



Smart societies in a Northern Peripheral Region?

Igor Shevchuk,
Swedish-Karelian Business
and Information Centre

VASAB WORKSHOP "SMART SOCIETY IN THE BALTIC SEA REGION"
Sundsvall, January 31st, 2018



Republic of Karelia is definitely not
an economical leader among
Russian regions

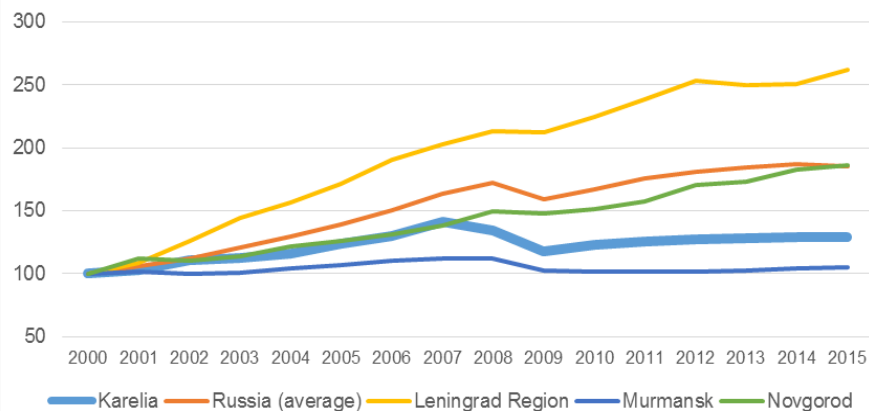


	Karelia	Leningrad Region	Moscow
Population, thsd people (2017)	629,9	1791,9	12 330,1
Gross regional product per capita (PPP), EUR (2015)	11 370	16 330	37 520
Comparable European country	Serbia	Bulgaria	Belgium
GRP share in GNP, %	0,3	1,3	21,7
Average income per capita (PPP), EUR	875	920	2010
Russian Regional Innovation Development Index, place out of 85 (2017)	55	44	2

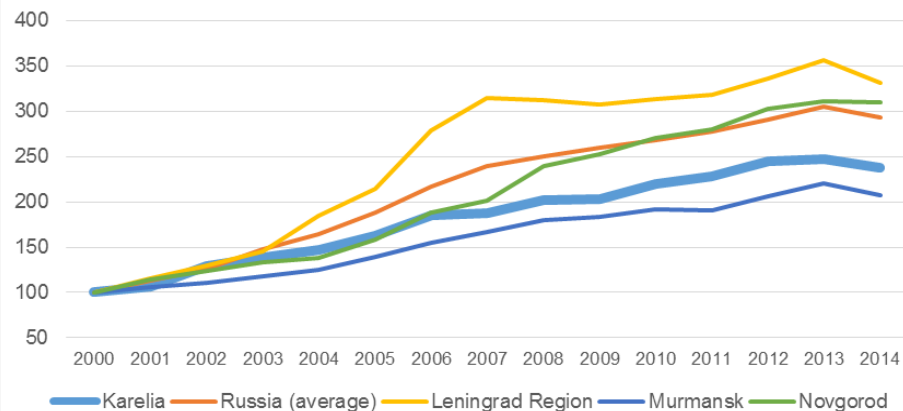


With a stagnant tendency throughout years of Russian economic growth and recent crisis

Real economic growth rate (2000 = 100%)



Real average income growth rate (2000 = 100%)



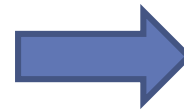
Main constraints: low inner purchasing power, peripheral position in changing allocation of resources, negative market trends in main industries (timber industry, iron ore production)



Creating **smart societies** can enable mechanisms of **economic growth**

Factors increasing acceptability of smart societies:

- High level of human capital
- ✓ Human Development Index (HDI) – Education Index – 20 out of 85
- ✓ Information Society Development (Russian Regional Innovation Development Index) – 6 out of 85
- ✓ 3 state museums, 5 professional theatres, Karelian Research Centre (Russian Academy of science)
- Labor market disruption
- ✓ Transition for market economy not fully implemented
- Demand for institutional change



Long-term goals for smart societies adaptation:

- Creative class
- ✓ Rise of consumption in tertiary sector
- Higher efficiency of public expenses
- ✓ Decreasing burden on regional budget
- Share of international experience
- ✓ Creating “packet” decisions for investment activity



Smart societies ideas under development:

- Karelian Eco-efficient house/"passive" houses construction technologies
- City of Kostomuksha is developing ideas of smart urban electricity supply and city's waste management (Conference, May 17-18, 2018)
- “Prudent hospital” project in Karelia (Federal Ministry of Health and Rosatom State corporation)
- City of Petrozavodsk: high-performance modelling for government/municipal analytical systems (e.g. investments efficiency, urban transport systems) and behavioural based energy efficiency solutions
- Baltic Smart Heating Interreg BSR Programme project application



Smart societies ideas under development:

- Energy-efficiency (solar/bio/... power dev., ee measures in buildings...)
- Waste management (territorial scheme, hot spots eliminations...)
- Water supply and sewage systems (big infrastr. projects...)
- Info-communication systems (multifunctional service centres, IT-solutions everywhere...)
- Smart communal infrastructure (energy supply and consumptions...)
- Education (IT in schools, IT cluster in university...)



[case: behavioral based energy efficiency]



Objective:

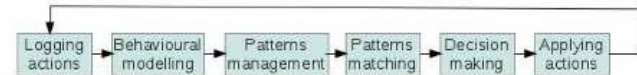
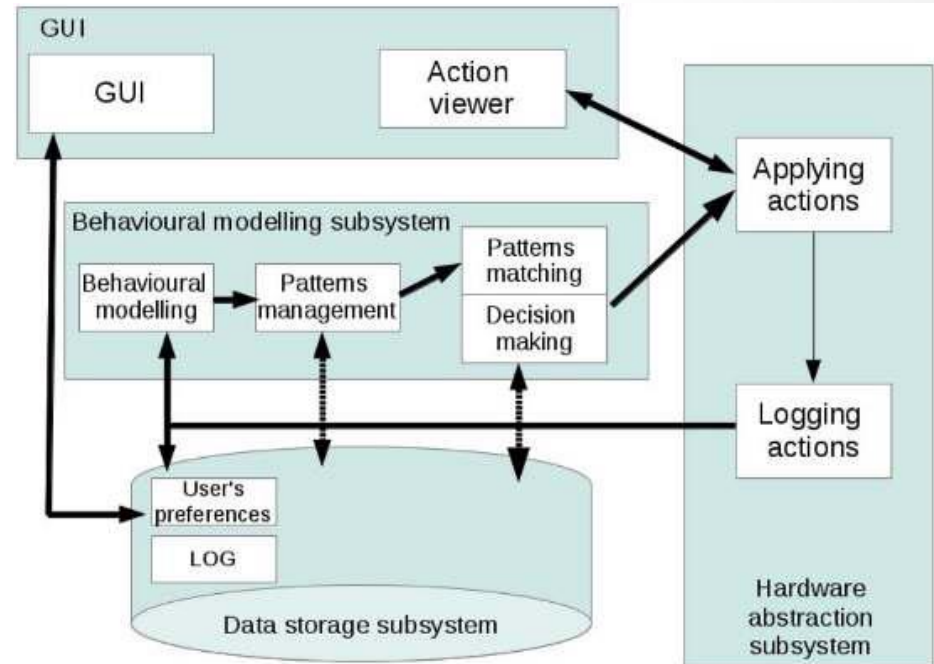
Increase the battery life of a mobile device by device subsystems Management

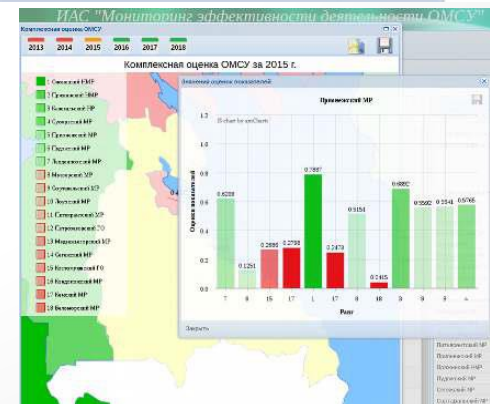
Technologies:

- * user behavior-based approach
- * strong mathematical model
- Android implementation

Result:

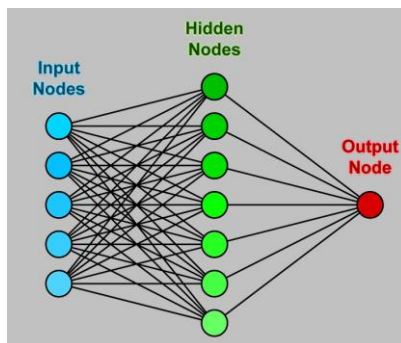
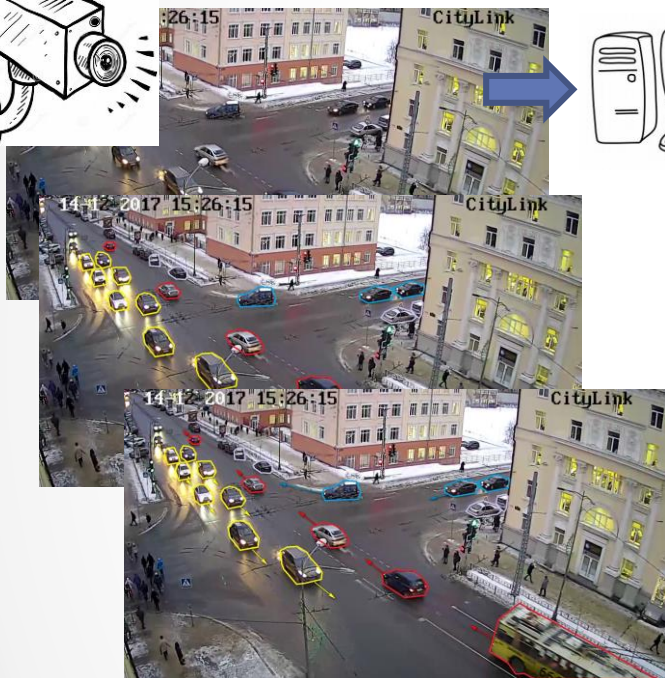
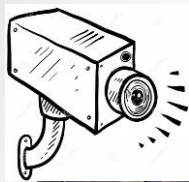
Project successfully complete, IP rights transferred to Samsung



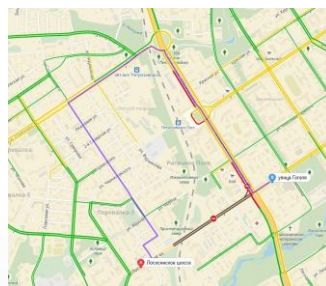




[case: smart transport model of Petrozavodsk]



$$a_0 \frac{d^n y}{dt^n} + a_1 \frac{d^{n-1} y}{dt^{n-1}} + \dots + a_{n-1} \frac{d^2 y}{dt^2} + a_n \frac{dy}{dt} = b_0 \frac{d^m x}{dt^m} + b_1 \frac{d^{m-1} x}{dt^{m-1}} + \dots + b_{m-1} \frac{d^2 x}{dt^2} + b_m \frac{dx}{dt}$$



The screenshot shows the 'Traffic Management' software interface. At the top, there's a menu bar with options like 'File', 'Edit', 'View', 'Tools', 'Help', and 'Window'. Below the menu bar is a toolbar with various icons for file operations and navigation. The main window is divided into two panes. The left pane shows a tree view of the project structure, including 'Project', 'Data', 'Reports', 'Tools', and 'Help'. The right pane displays a table of traffic data. The table has columns for 'Time', 'Location', 'Vehicle Type', 'Speed', 'Direction', and 'Status'. The data is organized into rows, with each row representing a specific traffic event. The table is color-coded, with rows alternating between light blue and light yellow. Below the table, there's a small image of a white car. The status bar at the bottom shows the current time as '10:00' and the location as '100m'.

Time	Location	Vehicle Type	Speed	Direction	Status
10:00	100m	Car	50	North	Normal
10:05	200m	Bus	40	North	Normal
10:10	300m	Truck	30	North	Normal
10:15	400m	Car	60	North	Normal
10:20	500m	Bus	45	North	Normal
10:25	600m	Truck	35	North	Normal
10:30	700m	Car	55	North	Normal
10:35	800m	Bus	42	North	Normal
10:40	900m	Truck	32	North	Normal
10:45	1000m	Car	58	North	Normal
10:50	1100m	Bus	48	North	Normal
10:55	1200m	Truck	38	North	Normal
11:00	1300m	Car	62	North	Normal
11:05	1400m	Bus	50	North	Normal
11:10	1500m	Truck	40	North	Normal
11:15	1600m	Car	65	North	Normal
11:20	1700m	Bus	52	North	Normal
11:25	1800m	Truck	42	North	Normal
11:30	1900m	Car	68	North	Normal
11:35	2000m	Bus	55	North	Normal
11:40	2100m	Truck	45	North	Normal
11:45	2200m	Car	70	North	Normal
11:50	2300m	Bus	58	North	Normal
11:55	2400m	Truck	48	North	Normal
12:00	2500m	Car	72	North	Normal
12:05	2600m	Bus	60	North	Normal
12:10	2700m	Truck	50	North	Normal
12:15	2800m	Car	75	North	Normal
12:20	2900m	Bus	62	North	Normal
12:25	3000m	Truck	52	North	Normal
12:30	3100m	Car	78	North	Normal
12:35	3200m	Bus	65	North	Normal
12:40	3300m	Truck	55	North	Normal
12:45	3400m	Car	80	North	Normal
12:50	3500m	Bus	68	North	Normal
12:55	3600m	Truck	58	North	Normal
13:00	3700m	Car	82	North	Normal
13:05	3800m	Bus	70	North	Normal
13:10	3900m	Truck	60	North	Normal
13:15	4000m	Car	85	North	Normal
13:20	4100m	Bus	72	North	Normal
13:25	4200m	Truck	62	North	Normal
13:30	4300m	Car	88	North	Normal
13:35	4400m	Bus	75	North	Normal
13:40	4500m	Truck	65	North	Normal
13:45	4600m	Car	90	North	Normal
13:50	4700m	Bus	78	North	Normal
13:55	4800m	Truck	68	North	Normal
14:00	4900m	Car	92	North	Normal
14:05	5000m	Bus	80	North	Normal
14:10	5100m	Truck	70	North	Normal
14:15	5200m	Car	95	North	Normal
14:20	5300m	Bus	82	North	Normal
14:25	5400m	Truck	72	North	Normal
14:30	5500m	Car	98	North	Normal
14:35	5600m	Bus	85	North	Normal
14:40	5700m	Truck	75	North	Normal
14:45	5800m	Car	100	North	Normal
14:50	5900m	Bus	88	North	Normal
14:55	6000m	Truck	78	North	Normal
15:00	6100m	Car	102	North	Normal
15:05	6200m	Bus	90	North	Normal
15:10	6300m	Truck	80	North	Normal
15:15	6400m	Car	105	North	Normal
15:20	6500m	Bus	92	North	Normal
15:25	6600m	Truck	82	North	Normal
15:30	6700m	Car	108	North	Normal
15:35	6800m	Bus	95	North	Normal
15:40	6900m	Truck	85	North	Normal
15:45	7000m	Car	110	North	Normal
15:50	7100m	Bus	98	North	Normal
15:55	7200m	Truck	88	North	Normal
16:00	7300m	Car	112	North	Normal
16:05	7400m	Bus	100	North	Normal
16:10	7500m	Truck	90	North	Normal
16:15	7600m	Car	115	North	Normal
16:20	7700m	Bus	102	North	Normal
16:25	7800m	Truck	92	North	Normal
16:30	7900m	Car	118	North	Normal
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16:45	8200m	Car	120	North	Normal
16:50	8300m	Bus	108	North	Normal
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17:10	8700m	Truck	100	North	Normal
17:15	8800m	Car	125	North	Normal
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17:55	9600m	Truck	108	North	Normal
18:00	9700m	Car	132	North	Normal
18:05	9800m	Bus	120	North	Normal
18:10	9900m	Truck	110	North	Normal
18:15	10000m	Car	135	North	Normal
18:20	10100m	Bus	122	North	Normal
18:25	10200m	Truck	112	North	Normal
18:30	10300m	Car	138	North	Normal
18:35	10400m	Bus	125	North	Normal
18:40	10500m	Truck	115	North	Normal
18:45	10600m	Car	140	North	Normal
18:50	10700m	Bus	128	North	Normal
18:55	10800m	Truck	118	North	Normal
19:00	10900m	Car	142	North	Normal
19:05	11000m	Bus	130	North	Normal
19:10	11100m	Truck	120	North	Normal
19:15	11200m	Car	145	North	Normal
19:20	11300m	Bus	132	North	Normal
19:25	11400m	Truck	122	North	Normal
19:30	11500m	Car	148	North	Normal
19:35	11600m	Bus	135	North	Normal
19:40	11700m	Truck	125	North	Normal
19:45	11800m	Car	150	North	Normal
19:50	11900m	Bus	138	North	Normal
19:55	12000m	Truck	128	North	Normal
20:00	12100m	Car	152	North	Normal
20:05	12200m	Bus	140	North	Normal
20:10	12300m	Truck	130	North	Normal
20:15	12400m	Car	155	North	Normal
20:20	12500m	Bus	142	North	Normal
20:25	12600m	Truck	132	North	Normal
20:30	12700m	Car	158	North	Normal
20:35	12800m	Bus	145	North	Normal
20:40	12900m	Truck	135	North	Normal
20:45	13000m	Car	160	North	Normal
20:50	13100m	Bus	148	North	Normal
20:55	13200m	Truck	138	North	Normal
21:00	13300m	Car	162	North	Normal
21:05	13400m	Bus	150	North	Normal
21:10	13500m	Truck	140	North	Normal
21:15	13600m	Car	165	North	Normal
21:20	13700m	Bus	152	North	Normal
21:25	13800m	Truck	142	North	Normal
21:30	13900m	Car	168	North	Normal
21:35	14000m	Bus	155	North	Normal
21:40	14100m	Truck	145	North	Normal
21:45	14200m	Car	170	North	Normal
21:50	14300m	Bus	158	North	Normal
21:55	14400m	Truck	148	North	Normal
22:00	14500m	Car	172	North	Normal
22:05	14600m	Bus	160	North	Normal
22:10	14700m	Truck	150	North	Normal
22:15	14800m	Car	175	North	Normal
22:20	14900m	Bus	162	North	Normal
22:25	15000m	Truck	152	North	Normal
22:30	15100m	Car	178	North	Normal
22:35	15200m	Bus	165	North	Normal
22:40	15300m	Truck	155	North	Normal
22:45	15400m	Car	180	North	Normal
22:50	15500m	Bus	168	North	Normal
22:55	15600m	Truck	158	North	Normal
23:00	15700m	Car	182	North	Normal
23:05	15800m	Bus	170	North	Normal
23:10	15900m	Truck	160	North	Normal
23:15	16000m	Car	185	North	Normal
23:20	16100m	Bus	172	North	Normal
23:25	16200m	Truck	162	North	Normal
23:30	16300m	Car	188	North	Normal
23:35	16400m	Bus	175	North	Normal
23:40	16500m	Truck	165	North	Normal
23:45	16600m	Car	190	North	Normal
23:50	16700m	Bus	178	North	Normal
23:55	16800m	Truck	168	North	Normal
00:00	16900m	Car	192	North	Normal
00:05	17000m	Bus	180	North	Normal
00:10	17100m	Truck	170	North	Normal
00:15	17200m	Car	195	North	Normal
00:20	17300m	Bus	182	North	Normal
00:25	17400m	Truck	172	North	Normal
00:30	17500m	Car	198	North	Normal
00:35	17600m	Bus	185	North	Normal
00:40	17700m	Truck	175	North	Normal
00:45	17800m	Car	200	North	Normal
00:50	17900m	Bus	188	North	Normal
00:55	18000m	Truck	178	North	Normal
01:00	18100m	Car	202	North	Normal
01:05	18200m	Bus	190	North	Normal
01:10	18300m	Truck	180	North	Normal
01:15	18400m	Car	205	North	Normal
01:20	18500m	Bus	192	North	Normal
01:25	18600m	Truck	182	North	Normal
01:30	18700m	Car	208	North	Normal
01:35	18800m	Bus	195	North	Normal
01:40	18900m	Truck	185	North	Normal
01:45	19000m	Car	210	North	Normal
01:50	19100m	Bus	198	North	Normal
01:55	19200m	Truck	188	North	Normal



[digital democracy]

Анализ

Хорошая демонстрация [06.11.2017 – 23.01.2018]

Период для анализа:

Выбор периода



опрос проводится с 6 ноября 2017

Анализ

Укажите ваш пол



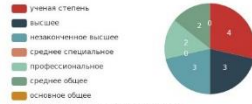
Мужской
Женский

Вы исповедуете какую-нибудь религию?



Да
Нет

Какой у Вас уровень образования?

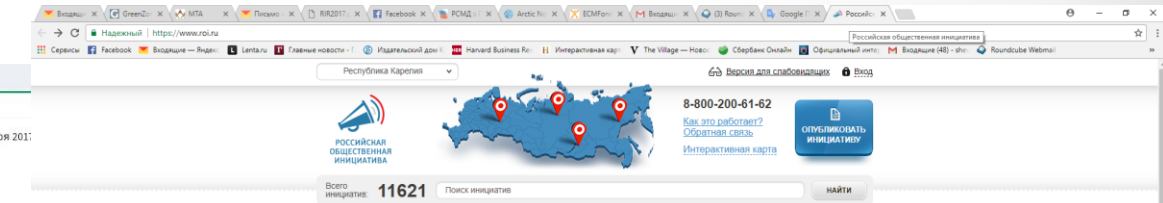


Учащаясь
Высшее
Незаконченное высшее
Среднее специальное
Среднее общее
Основное общее

Какой религии Вы себя относите?

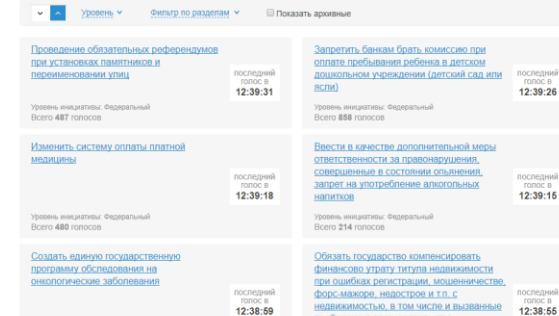


Православные
Католики
Протестанты
Мусульмане



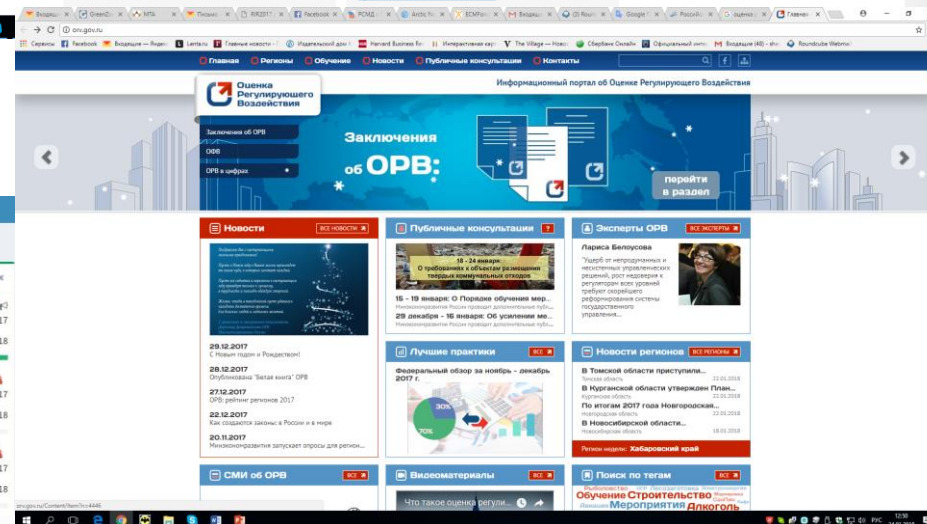
Инициативы на голосовании

Живая лента / результаты / все / голосование 2185 инициатив



[regulatory impact assessment]

Survey			
Домашняя	Опросы	Редактор	
Опросы			
Проведенные опросы			
Хорошая демонстрация	создан 30.10.2017	проводится с 06.11.2017	
	просмотр с 01.11.2017	проводится по 04.12.2017	
Активные опросы			
ОПРОС ОТ ПЕТРА	создан 13.11.2017	проводится с 16.11.2017	
	просмотр с 14.11.2017	проводится по 04.02.2018	
ОЦЕНКА ОЖИДАНИЯ ОТ ПРОДУКТА	создан 01.07.2017	проводится с 01.09.2017	
	просмотр с 01.08.2017	проводится по 01.07.2018	
ОТНОШЕНИЕ К ЭКОЛОГИИ	создан 01.07.2017	проводится с 01.09.2017	
	просмотр с 01.08.2017	проводится по 01.07.2018	

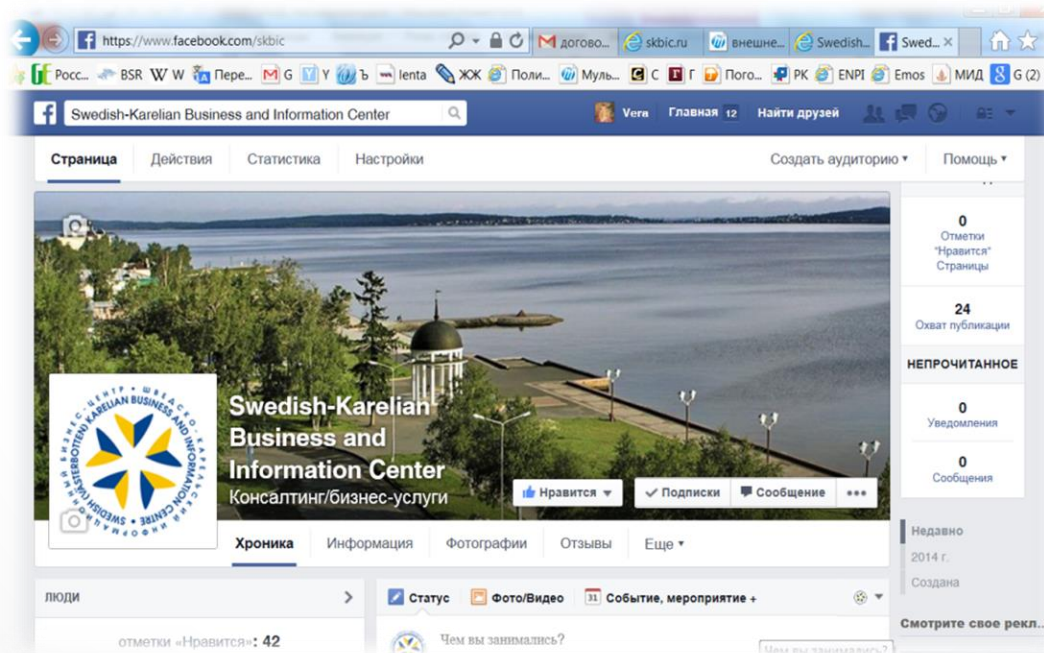




Swedish-Karelian Business and Information Centre

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<https://www.facebook.com/skbic>



e-mail: igor.shevchuk@skbic.ru

tel. +7 8142 76 92 57

mob. +7 911 404 67 70

Igor Shevchuk,

Executive director

Thank you!