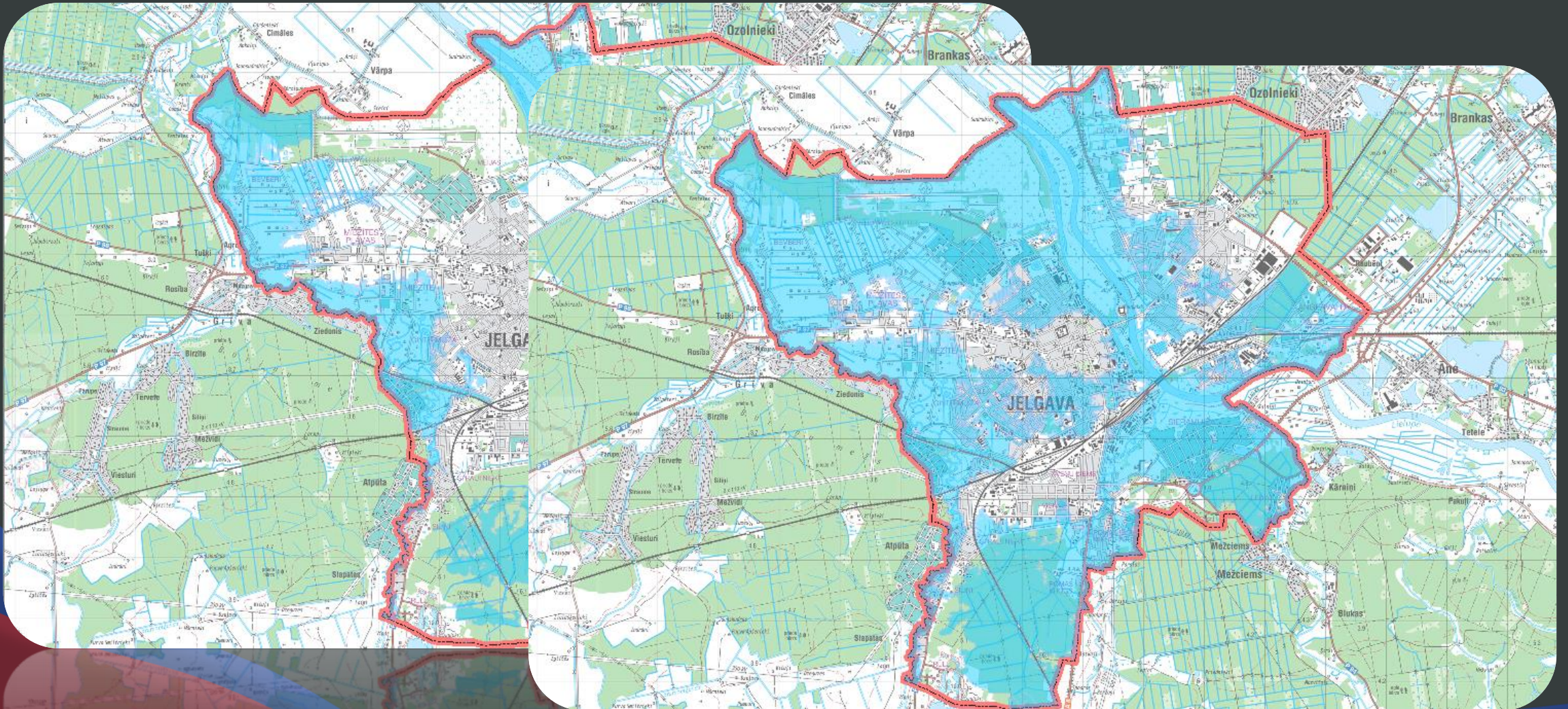
Time	dimming_level
12:00	100
18:00	50
06:00	0

Map: Uzvaras parks, LAPSĀLNA IELA, SKONĻU IELA, LAPSĀLNA IELA

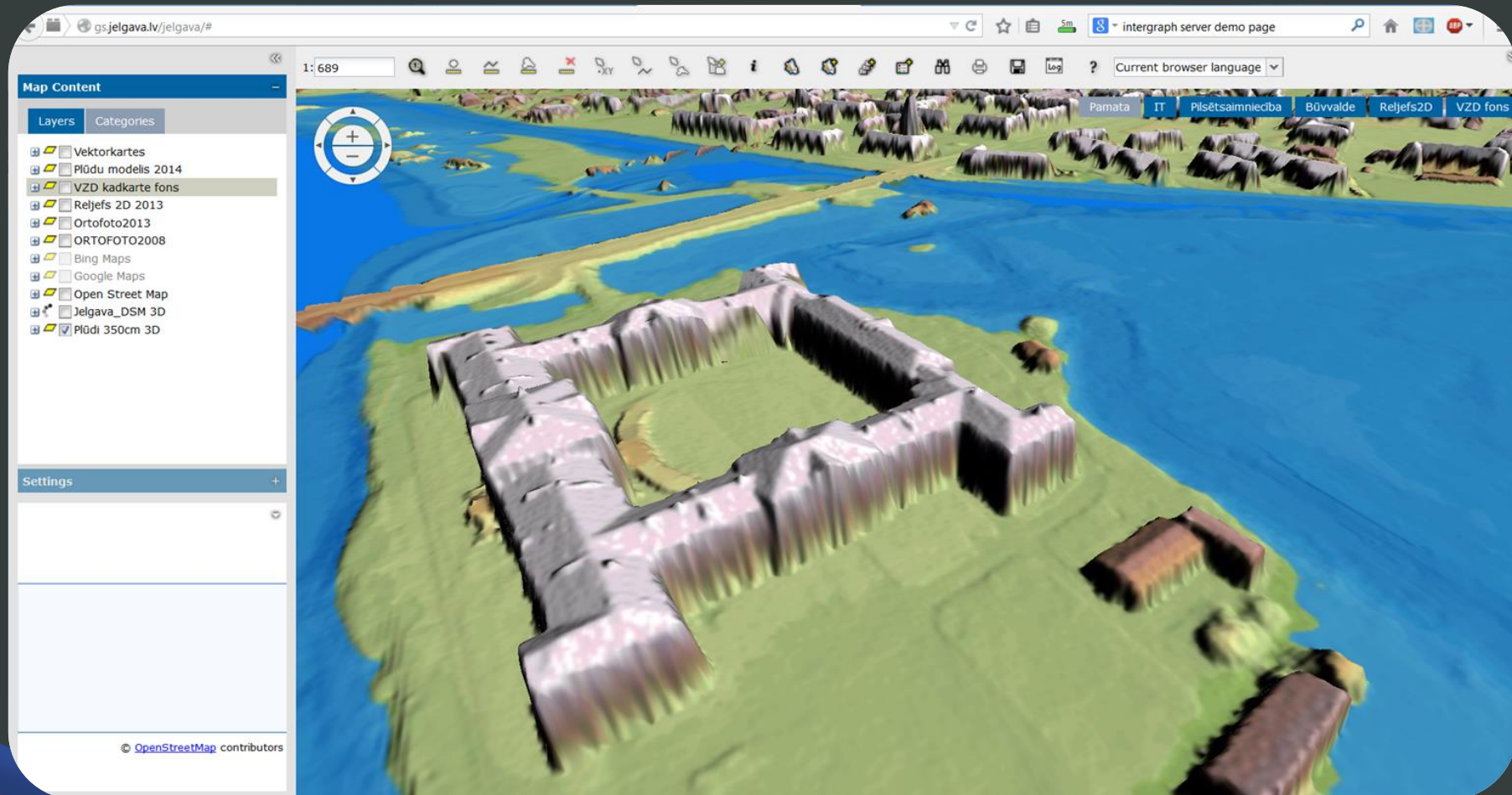
GIS Smart Client



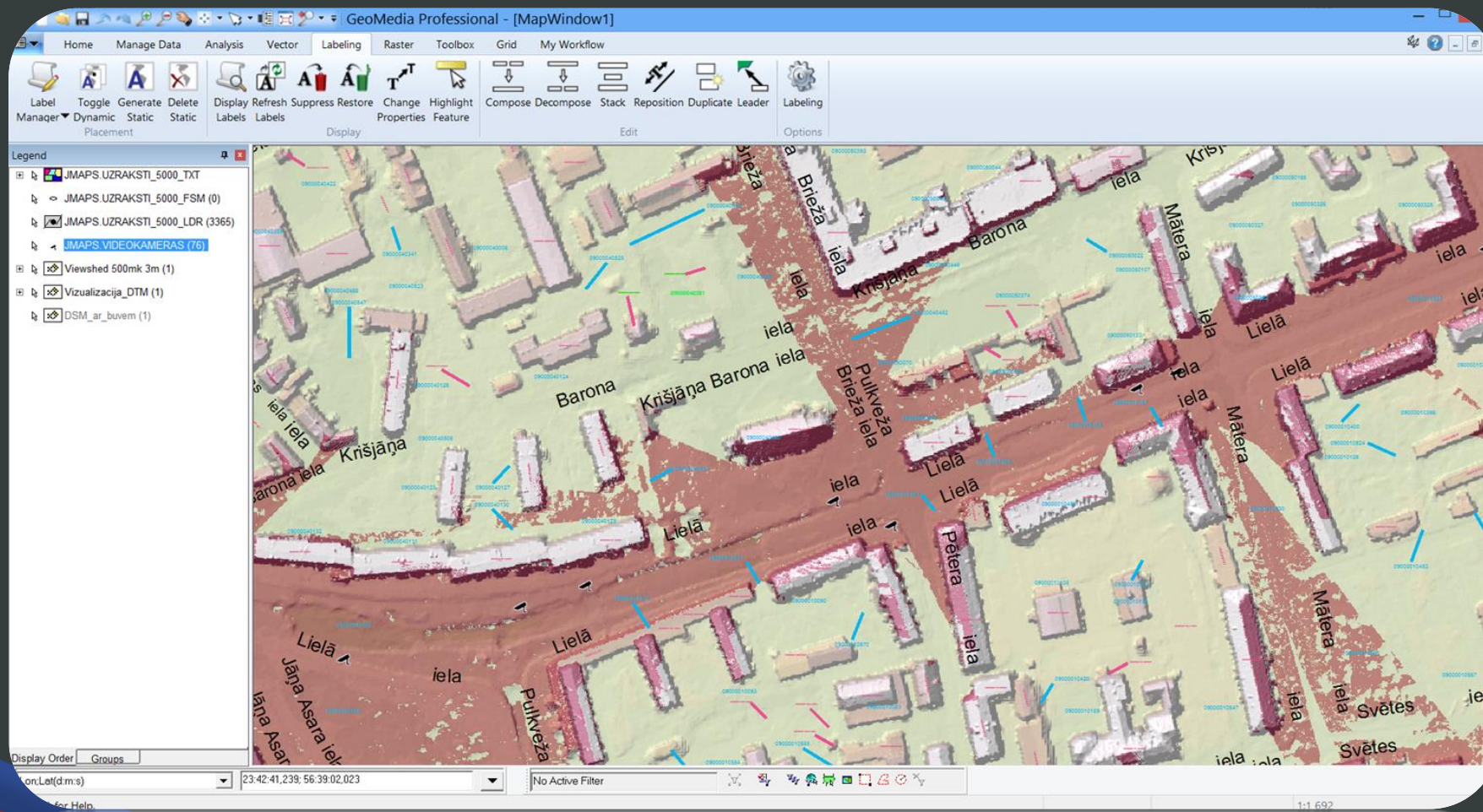
2D Flood Modelling



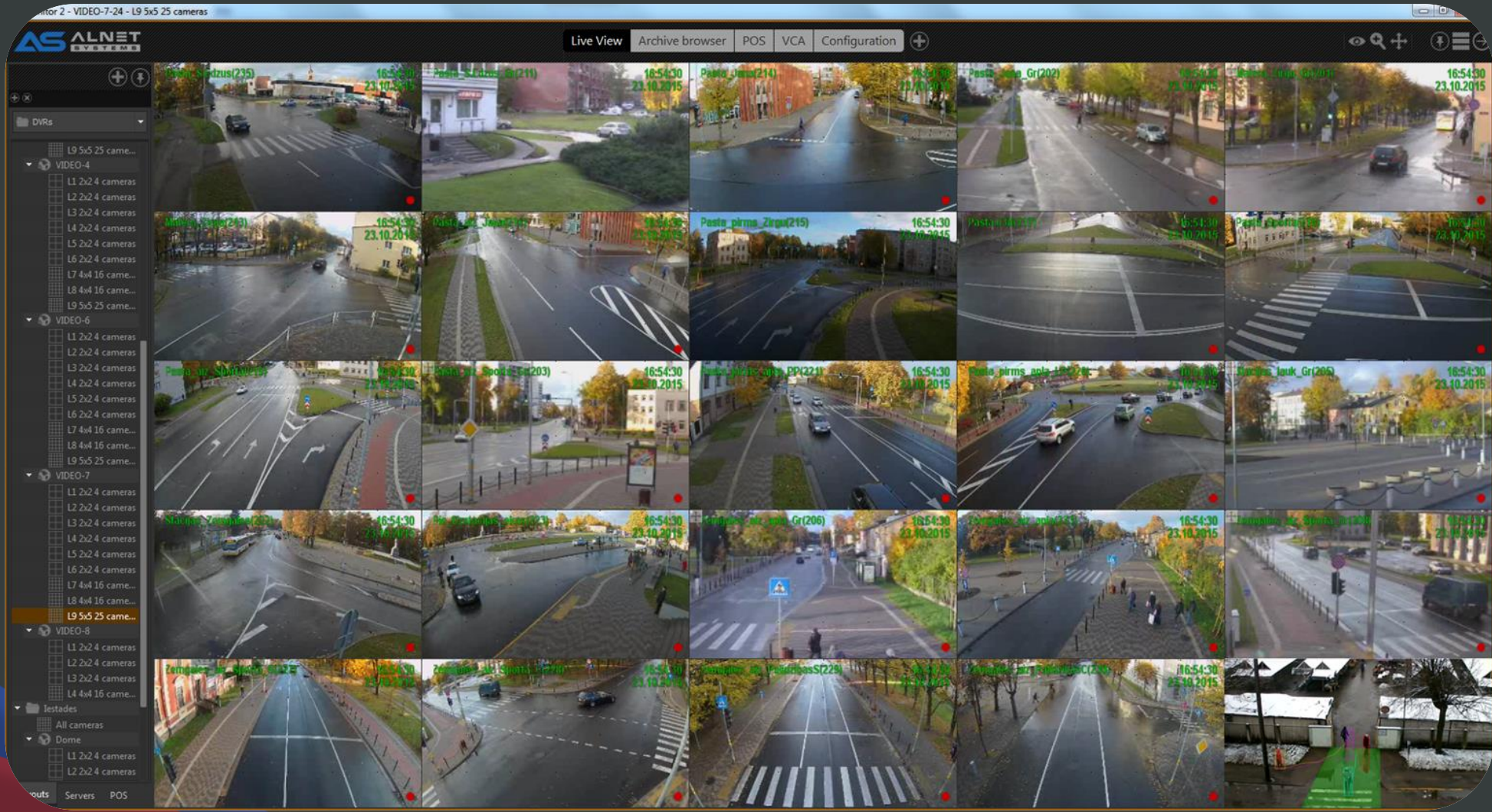
Jelgava 3D maps



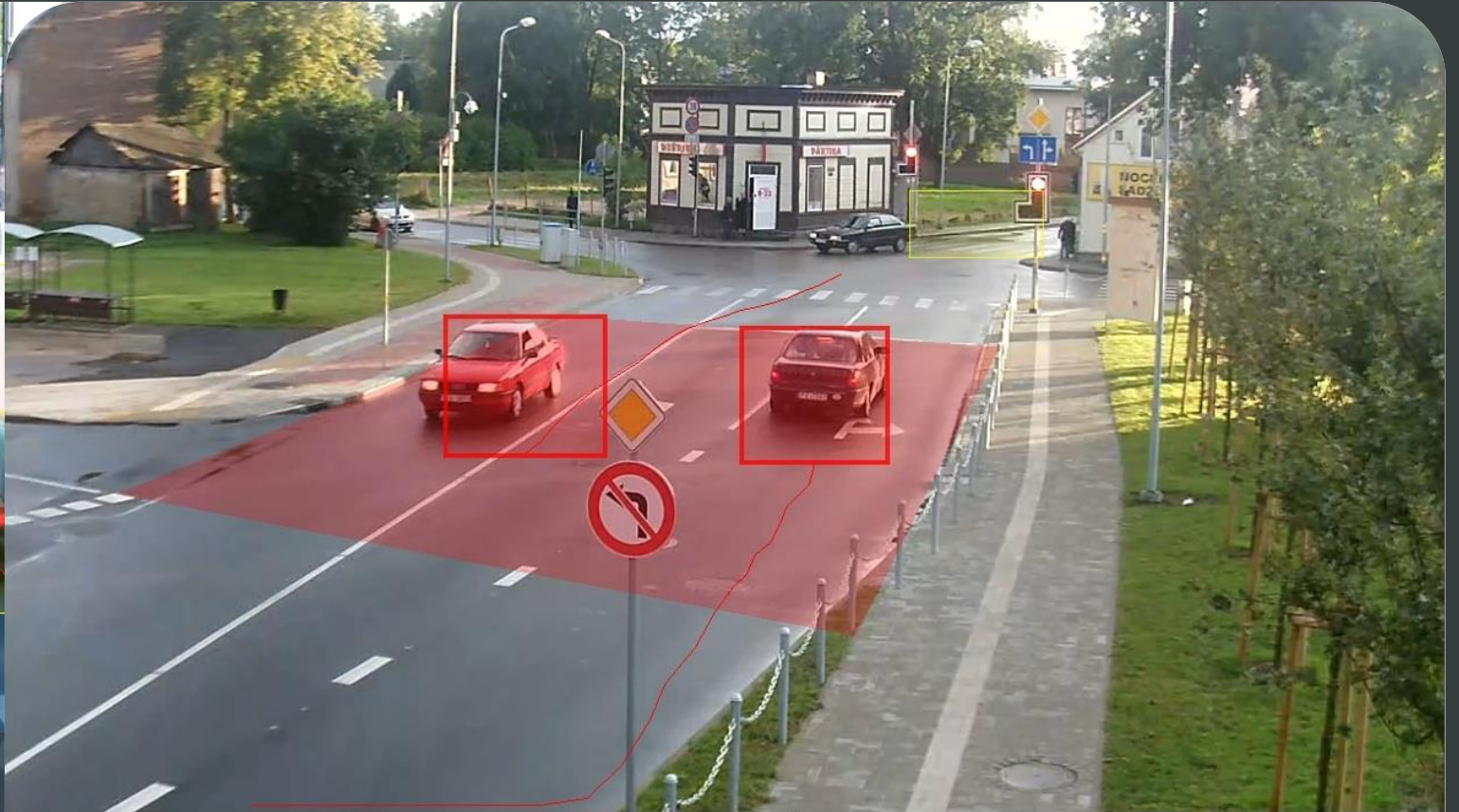
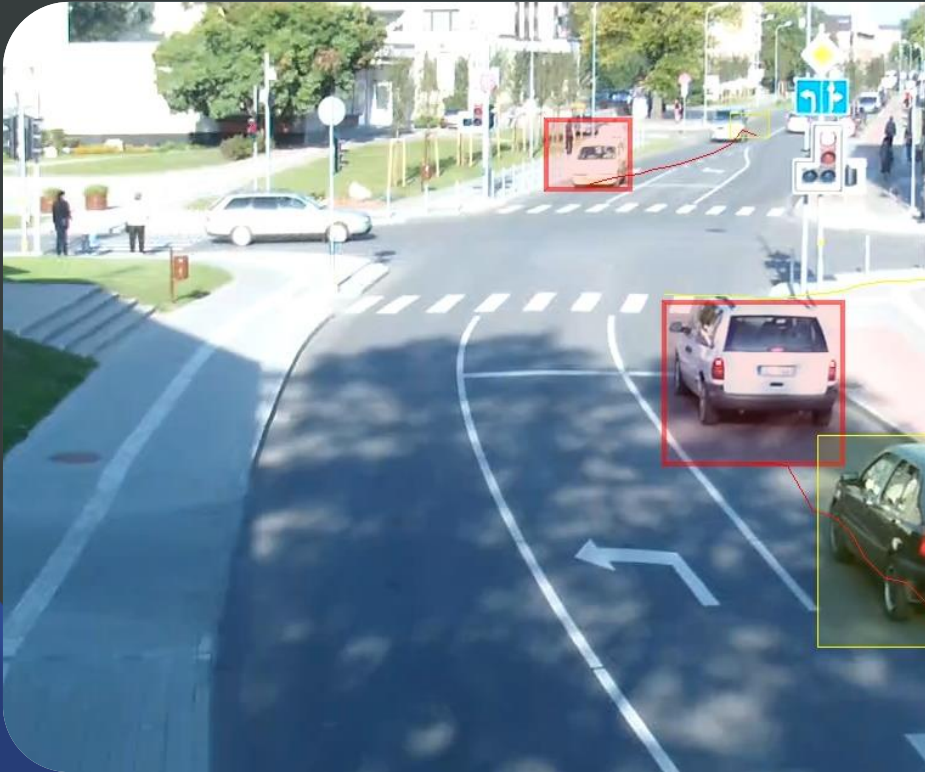
Video Surveillance 3D Modeling



Video surveillance

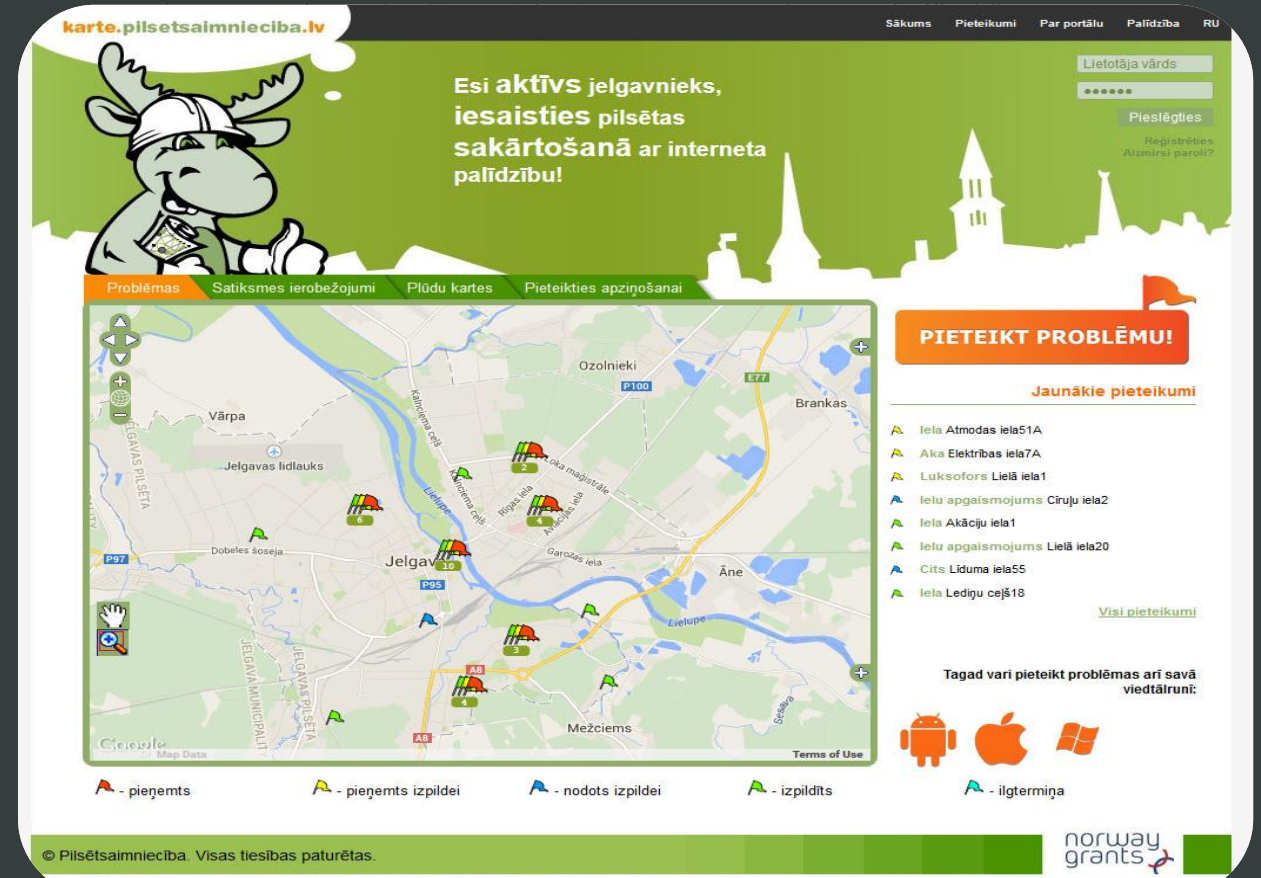
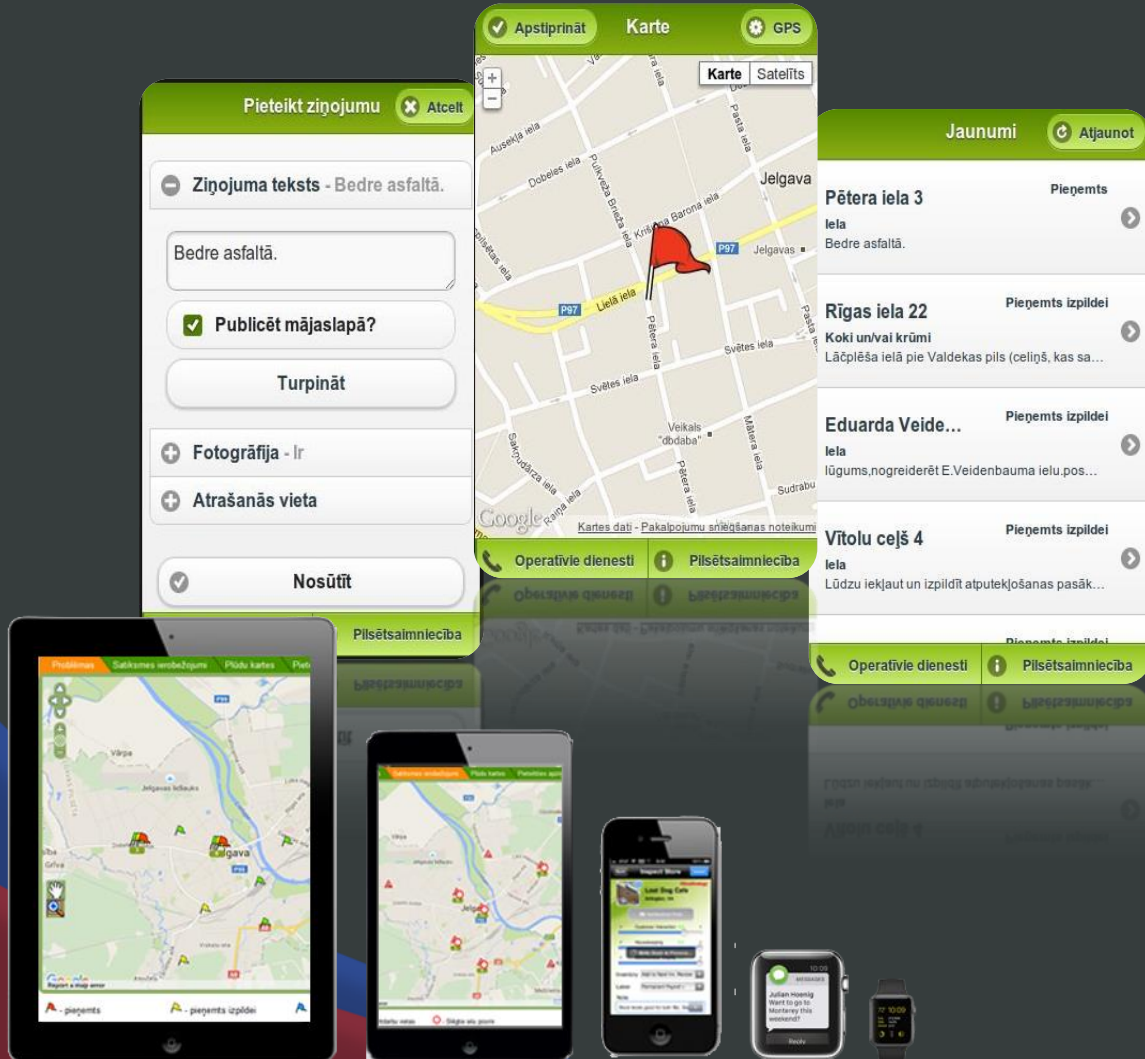


Video Content Analysis



Id	Rule Type	Rule Name	Zone Name	Object Type	Start Time	End Time
6200	Presence	Zone 0-Presence	Zone 0	Clutter	2012-09-12 18:46:50	
6199	Presence	Zone 0-Presence	Zone 0	Clutter	2012-09-12 18:46:50	
6198	Presence	Zone 0-Presence	Zone 0	Clutter	2012-09-12 18:46:50	
6197	Presence	Zone 0-Presence	Zone 0	Clutter	2012-09-12 18:46:50	
6196	Presence	Zone 0-Presence	Zone 0	Clutter	2012-09-12 18:46:50	
6195	Presence	Zone 0-Presence	Zone 0	Clutter	2012-09-12 18:46:50	
6194	Presence	Zone 0-Presence	Zone 0	Clutter	2012-09-12 18:46:50	

Interactive Map, Mobile Application



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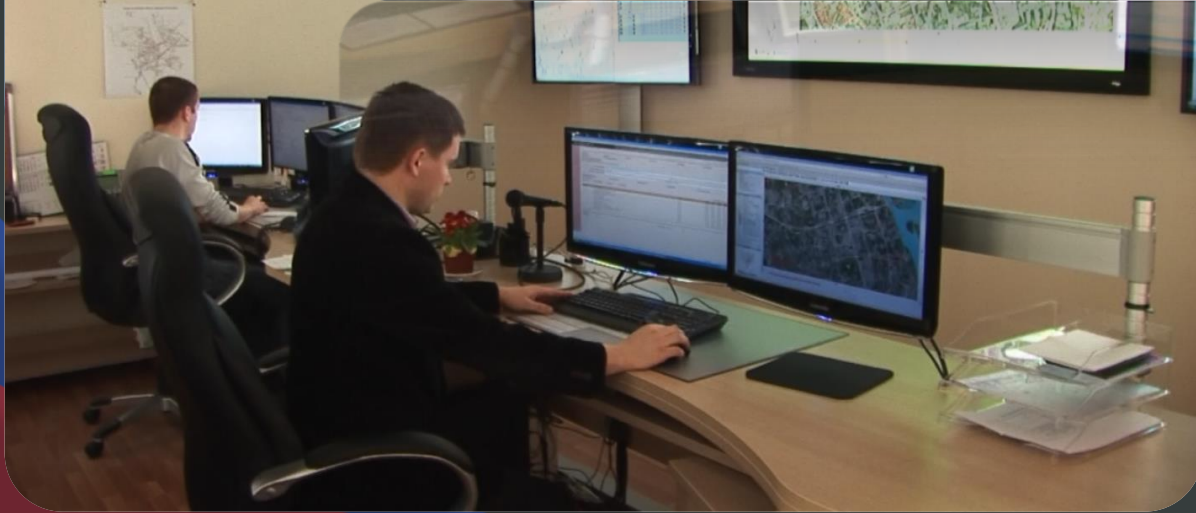
Jelgava City Municipality Operative Information Center



Jelgava City Municipality Operative Information Center



At Work ...



Near Field Communication (NFC)

NFC technology
around ticketing
and payment



NFC standards:



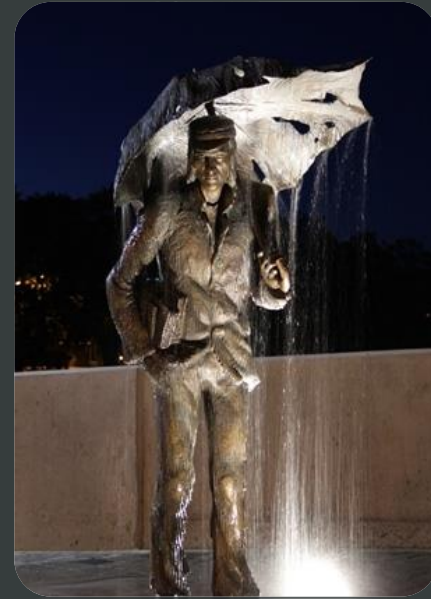
Social Benefits and Payments Administration System



Terminals will be “Mobile Ready”



jelgava
city for development!



Thank You for Attention!