Lesnoy Dozor

We defend forest from fires

Limited liability company "DSC",
Nizhegorodskiy Innovation Business Incubator,
Nizhny Novgorod, Russia.

About Us: the History & the Team

Limited Liability Company **DSC** was founded in the city of Nizhny Novgorod in 2008. The company is a resident of Nizhegorodskiy Innovation Business Incubator and IT-park “Ankudinovka”. The teams develop, sell and implement the early warning system for forest fires **“Lesnoy Dozor”** (“Forest/Wood Watch”).

- Ivan Shishalov – Managing Director and the architect of the project. Graduated Lobachevsky State University of Nizhny Novgorod with honors. Gained professional experience in *Intel*, *Wireless Net Lab* and *Video City*. Underwent a training in Intel Labs Berkeley. A patent holder for 4 inventions and an author of more than 20 scientific publications.

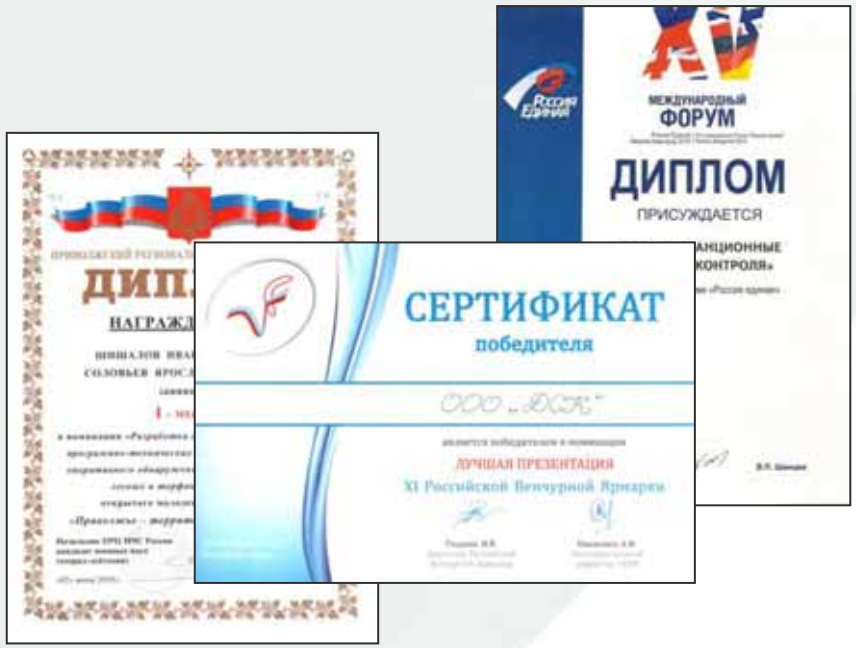
- Andrey Filimonov - Director of Software Engineering. PhD in the field of applied mathematics. A scientific associate at Lobachevsky National Research University of Nizhny Novgorod. Worked in international companies *Teleca* and *Telma* more than 8 years as Developer, SW engineer and Senior Project Manager

- Yaroslav Solovyov - Technical Director. Graduated Lobachevsky National Research University of Nizhny Novgorod (Radiophysical Department). Obtained experience in *Encotes*, *Video City* and *Tele-M* as Developer and then as Project Manager.

- Nikolay Kochnev – Marketing and PR Expert. Graduated Linguistics University of Nizhny Novgorod with honors. Underwent a training at Cologne University of Applied Sciences. Prize winner/ winner of *Russian*, *UNICEF* and *British Council* journalistic contests.

About Us: Achievements

- **2009:** the most effective innovation project of the forum “United Russia” (Nizhniy Novgorod).
- **2010:** the winner of Federal innovation companies support program (Russia).
- **2010:** the winner of Russian Venture Fair.



- **2011:** the winner of the contest “Start-Up of the Year”. The best socially-significant project in Russia.
- **2011:** the silver medal of “Exhibition of Inventions Geneva”.
- **2011:** the participant of exhibition “Scientific and Technical Achievements of Russia” in Madrid.
- **2011:** ITU TELECOM WORLD 2011 participant (Geneva).

About Us: Achievements

On the 4th of May 2011 project “Lesnoy Dozor” took part in “Innovation and Advanced Manufacturing Sciences Days of EMERCOM of Russia” where it was presented to **Sergey Shoigu** (Russian Minister of Civil Defence, Emergencies and Disaster Relief).

On the 7th of July 2011 “Lesnoy Dozor” was publicly supported by **President Medvedev** at the official meeting with International Forum Seliger participants.

About Us: Partners

Our partners are the leading Russian and international firms in various market segments:

- ✓ mobile operators;
- ✓ monitoring equipment manufacturers;
- ✓ some other developers of early warning systems for forest fires.

DSC partners:

- Public Company **Tele2**, Tver Branch.
- FSUE **Russian Television and Radio Broadcasting Network**.
- JSC **Rostelecom**.
- JSC **Mobile TeleSystems** (“MTS”), Volga Macroregion.
- JSC **MegaFon**, Central Branch.
- CC **NCC**.
- **Axis Communications** AB.
- LLC **SB – Legion**.
- JSC The Central Research Institute **Cyclone**.
- JSC Research Institute **Rastr**.
- **ScanEx** Research and Development Center.
- Federal Goverment Agency **Avialesoohrana**.
- LLC INKOM

МТС

TELE2 ПРОСТО ДЕШЕВЛЕ

НАША СОТОВАЯ СВЯЗЬ НСС

МегаФон

ОАО ЦНИИ «ЦИКЛОН»

РАСТР

БГ+

ИНКОМ ГРУППА КОМПАНИЙ

РТРС ТЕЛЕРАДИОСЕТЬ РОССИИ

AXIS COMMUNICATIONS AUTHORISED PARTNER

СканЭкс инженерно-технологический центр

НИЖЕГОРОДСКИЙ ИННОВАЦИОННЫЙ БИЗНЕС-ИНКУБАТОР НИБИ

Авиалесоохрана

Ростелеком

About Us: Where & What for?

Our system is used in Russia, though it could be applied practically in any part of the world (for example in Europe).

Statistics show that the average number of forest fires occurred in the European Union between 1990 and 2009 is about 75 000. As for the average yearly burnt area it is about 470 000 hectares (almost twice as big as the area of Luxembourg).

Forest Fires in the EU, on the average (between 1990 and 2009)	
Burnt area (ha)	468 029
Number of forest fires	76 382

Some countries could be a good example how people should protect forest. Germany is one of them (less than **0,5 %** of the burnt EU area). But even in Germany the average forest fire damage is about **2,2 million euro** a year.

Our Customers: Regions

The early warning system for forest fires **“Lesnoy Dozor”** is generally bought by state and private companies in 12 Russian and Byelorussian regions.

The system’s been implemented in

1. Nyzhniy Novgorod Region.
2. Tver Region.
3. Respublika Komi.
4. Amur Region.
5. Respublika Mariy El.
6. Moscow Region.
7. Vologda Region.
8. Kursk Region.
9. Kemerovo Region.
10. Tambov Region
11. Kaliningrad Region.
12. Homyel‘ Region (Byelorussia)

Today negotiations are hold with

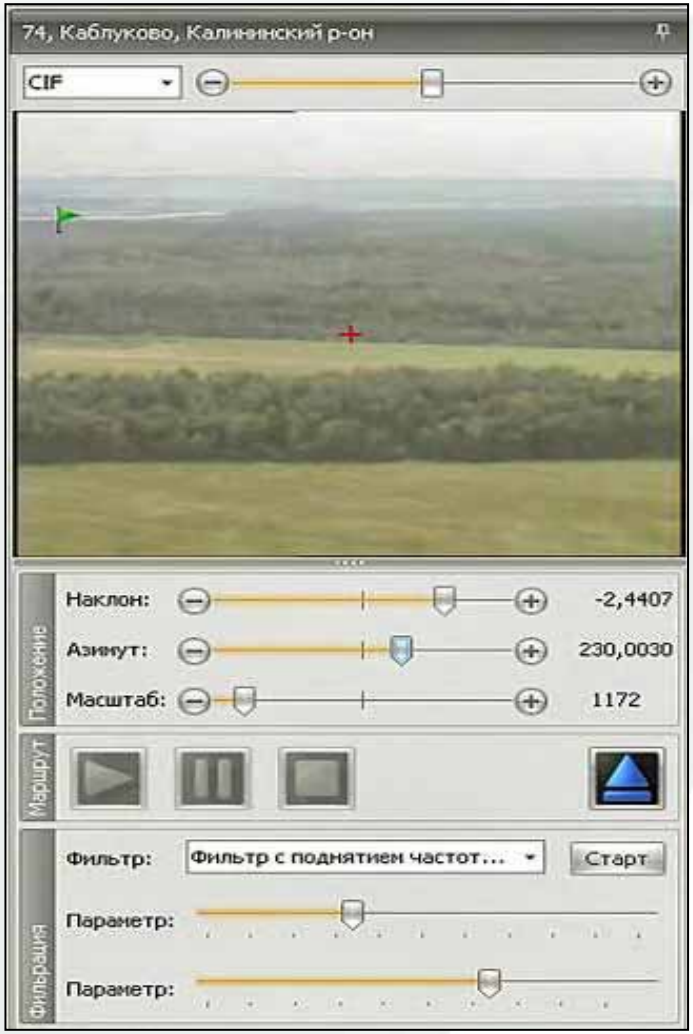
1. Ukraine
2. Belarus
3. Kazakhstan
4. Russian Federation:

Tomsk Region, Respublika Buryatiya, Smolensk Oblast, Kaliningrad Oblast, Respublika Kareliya, etc.

The Product: System “Lesnoy Dozor”

Today the main product of the company is **“Lesnoy Dozor”**. It is an early warning system for forest fires. The system is also good at plotting fires’ coordinates. For this purpose any towers, modern equipment and own software are used. All this helps “Lesnoy Dozor” to find forest fires efficiently.

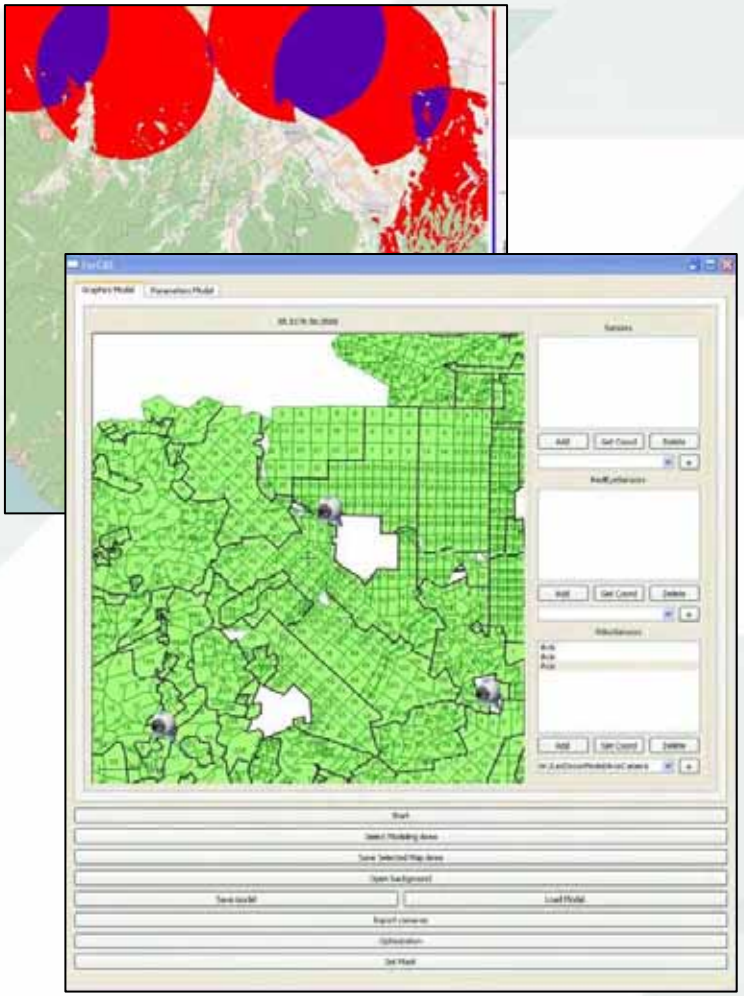
The Product: System “Lesnoy Dozor”



The system operation principle is rather simple. Special surveillance equipment (video cameras, thermal imagers, infrared cameras, etc.) is installed on various towers. These sensors observe the adjacent zone and transmit the video to control centers at once. As soon as forest fires are detected the control center operator is warned by the system; at the same time the video and the coordinates are showed on the display of his computer. After that the operator makes the final decision.

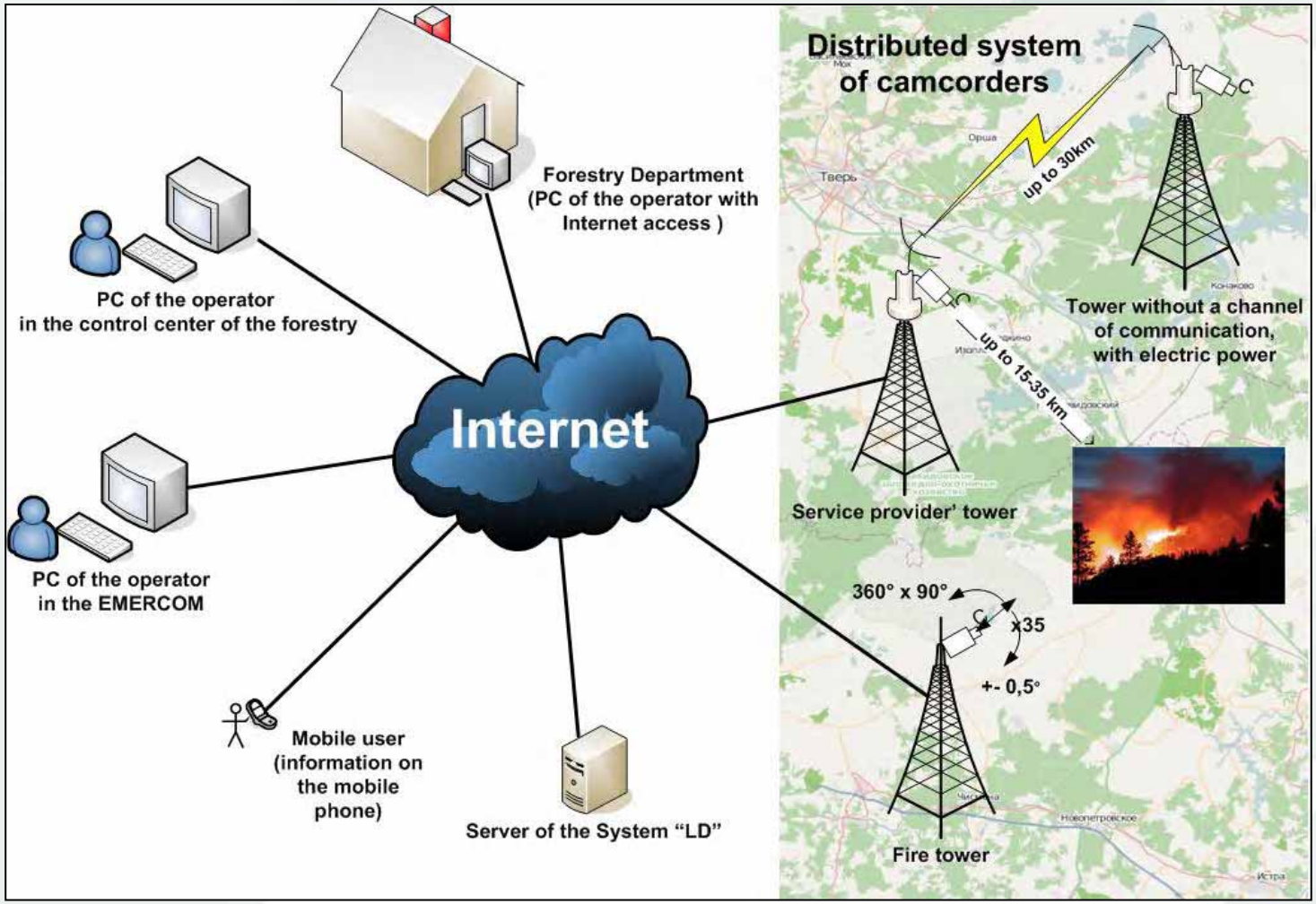
The Product: System “Lesnoy Dozor”

None of the modern forest fires detection systems can be deployed without preliminary design. That’s why our specialists have developed **ForCAS** — methodology and a set of tools in order to configure "Lesnoy Dozor" system to satisfy customers’ wants. ForCAS (Forest Coverage Analysis System) allows customers to estimate “Lesnoy Dozor” functionality in general as well as its specific characteristics and correct them in a good time if needed.



The Product: System “Lesnoy Dozor”

The scheme of the system:



The Product: the System's Technologies

- Surveillance equipment
  - Camcorders
  - Infrared cameras
  - Infrared imagers
- Communication channels (optical, radio, wire, GSM)
- Computer technologies
  - Client-server applications
  - IP video surveillance
  - Computer vision
  - Geoinformation system technologies

The Product: the Hardware Advantages

Compatibility

"Lesnoy Dozor" is technically compatible with the surveillance equipment of any known manufacturers.

Customized attention

The surveillance equipment is selected by our company. The customers' wishes are taken into consideration.

Process automation

Dangerous objects (smoke, fire) are detected by "Lesnoy Dozor" automatically. The control center operator is warned by the system at once.

Control centers

A customer can decide himself where and how many control centers will be deployed.

The Product: the Information Advantages

Coordinates setting

It is possible to plot fire coordinates with the help of only one sensor.

Data integration

Other terrestrial and satellite information might be integrated into "Lesnoy Dozor" so the clients could use it.

Maps

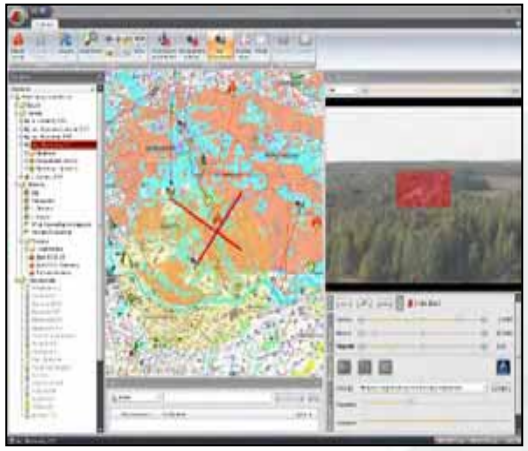
Vector and raster maps are used in the system. The maps could be chosen by our company or the client himself.

Access from a mobile phone

The access to "Lesnoy Dozor" software is possible either from an ordinary computer or even a mobile/cell phone.

The Product: the System Features

- Coverage range detection:
  within 30 km.
- Direction detection accuracy:
  0,5 degree.
- Detection accuracy:
  +/- 250 m.
- Time to alert:
  approx. 10 minutes.
- Number of sensors that could be controlled by one operator:
  up to15 (up to 50 in the long term).
- Number of system controlled surveillance points:
  without limit.



The Product: Why Today?

The number of cellular towers has grown up rapidly, which means that their coverage area has increased.

Digital technology costs have decreased. At the same time DT is used almost everywhere.

Shortage of manpower and manpower costs have raised.

Surveillance equipment has decreased. (camcorders, infrared cameras, infrared imagers, etc.). Moreover, technical features have improved.

Telecommunication equipment costs have gone down. Therefore communication service have fallen in price (the Internet price in particular).

The Product: + Service & Implementation

In general we are able to do everything ourselves.

System engineering & equipment selection by means of our own simulation program. — DSC

The customers' wishes, infrastructure, lay of land, different kinds equipment and so on are taken into consideration.

Procurement and installation of equipment, balancing and commissioning. — DSC

Maintenance of the system. — DSC

"Lesnoy Dozor" software SaaS sell. — DSC

SaaS is a delivery model, in which we develop and upgrade software, provide our clients with access to it via the Internet and give advice when they need help.

The Product: + Service & Implementation

But we think that it is better to cooperate with partners.
For example, in this way:

System engineering & equipment selection by means of our own simulation program.

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The Partners: with Whom & What for?

We are looking for partners/investors to distribute early warning system for forest fires **“Lesnoy Dozor”**.

Our partners

System integrators	Enhance their service due to our system implementation.
Telecommunication companies, statements and providers	Monetize infrastructure investments.
Venture funds	Invest money in IT-projects in the scope of ecology and security.
Service yards/business incubators	Implement the innovative project.

The Partners: Forms of Partnership…

… with a partner.

The system “Lesnoy Dozor” is promoted and sold in certain regions by a partner, who receives a fee. At the same time he installs, services and sets the system into action.

… with an investor.

He invests money, gains profit and tries to find a partner, who will adapt the system to the requirements of a certain market.

The Partners: Forms of Partnership

Share in our company

Representative office

Cooperation agreements

Joint enterprise

About Us: Contact Information

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- Marketing and PR Expert
    - Nikolay Kochnev - **kochnev@lesdozor.ru**

“Lesnoy Dozor” – We Defend Forest From Fires!