

# Counter-terrorism systems

Что есть терроризм  
в глобальном плане это основной  
инструмент геополитики, способ  
сохранения доминирования или

## PSYCHOPHYSIOLOGICAL SYSTEM

помощи на внешние факторы  
воздействия

## «BOSLAB-SPHERE»

цели поражения систем т.су-  
дана в аэроуправления

## FOR SUPPORT OF PROFESSIONAL ACTIVITY

Программная ана-  
лизаторы антипани-  
ки  
Выявление атипич-  
ного поведения или  
подозрительных  
объектов  
Проактивная корреля-  
ционная защита  
Анализ, выявление и  
сопоставление  
данных в информаци-  
онных потоках соци-  
альных и сенсорных  
сетей (аудио-видео  
контент анализ,  
технический мони-  
торинг, корреляция  
данных и моделей)  
Виртуализация ре-  
альности (4D)  
Функционирование  
в объемной модели  
объекта  
Использование ан-  
тропометрических  
данных для распоз-  
навания субъектов  
(лиц, комплекции,  
кинематики движе-  
ния, драгпредсказа-  
ние)

## The main terror threats & forms

- What is driving the terrorism
  - Globally it is among the key geopolitical tools, the way to preserve domination or change the centers of influence and force
  - Locally appears as struggle for power and privileges often affected by external political or economical factors
  - Rudimental protests against first two forms
- Main trend – diversification of weapons, cyberspace utilization to undermine or defeat governments and financial systems

## Typical counteraction

- Toughening the legislation framework
- Human rights and freedoms limitation
- New proactive technologies deployment
  - Total video surveillance (cognitive, behavioral)
  - Inspection, biometrical identification systems
  - Semantic fishing and content extraction in public networks
  - Complex monitoring of the critical objects and infrastructures

# Key limitations and problems

## Political, Social and Economic

- The basic sources and roots of terrorism are being preserved

## Administrative and Technological

- Bureaucratic, thus ineffective mechanisms of interagency collaboration (rescue, securities, military)
- Government cutting financing of police & security training, security sector is privatized
- Weakness of cognitive, semantic approaches in information retrieval and interpretation
- Inability of security staff to adopt disintegrated technologies and poorly structured information
- Lack of motivation and vocational training
- Always “running after...” the criminals

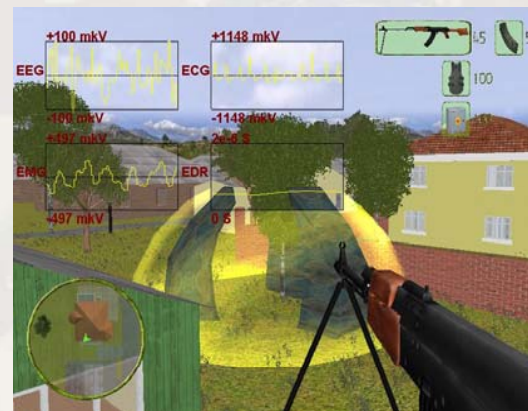
## Package of solutions by Tradition & Partners

- Total video surveillance (cognitive, behavioral)
  - Antipanic systems
  - Recognition of atypical people behavior and potentially dangerous objects
- Inspection, biometrical identification systems
- Semantic fishing and content extraction in public networks
  - Correlation analysis and cognitive prediction of risks based on semantically retrieved data from social public nets and sensor networks (monitoring, CCTV etc.)
- Complex monitoring and tracking of the critical objects and infrastructures
  - solutions for mobile and fixed objects, infrastructures and environments utilizing GNSS /GPS, LPS and Internet technologies
- Virtual & Augmented reality simulations (4D)
  - Spatial models with time management with retrospective and predictive operation
  - Spatial Video surveillance and anthropometry based modeling for person recognition
  - Virtual and augmented reality training complexes (locomotion VirtuSphere platform with 6DOF) for rescue and anti-terror forces
- Dispatch & situational awareness centres
  - Critical object monitoring & forecasting based on the analysis of incoming data
  - Modeling of management decision-making consequences
  - Expert estimate of the decisions made and decision optimization
  - Crisis management

The target of technological solutions is to build the systems of **counter terrorism** that can help intelligently & proactively counteract public terror threats.

# VirtuSphere Training Complex

VirtuSphere™ is a complex platform which provides effective immersion to the virtual reality by producing real-life feelings (physical and emotional) depending upon the simulated environment in cyberspace. It allows individuals and groups to workout the quasi-real simulated situations. The system can provide biological feedback for a trainee control by measuring ECG, EMG and other physical and psychological parameters using the BOSLAB™ interface.



## VirtuSphere Training Complex

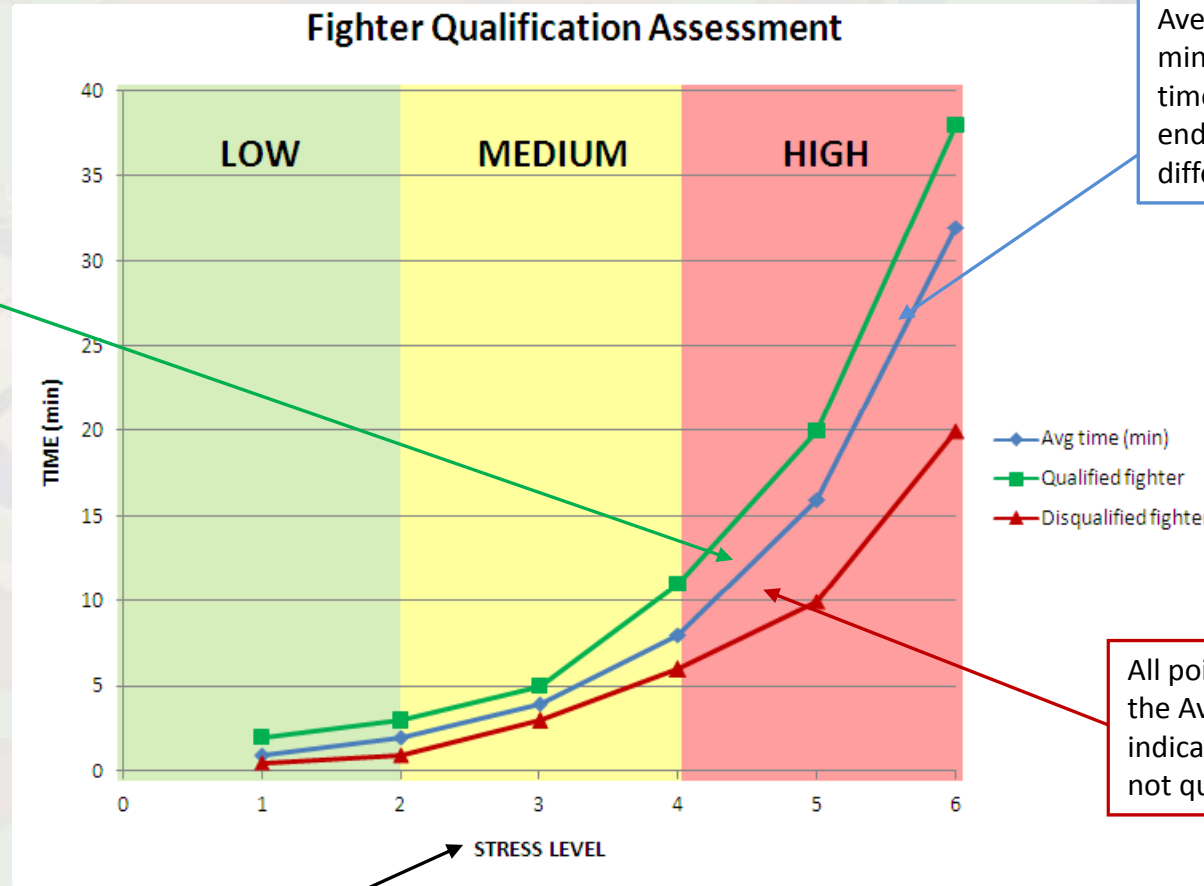
Special application of BOSLAB™ interface allowed to create an integrated BOSLAB-SPHERE system for **diagnosing the psycho physiological condition** by conducting stress-tests and measures of brain, heart & muscles activity and frequency of breathing. Upon specific knowledge extraction the system allows to **conduct training of main psycho physiological qualities** necessary in many professional activities or rehabilitation, such as:

- optimizing frequency of breathing for concentration and durability
- reduction of muscular tension;
- normalization of cardio rhythms;
- control of peripheral temperature;
- learning relaxation and recovery methods;
- development of other self-control skills;



Based on the BOSLAB-SPHERE system, an expert system for assessing fighter (trainee) qualification for a particular task, mission can be created.

All points falling above the Avg time line indicate the fighter qualifies for the task



Average time is the minimum desired time of the fighter enduring stress of different levels.

All points falling below the Avg time line indicate the fighter does not qualify for the task

Stress level is calculated based on the physical and psychological parameters measured (a weighted sum of measures) through the BOSLAB™ interface of the person in training. Stress level is divided into 3 segments of allowable stress.

# VirtuSphere Training Complex

For **professional training** as well as **entertainment purposes**, Virtuspheres can be organized into a group independent of their place of location and provide perfect abilities for collective interaction, competitions and trainings. The company currently provides the multi-trainee combat simulator with situation awareness control tools for antiterrorism and police squads 's training. Entertainment version for theme parks and recreation zones also could be supplied.



*Fighter's view of terrain, weapon choice*



*Commander's view of operations & troops dislocation*

Custom order requirements and high-precision model of a desired landscape could be rapidly met with the help of GeoMan™ (Virtual & Augmented Reality simulation tool for 4D worlds creation & complex simulations) and tactical engine training possibilities.



# Thank you for your time

We're open for cooperation proposals



[panfilov@tradition.ru](mailto:panfilov@tradition.ru)

[www.tradition.ru](http://www.tradition.ru)

General Director of Tradition R&D  
firm

*Sources used: visrtusphere.com, cnews.ru, secnews.ru and some other information sources.*