

# Team Information

Picture of vehicle:



Name of vehicle:

Vortex-K



Picture of team leader:

Name of team leader:

Ass. Prof. Dmitry Bagayev

Team Name:

Red Eyes

Team E-mail:

dmitrybag@gmail.com

Website:

<http://redehyes.jcod.ru>, <http://kpribor.edu.ru>

Location:

Kovrov (Vladimir Region)

Institution/Company:

Kovrov State Technological Academy

Address:

601910, Vladimir Region, town Kovrov,  
str. Mayakovskogo, 19

Telephone:

+7 (49232) 32160, +7 (49232) 32099

Fax:

+7 (49232) 32160

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## Team Description:

The «Red Eyes» Team is Kovrov State Technological Academy entry into the ELROB-2012. The team is largely composed of faculty and students from Kovrov State Technological Academy School of Engineering, under the leadership of Ass. Prof. Dmitry Bagayev (Head of the Science Laboratory «IT in Robotics») and chief engineer Dmitry Lapygin (Research Associate of the Science Laboratory «IT in Robotics»). The «Red Eyes» Team is supported by a consortium of corporations and private donors located in the Russia Area and elsewhere.

Our machine is called «Vortex-K». «Vortex-K» was created based on the ATV and includes on-board computers, system of motor control, control system sensors, vision system, GPS. Our vehicle work under control of on board computer system. All processing takes place using software developed in the Science Laboratory «IT in Robotics». During movement, the environment is perceived through two laser range finders, a stereo of camera, and monocular vision system. All sensors acquire environment data at speeds of 10 to 100 Hz. Map and report are included in the 10 Hz, which allows «Vortex-K», to avoid collisions with obstacles in real time as you go along ELROB-2012 route.

The development of the Vortex-K system began in December 2011. Team «Vortex-K» winner to Russia's first race of robotic avtomobiley «Robokross-2010».

## Sponsors:

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## Selection of scenario:

- |                                    |    |
|------------------------------------|----|
| 1. Reconnaissance and surveillance | X  |
| 2. Camp security                   | -- |
| 3. Transport                       | -- |
| 4. Mule                            | X  |
| 5. EOD                             | -- |