



ENGINEERING
TECHNOLOGIES

GROUP OF COMPANIES

COMPANY PROFILE

www.esc-center.ru

ABOUT THE GROUP



«**Engineering technologies**»
– a group of R&D/Engineering companies that produce innovative products in various fields - from medicine to cybersecurity and distribute technologies worldwide.



Engineering technologies in numbers:

140

engineers

6

offices in the world

20

projects

3 principles of «Engineering Technologies» group

Fundamental technologies — unique products

On the basis of our own research and fundamental research carried out by leading science centers we develop our unique products, gadgets and software.

White Label Principle



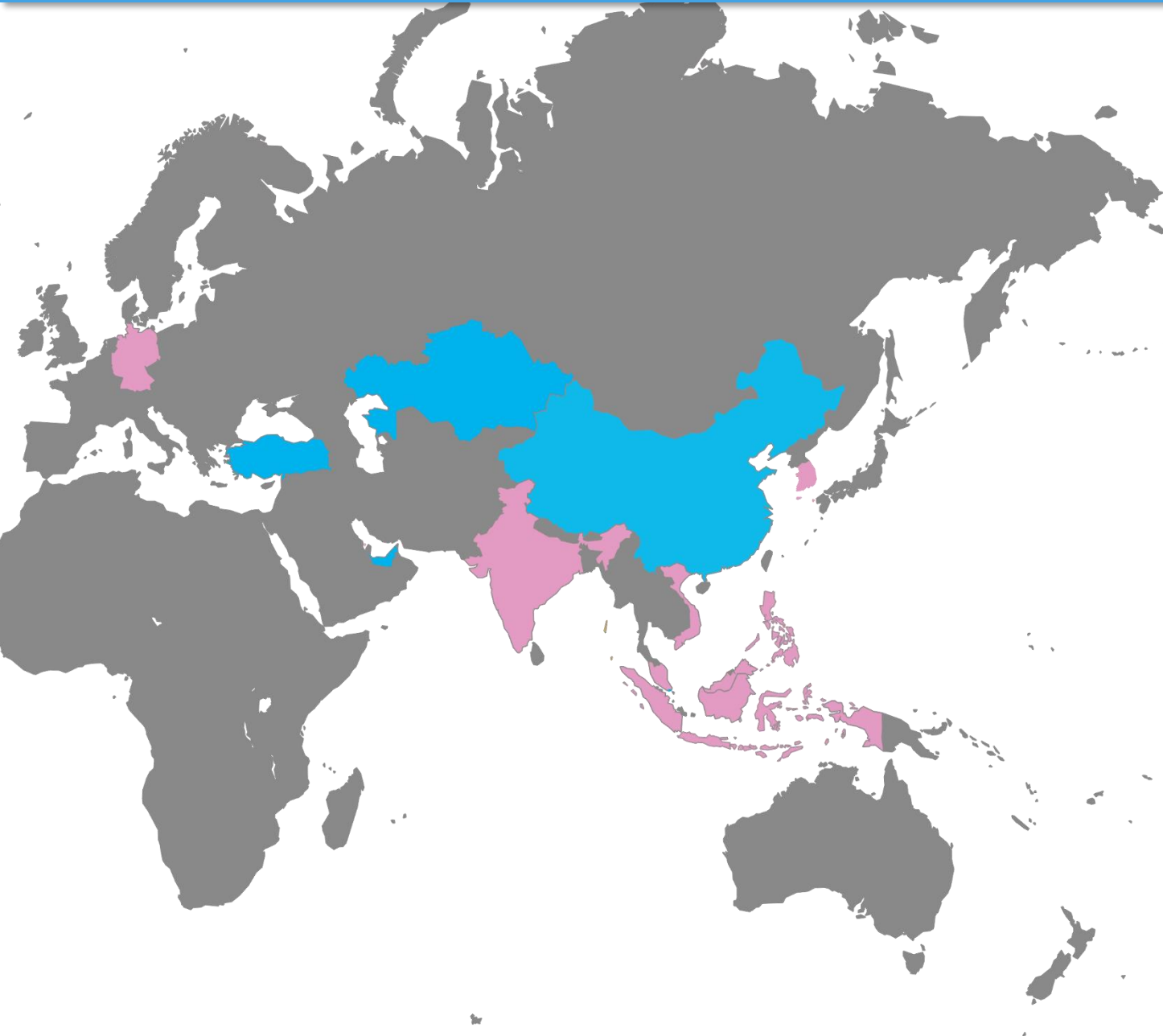
We work under the labels of major brands, concluding contracts with famous companies using Whitelabel (WL) concept: we create a product and release it immediately all over the world under the famous brand. This is how we reduce time for markets penetration and advertising costs.

Sold all over the world



The group is focused on intensive world markets penetration through technology transfer. We do not sell abroad. We create local production grounds and work under local brands.

INTERNATIONAL ACTIVITY



ESC offices:

- | | |
|--|--|
|  Turkey |  Kazakhstan |
|  China |  Singapore |
|  United Arab Emirates | |

ESC representatives offices:

- | | |
|---|---|
|  Germany |  Vietnam |
|  Bahrain |  Malaysia |
|  Hong Kong |  Indonesia |
|  India |  South Korea |
|  Philippines | |



OUR PROJECTS

BUSINESS PROFILE

MEDICINE



CYBER
SECURITY



SMART
DEVICES



IT





MEDICINE





REMOTE
LABORATORY
DIAGNOSTICS



CURRENT PROBLEMS



There are no
specialized labs in the
remote areas



Difficulty & high
costs of existing
shipping way of
biological samples



Painful procedure of
drawing blood from
the veins

OUR SOLUTION

Innovative method to collect blood without pain





HOW IT WORKS?



Take a blood sample
yourself using a set



Send a dried blood
sample to the labs by
post service or a courier



Get analysis results by
e-mail



IMPLEMENTATIONS

MEDICAL INDUSTRY & PHARMACY



Remote screening of population



Lab-diagnostic tool for mass preventive medical examination



Pre-clinical studies of new pharma

DATA POOLS



Creation of data pools with biomaterials (including genetic data)



Storing all information in the country on country-made strips

FARM & AGRICULTURE



Detection and prevention of the most dangerous animal diseases' extension

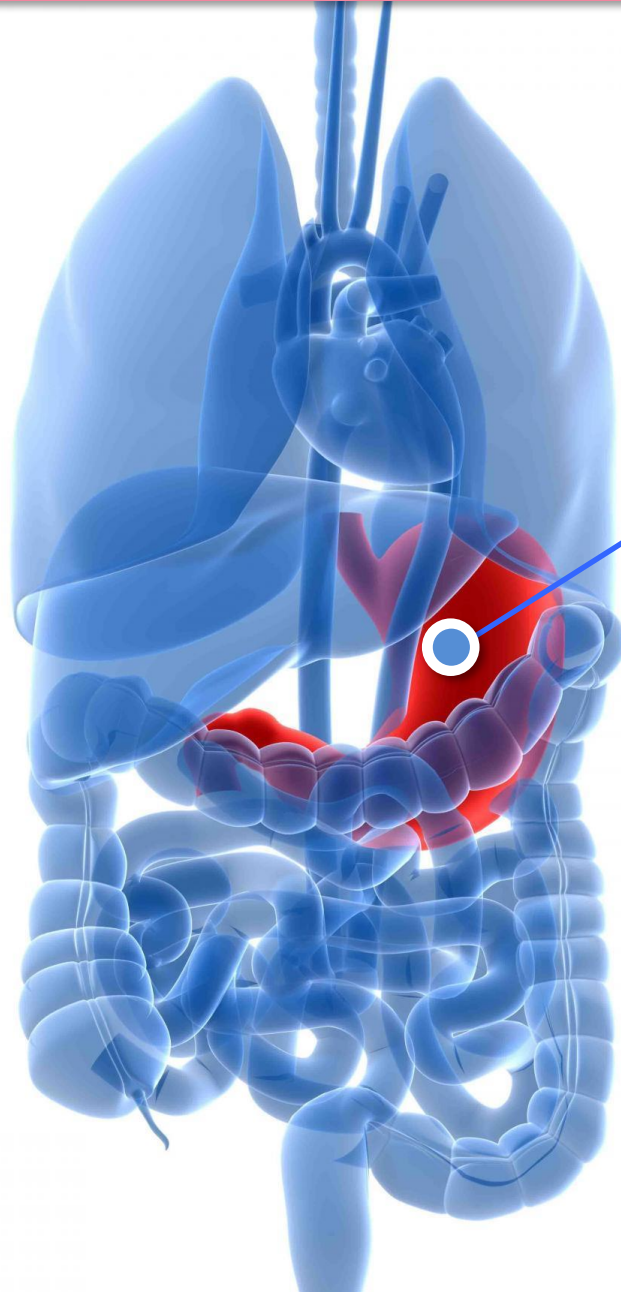


ENDOSCOPY CAPSULE



United States Patent claim № US 14222637

SYSTEM AND METHOD OF AUTOMATIC PROCESSING OF IMAGES
FROM AN AUTONOMOUS ENDOSCOPIC CAPSULE



System for the diagnostic of gastrointestinal tract diseases :
miniature disposable capsule with built-in video camera, data transmitter and software.

ADVANTAGES



Painless and effective procedure



Special software for semi-automatic analysis
saves time of specialists' work

HOW IT WORKS?



The patient swallows a tiny capsule which naturally goes through all the digestive tract of the patient and makes images



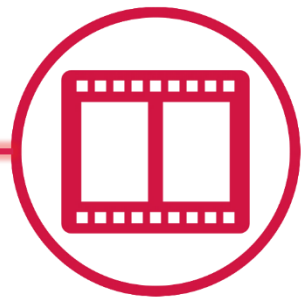
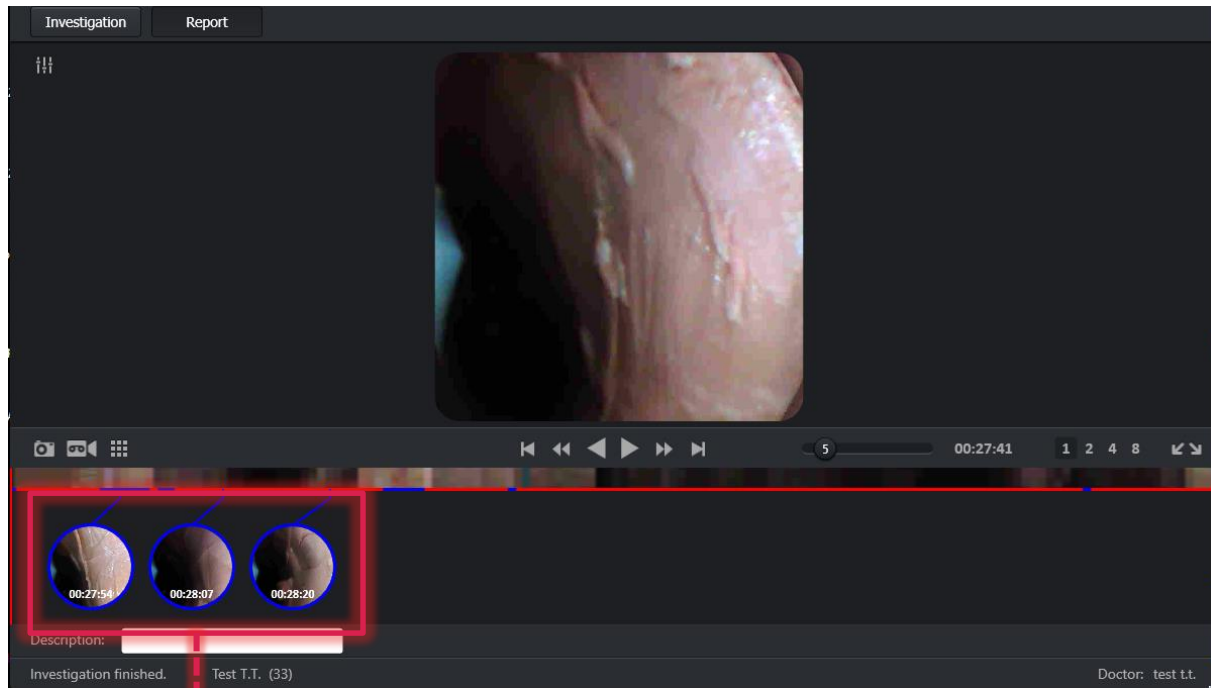
Capsule wirelessly transmits the image to the recording device



All received images are transmitted to the software installed on a PC via USB

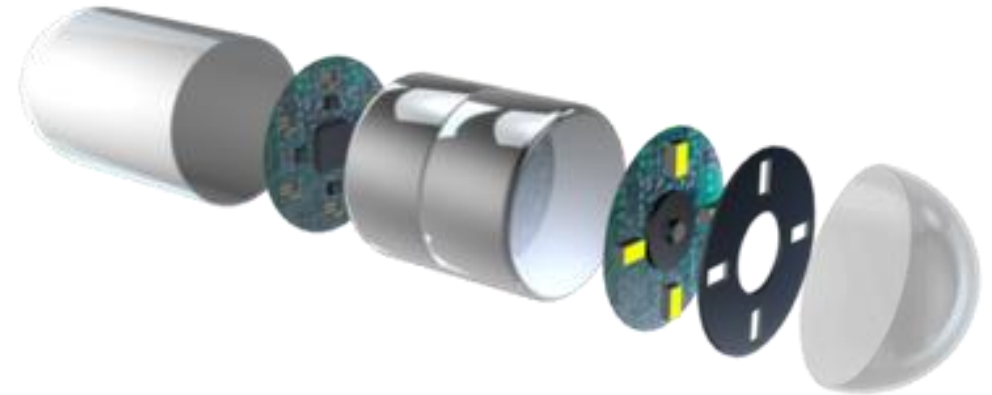


Software interface example

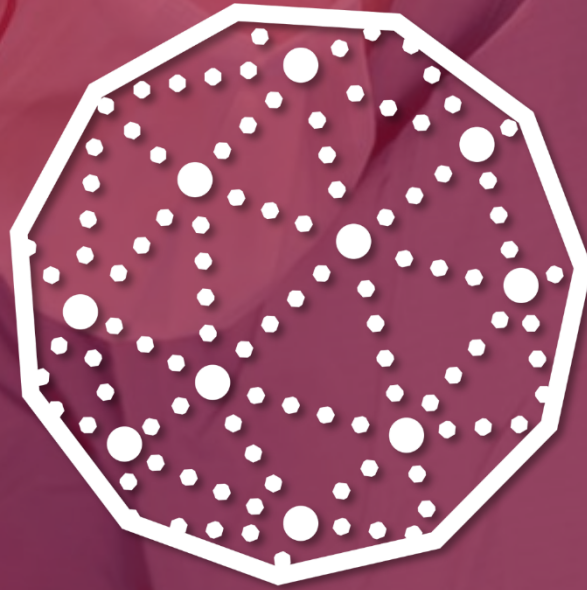


Displaying
thumbnail photos in
the scroll bar for a
quick orientation of
the physician

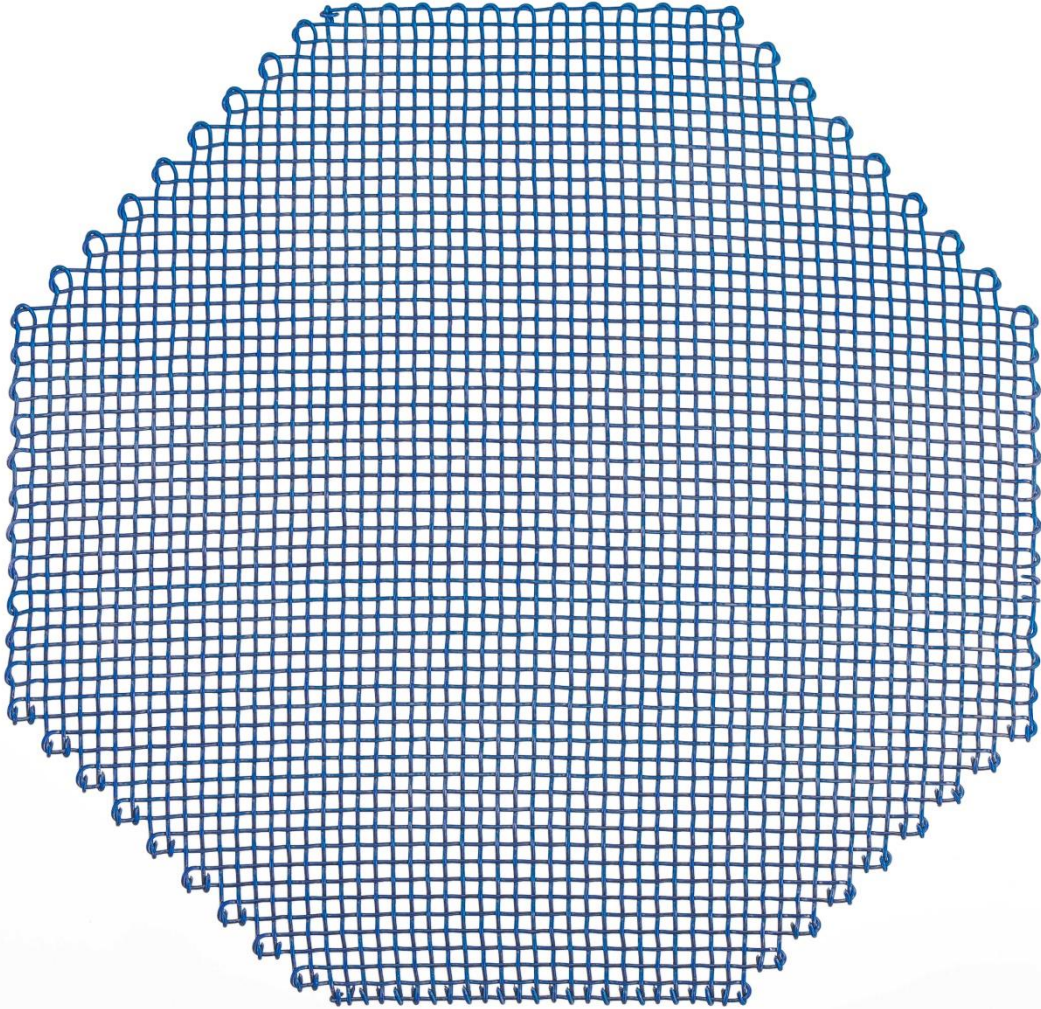
Using advanced technology and
numerous tests allowed to reach high
performance



- Dimensions: 13x27,9 mm
- Resolution: 640x480 px
- Shooting speed: 2 shoots/sec
- Angle of view: 120 degrees



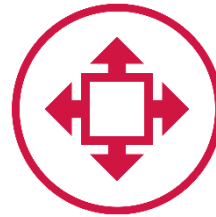
ELASTIC
TITANIUM
IMPLANTS



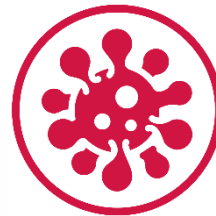
Titanium silk

Titanium silk is composed of threads 40-60 microns. It is structurally stable, biologically inert and resistant to infection. Easy to manipulate and allows intraoperative modeling.

Titanium silk covering hernia in operation never lets hernia grow back.



**composed of threads
40-60 microns**

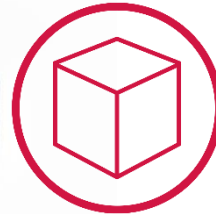


**resistant to
infection**



Titanium cages

The cage is 50-70% porous which facilitates conditions for bone ingrowth for the whole depth. The cages have damper properties that can withstand axial load of the weight up to 500 kg while keeping elasticity approximate to that of natural bones



50-70% porous



can withstand axial load of
the weight up to 500 kg



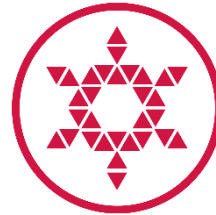
Plates

The product is intended in bone grafting operations, namely cranioplasty, plastic acetabulum for retention of bone-replacement material in the affected areas.

The product has obvious ergonomic advantages over similar products and allows for effortless creation of desired shapes



plastic acetabulum



creation of desired shapes



ADVANTAGES



Only we are currently able to produce meshes consisting only from pure titanium



High biological inertness



Full tissue integration



Absence of impurities



PHARMPRINT

Personal Pharmaceuticals



OUR SOLUTION

Printer for printing medicines on paper



Creation of any medicines
with consideration of the individual
need for a specific recipe



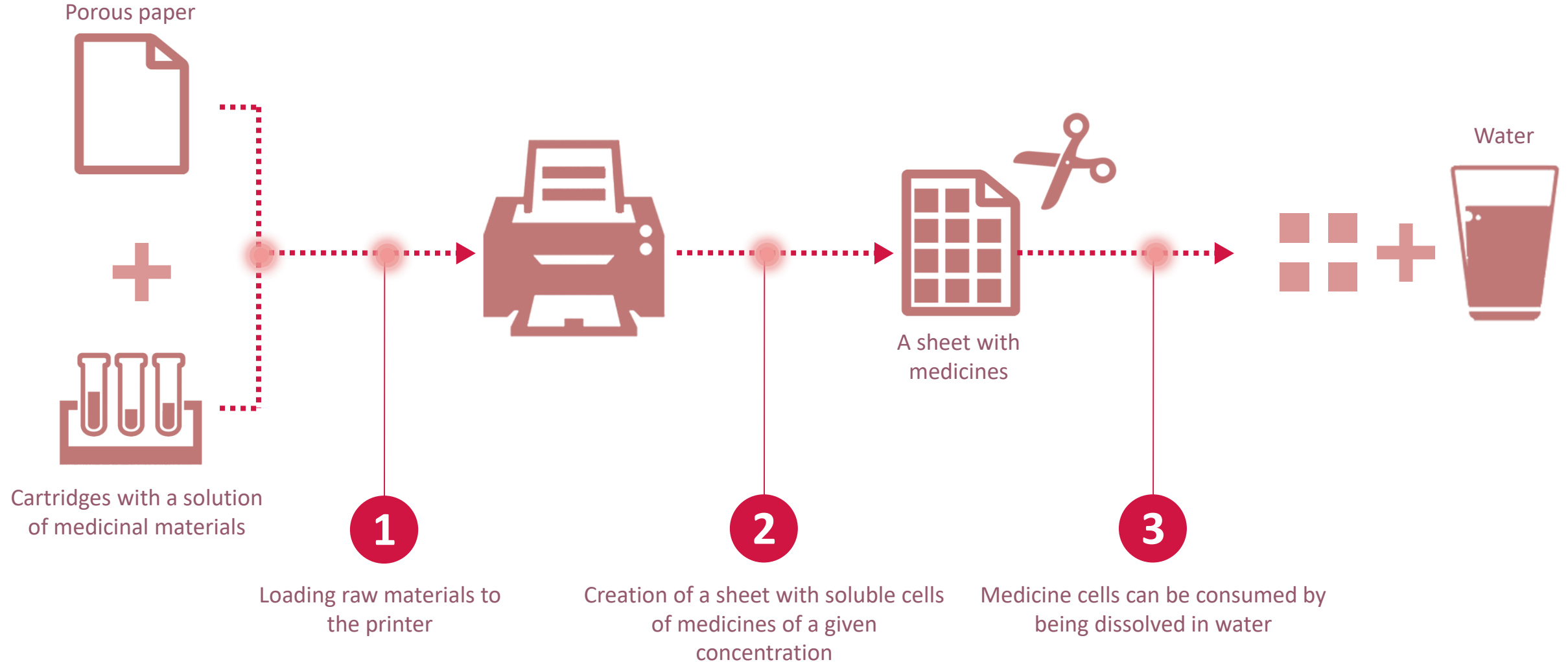
Precise concentration
for each active ingredient



Accurate dosage
and exclusion of the possibility
of an overdose

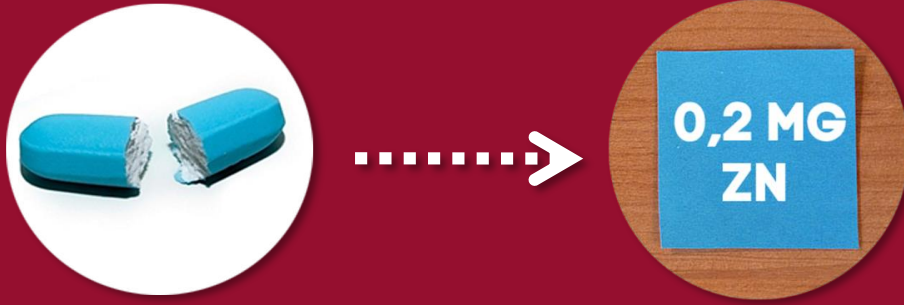


HOW IT WORKS?



ADVANTAGES

Accurate dosage



Control over the dose taken and exclusion of the possibility of an overdose

Control over the date of consumption



For drugs taken in a course – exclusion of the risk of an untimely consumption

Gradient printing



Ability to print several active ingredients with a gradient concentration, thus creating a personal treatment course.

Pureness of medicine



Medicines are created individually, so they do not contain excipients which a specific patient does not require.



IMPLEMENTATIONS

HORMONE						
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21

FEB/12
0.1 mg

Hormonal remedies

Patches and bandages

Pediatrics

Cosmetology



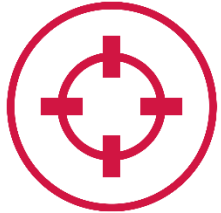
Effective Tool For Cancer
Detection





Ray-D is a compact device for determining the location of distributed radiopharmaceuticals in malignant tumors and nanocolloids in sentinel lymph nodes.

IMPLEMENTATIONS



Localization of sentinel lymph nodes



Radioguided occult lesion localization – ROLL



Search of tumors using radiopharmaceuticals that are specific to the tumor





HOW IT WORKS?



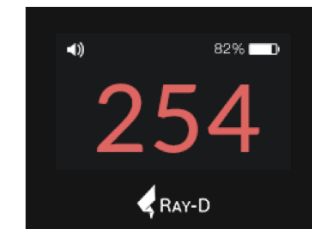
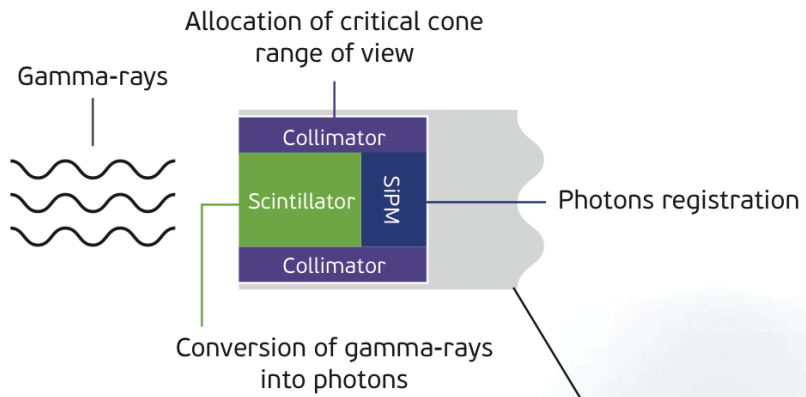
Preparation

Injection of radiopharmaceutical
or nanocolloid



Procedure

Detection of medication by a specialist
with gamma probe



Display of
gamma-rays
intensity

Applicable in case of the following cancers:

- 
- **Breast**
 - **Thyroid gland**
 - **Skin**
 - **Head**
 - **Neck**
 - **Ovary**
 - **Lung**
 - **Cervix**
 - **Prostate**
 - **Liver**
 - **Stomach**
 - **Large intestine**
 - **Esophagus**
 - **Laryngeal and throat**



CYBER SECURITY



BLACK FOX
mobile base station

Implementation Methods



Industrial case



Office case



Mobile case

Mobile base station Black Fox

Black Fox – a virtual mobile base station that allows to build a local GSM-network with the following functionality:

- ★ Real time mobile phones tracking in the local area (IMSI, IMEI, activity).
- ★ Local calls and local text messages to phones in the area.
- ★ Local calls between phones in the area without bounding to real mobile operators.
- ★ Selective mobile phones blocking in the area according to white list/black list policy.

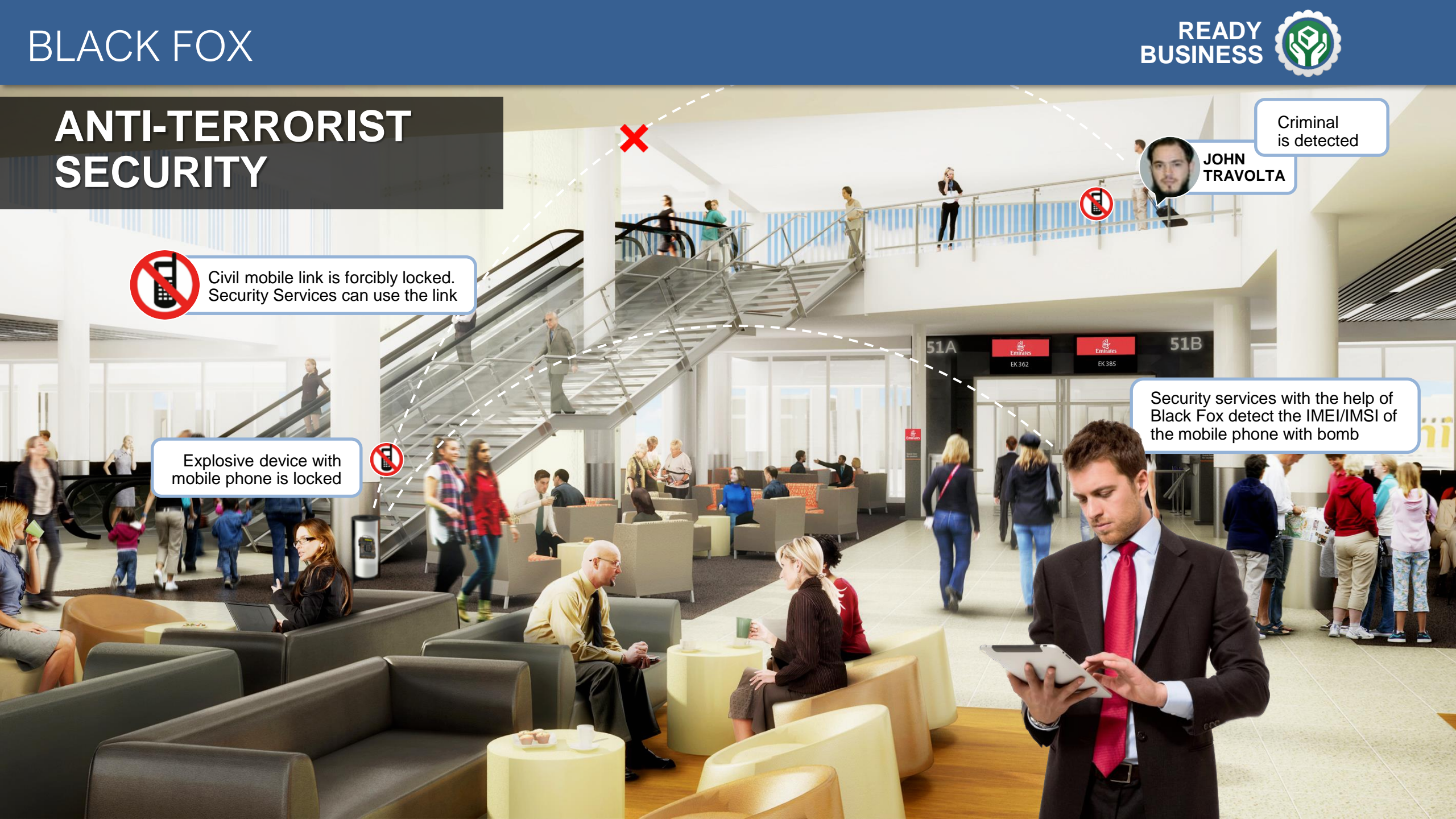
Criminal
is detected

JOHN TRAVOLTA

Civil mobile link is forcibly locked.
Security Services can use the link

Explosive device with
mobile phone is locked

Security services with the help of Black Fox detect the IMEI/IMSI of the mobile phone with bomb





EVACUATION SCENARIO




Send SMS with evacuation
plan with the help of Black Fox

Mobile complex
is fixed up in the
vehicle




Fire in the building,
people are trapped inside


ESTABLISHING COMMUNICATION LINK IN DISASTER AREA



Mobile Black Fox unit
establishes local cell link
when GSM link is
unavailable



Able to call people with cell
phones in the area of action





MASS SMS-SENDING

***IF NECESSARY,
LOCKING MOBILE LINK**



Mass sending of messages with
conduct and compliance
instructions and short number
for emergency calling



Proposed solution to governmental buildings: enforcement of different policies for mobile devices

Zone secure from SS7 attacks

Different protection policies for different rooms

Security officer can modify access to various settings and functions: GSM-connection, camera and voice recording, SMS. Policies are carried out via Device Mobile Management client which is installed on white-listed devices.



To become whitelist user any guest or employee must install DMM client (Android/iPhone OS are supported). Not whitelist phones are detected by system and taken away by security officer



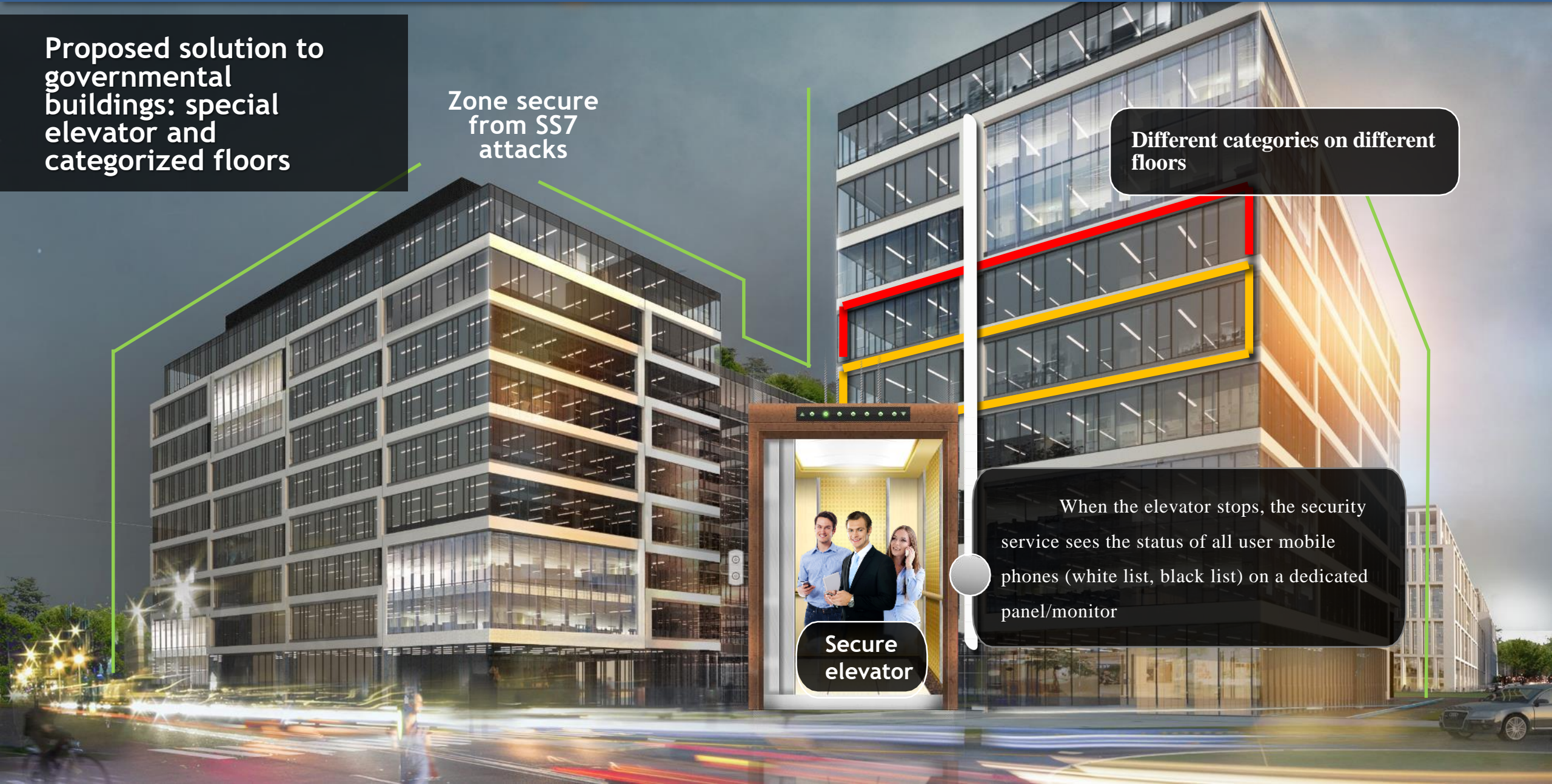
Proposed solution to governmental buildings: special elevator and categorized floors

Zone secure from SS7 attacks

Different categories on different floors

When the elevator stops, the security service sees the status of all user mobile phones (white list, black list) on a dedicated panel/monitor

Secure elevator





Crypto Messenger



Singapore Patent claim
ALGORITHMS FOR PEER-TO-PEER MESSAGING SYSTEM



CURRENT PROBLEMS

Our communications are under constant threat from cybercriminals, malicious hackers, and unjustified spying by state authorities.

Level of the messengers security from the leaks

Has end-to-end encryption



WHATSAPP



VIBER



FACEBOOK MESSENGER



TELEGRAMM

Does not have end-to-end encryption



HANGOUTS



SKYPE

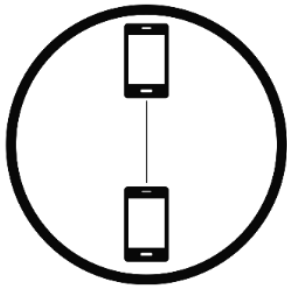
No one of the existing messenger does not guarantee 100% data protection

Source: <https://www.amnesty.org>

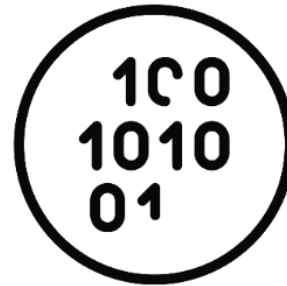
OUR SOLUTION

CtrypoMessenger ProjectM is the most secure messenger in the world that can not be hacked for several years by any of hacker groups.

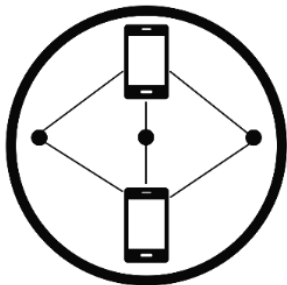
ProjectM is 100% secure because of:



ProjectM has no server, messages go point-to-point and cant be hacked



All data is always encrypted: during transmission and storage of data



All packets go through dark net and no national barriers can stop our messages



ProjectM works on iOS and Android phones

CRYPTO MESSENGER

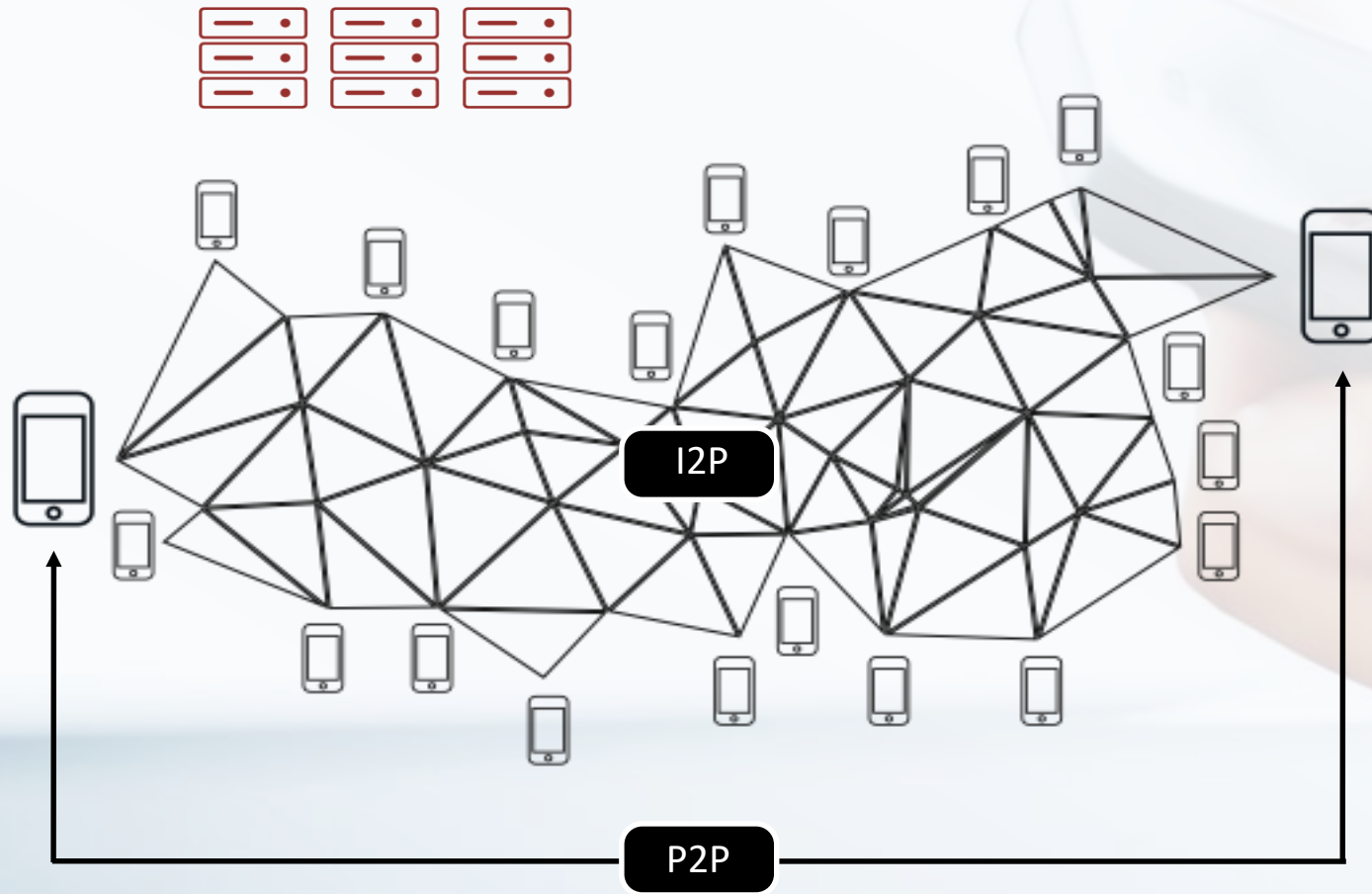
Project M is secure but very user friendly messenger:

- Modern messenger with voice calls, focused on quick and convenient communication
- The design is based on Apple and Google guidelines



CRYPTO MESSENGER

Project M is the only one messenger using I2P- and P2P- transports



1. I2P (Invisible Internet Project)

I2P is an anonymous network layer of Internet to transfer data unnoticeably. ProjectM sends messages only through I2P.

2. P2P (peer-to-peer)

Project M is the first crypto messenger not to use Server as all messages go directly from one user to another.



AutoVisor

A new generation of car protection against
cyber threats



United States Patent № US 8955130
METHOD FOR PROTECTING VEHICLE DATA
TRANSMISSION SYSTEM FROM INTRUSIONS

HOW CAN YOUR VEHICLE BE ATTACKED?

Methods of malware penetration in your car's system are similar to those that are used for normal computers.



Wireless
connection



Troubleshooting
systems



External data
carriers



Exposure during
service
maintenance



AFTERMATH

Wheel lockup



The consequences of the penetration of malware, viruses and “bugs” include both minor malfunctions of different systems and complete equipment fault:

Sudden airbag deployment





AFTERMATH

Disabling
headlights at
night



Disabling the
brake system





AutoVisor provides maximum protection from unexpected consequences of attacks on the vehicle's CAN-bus

AutoVisor is the only tool that enables the car owner to control the parameters of the vehicle operation independently. It also provides automatic blocking of threats.

01 Has no analogues in the world

02 Installation takes less than 2 hours at the service center

03 All information about the protection system's operation is available in a mobile application (iOS, Android)





Green Head

Protection of mobile devices from
unauthorized wiretapping



United States Patent № US 8387141
United States Patent № US 8732827
SMARTPHONE SECURITY SYSTEM

CURRENT PROBLEMS

Relevant threats for mobile devices and users



Unauthorized
wiretapping of talks via
cell phone



Unauthorized activation of
microphone and camera of
a device, data
transmission to attackers



Access of unauthorized
people to files containing
business data



Locating a person by his
mobile device



OUR SOLUTION

Software for protection against wiretapping GREEN HEAD



Protection against wiretapping



Protection against data leakage

Features



Detection of unauthorized activation of a mobile device's camera and microphone



The widget blocks the camera and microphone in one click and disables wireless communication: Wi-Fi, BT, NFC, mobile Internet, which can become data leakage channels



This application allows you to record a conversation in online mode for later playback



Widget on the screen of the mobile device notifies the user of unauthorized wiretapping.

For Android OS



ADVANTAGES

HIGH
SPEED



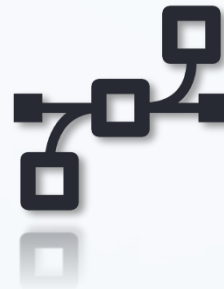
Green Head does not affect the speed of operation of your smartphone

SIMPLE
IN USE

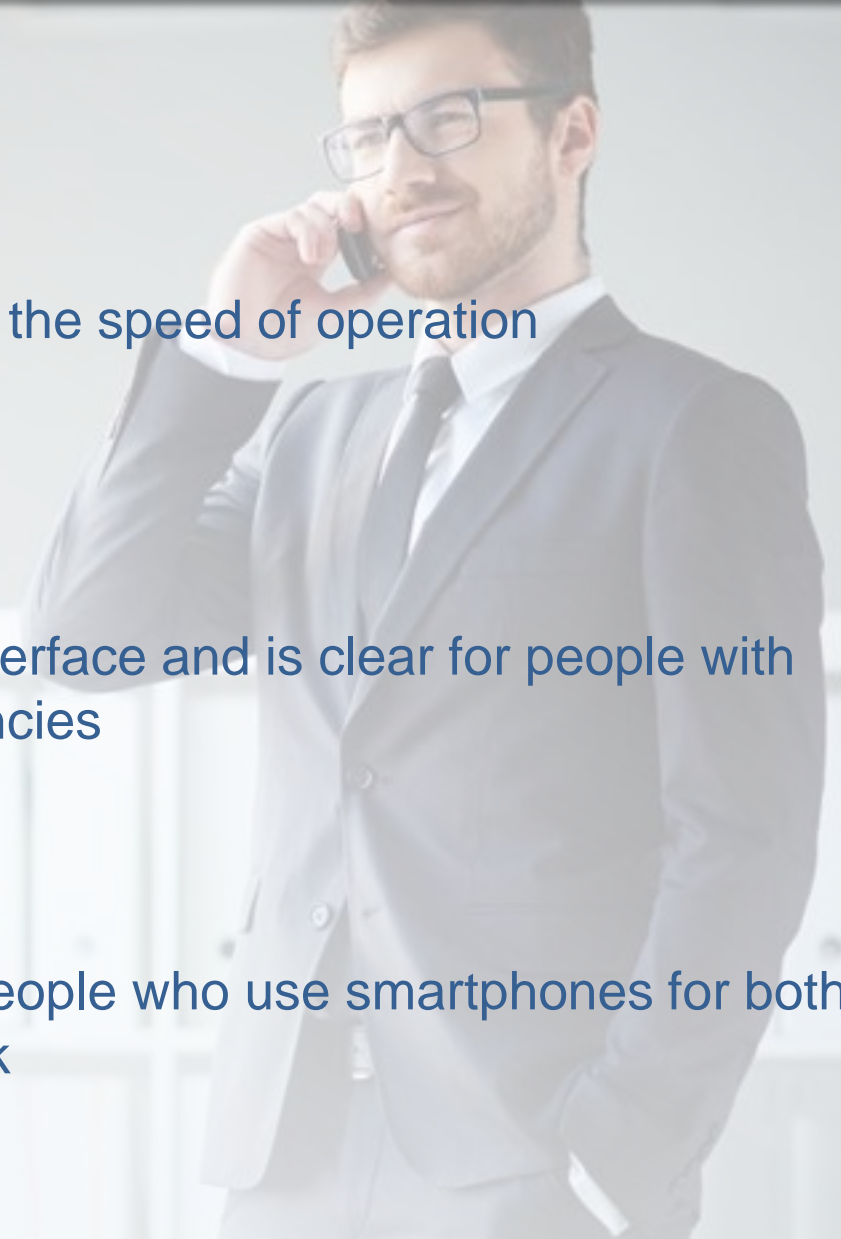


Green Head has intuitive interface and is clear for people with different technical competencies

MULTI-
PURPOSE



Green Head is flexible for people who use smartphones for both personal purposes and work





Protection for Industrial Control Systems



United States Patent claim № US 13458662

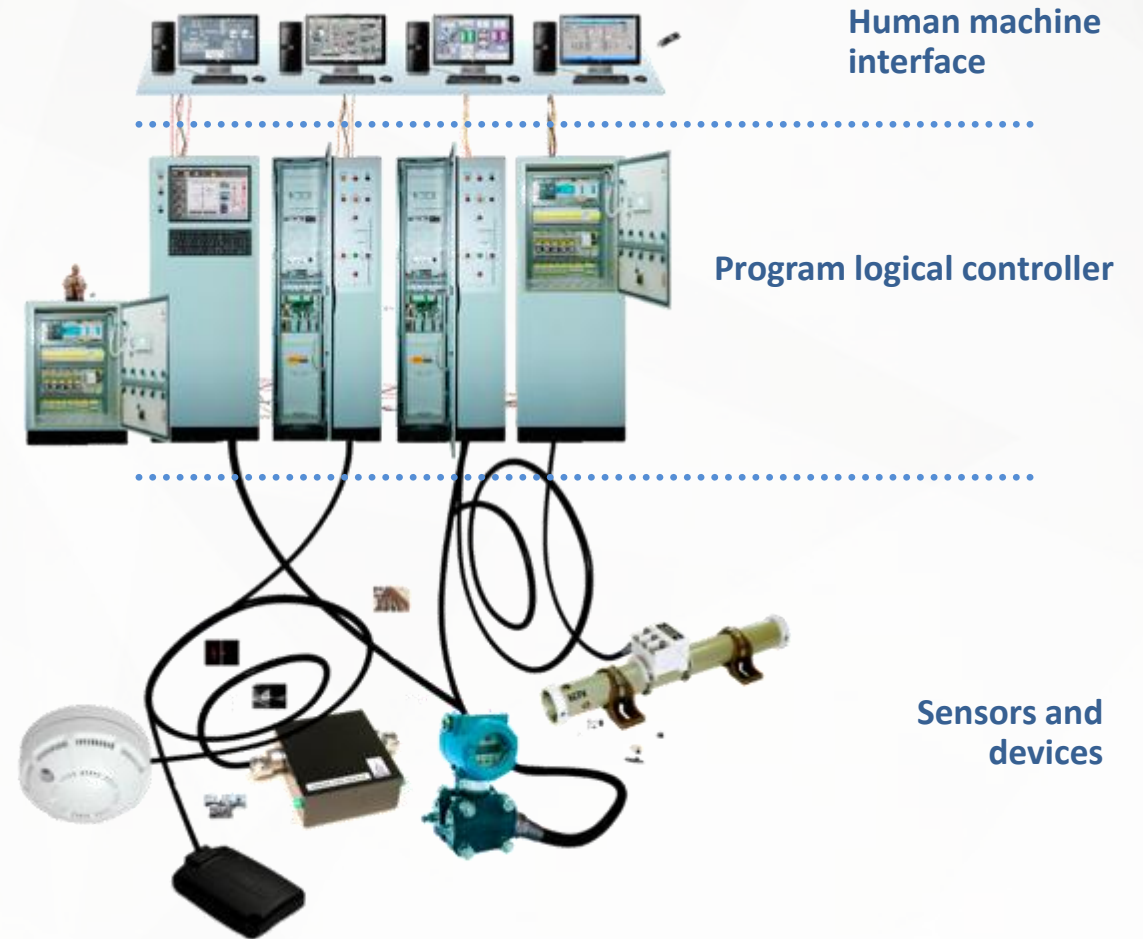
METHOD AND SYSTEM FOR PROTECTION OF AUTOMATED
CONTROL SYSTEMS FOR SMART BUILDINGS

CURRENT PROBLEMS

Industrial control systems informational security

- ❖ Different industrial process control systems (ICS) are widespread and used in transport, manufacturing, living spaces, mass gathering places (shopping malls, airports, etc.)
- ❖ With the growing number of such systems the number of malware grows as well. The main goal of the malware is to get unauthorized access to information and control over the object.

Typical Industrial Control System



Importance of industrial control systems protection

Consequences of the attacks on the industrial control systems

- ❖ Infringement of working capacity of the key systems at the enterprise
- ❖ Technological disasters
- ❖ Data leakage

Known Worldwide attacks on the industrial control systems

Stuxnet attack on Iran Nuclear facilities in 2010

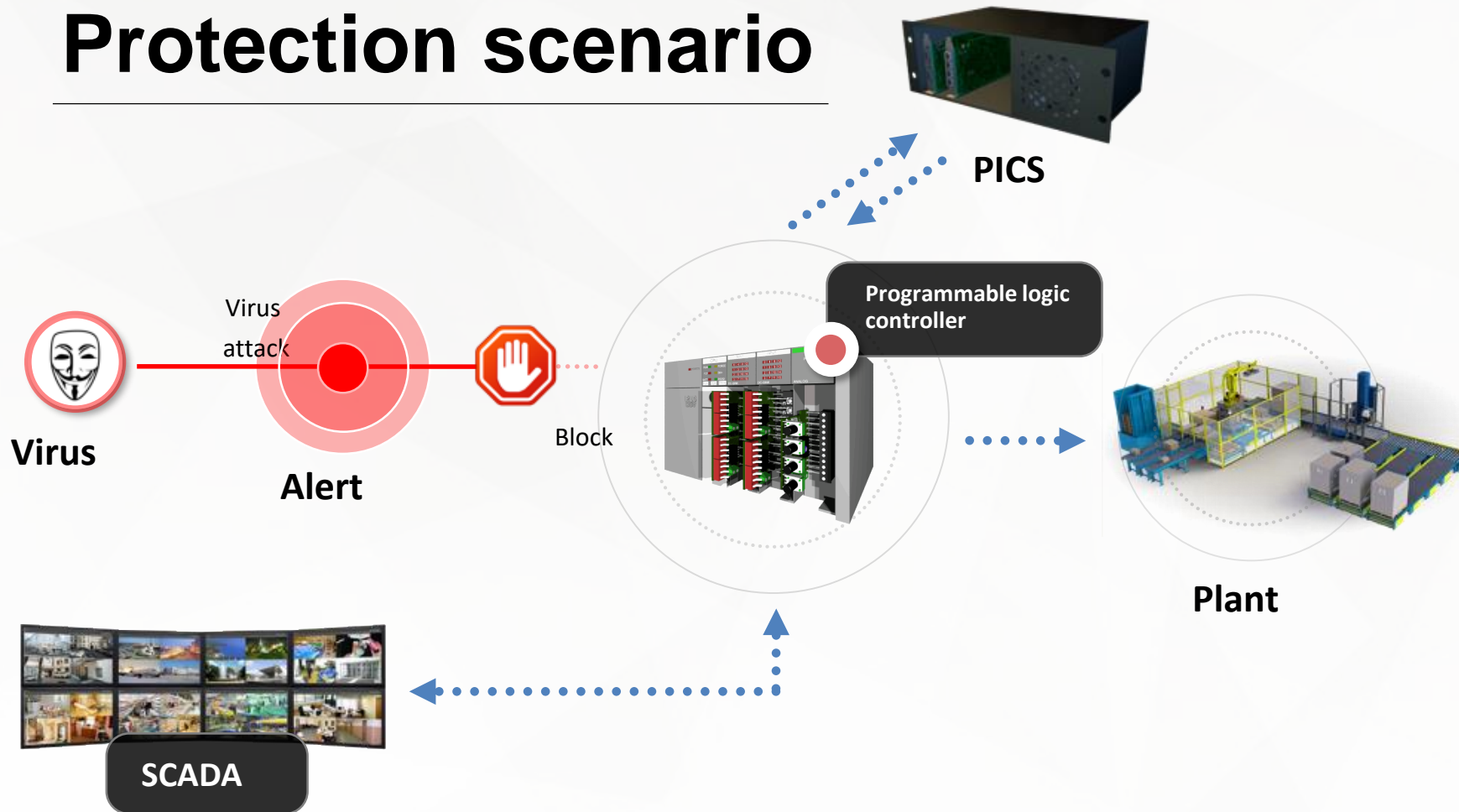
Attack on the USA energy supply facilities in 2011

Attack on Syria state gas and oil companies in 2014



OUR SOLUTION

Protection scenario



PICS is the unique patented hardware/software solution and the first **Intrusion Prevention System (IPS)** for industrial process control systems, which detects, prevents or blocks malware in information infrastructure systems of automatic control for various production and technological processes:



Highest level
SCADA, MES



Middle level
PLC, HMI



Field level
Sensors, Devices

PROTECTION FOR INDUSTRIAL CONTROL SYSTEMS

READY
BUSINESS



IMPLEMENTATIONS



Nuclear power industry



Plant

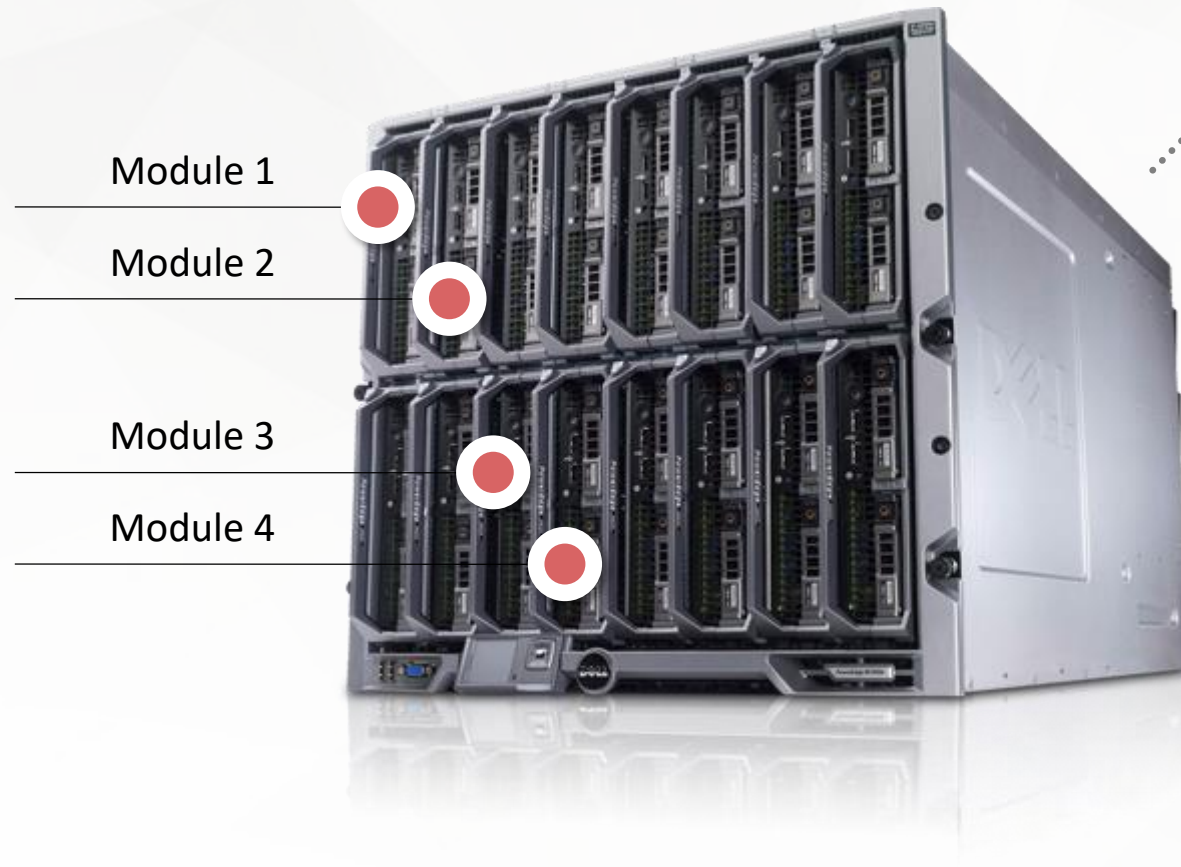


Oil refining



Airport

List of protection



Plug-in extend system

Flexible plug-and-play easily extendable procedure

Modules:

- ❖ Module 1 - Siemens controllers protection
- ❖ Module 2 - ABB controllers protection
- ❖ Module 3 - GE controllers protection
- ❖ Module 4 - Emerson controllers protection

...



SMART DEVICES





blackbeetrack

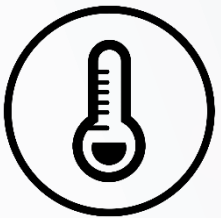
SYSTEM FOR CARGO TRANSPORTATION CONDITIONS
VIOLATIONS PREEMPTION

A TAG EQUIPPED WITH A SET OF SENSORS



A tag is placed next to the product in the container with the goods

EVERY 5 MINUTES, THE TAG RECORDS DATA OF ENVIRONMENTAL CHANGES:



Temperature



Humidity

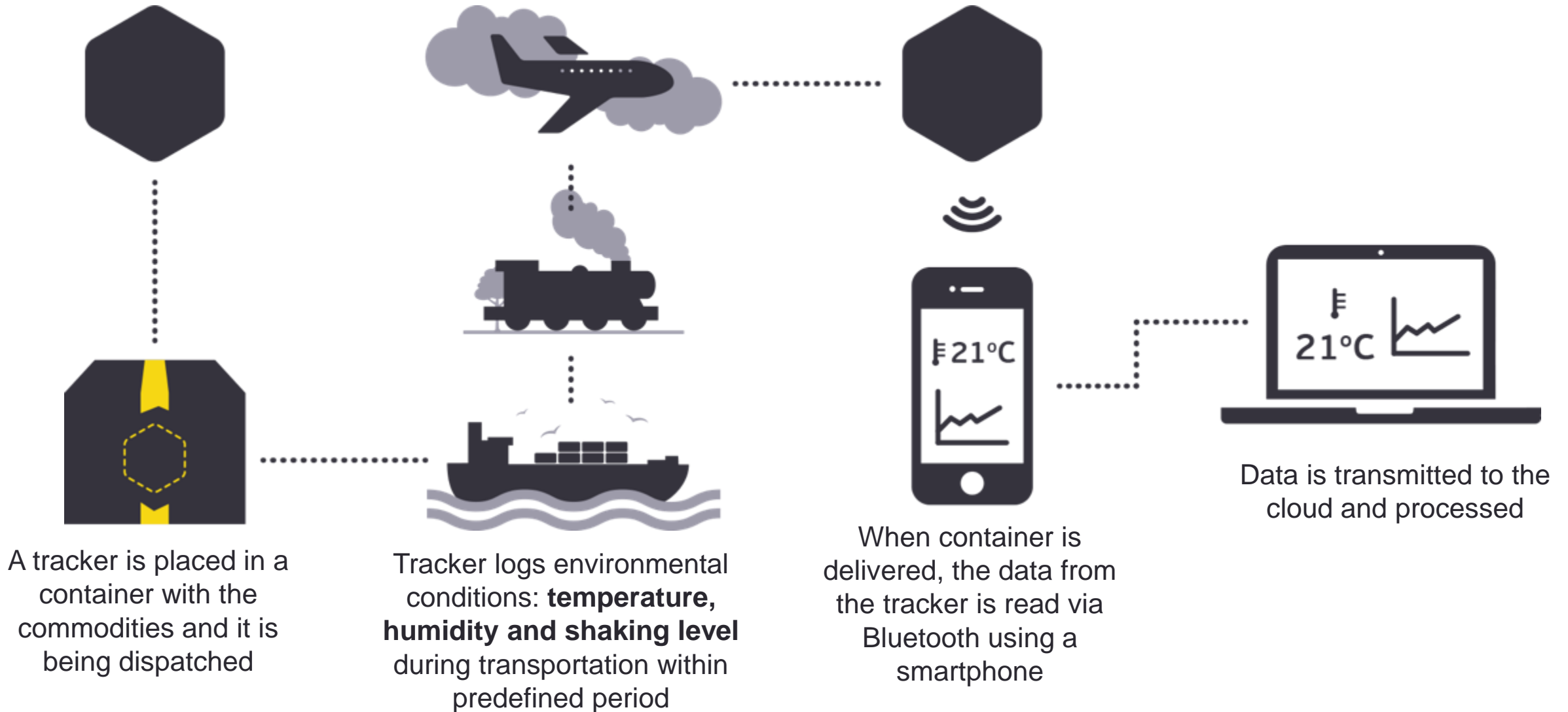


Drop



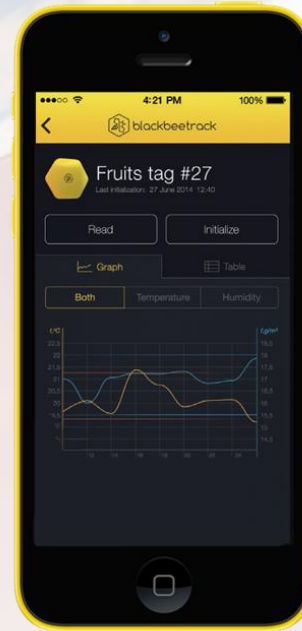
Tilt







SOFTWARE FOR ANY PC



**MOBILE APPLICATION
FOR ANDROID/iOS**



CLOUD PLATFORM

BlackBeeTrack tag and software can be used by anyone even without special training
Possibility of integration with ERP-systems like SAP or warehouse counting systems



AGRO DRONE GROUP

Drones for the purposes of analysis, control and monitoring in agriculture



Singapore Patent claim № SG 10201702100Y
AGRICULTURAL ROBOTICS SYSTEM USING UNMANNED
AERIAL VEHICLES AND COLD FOG GENERATION





Drone makes photos of
the area



1 Image of the area, problem zones are
highlighted

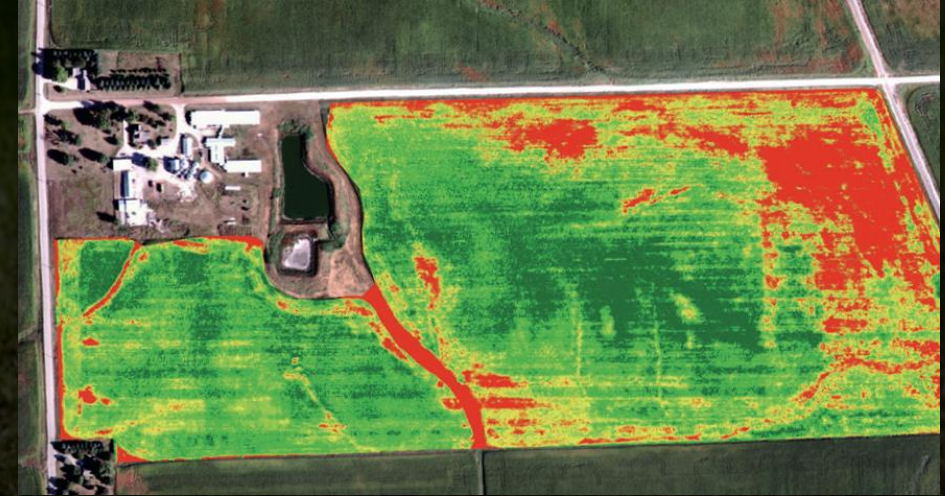
2 Results of analysis and
forecasts

3 Recommendations





FIELD INSPECTION RESULT



HEALTHY PLANT



DISEASED PLANT



DYING PLANT

AGRO-UBER: profit for every party



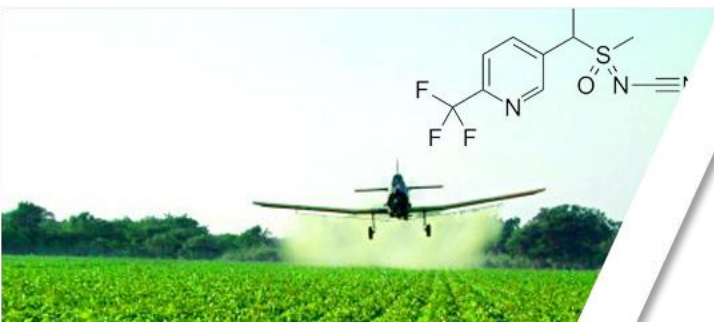
Pilot

- Finds demand for his services
- Performs the analysis of images
- Reduces barriers for agro industry market penetration



Farmer

- Gets access to all available pilots
- Gets qualitative data in a clear format
- Gets recommendations for field works



Advertiser

- Gets an advertising platform with a guaranteed target audience
- Advertising is shown only in case of real possibility to apply particular chemical depending on analysis result
- «Dentist recommends toothpaste» model



FLYING FOX

Unmanned reconnaissance system



United States Patent № US 9392570

United States Patent № US 968143

METHOD OF USING AIRCRAFT FOR PROVIDING MOBILE NETWORK
CONNECTION AND LOCATING SUBSCRIBERS IN SPECIFIED AREAS

COMPOSITION OF THE FLYING FOX SYSTEM

COPTER



VIRTUAL STATION



CONTROL SYSTEM



CAMERA



Unmanned reconnaissance system



Flight time: 40 min
Extension : up to 70 min



Max speed: 43 km/h



Range: 3 km
Extension: 12 km

SPECIALBLOCK

Modules for specialized reconnaissance and EW are in development

Jammer



Virtual base station



- Collection of IMAE and IMSI of phones in range
- Allows to lock phones on itself
- Allows to provide with selective access to communications in the region
- Allows to create an internal local network

AIRBORNE CELL PHONE AQUISITION





OPERATING MODES



1. Manual control



2. Semi-automatic control

Takeoff/landing in manual mode, possibility of flight correction by the operator on a pre-determined route

3. Automatic control

Takeoff, flight on a given route, automatic return to the takeoff point, landing



WOW!Mirror

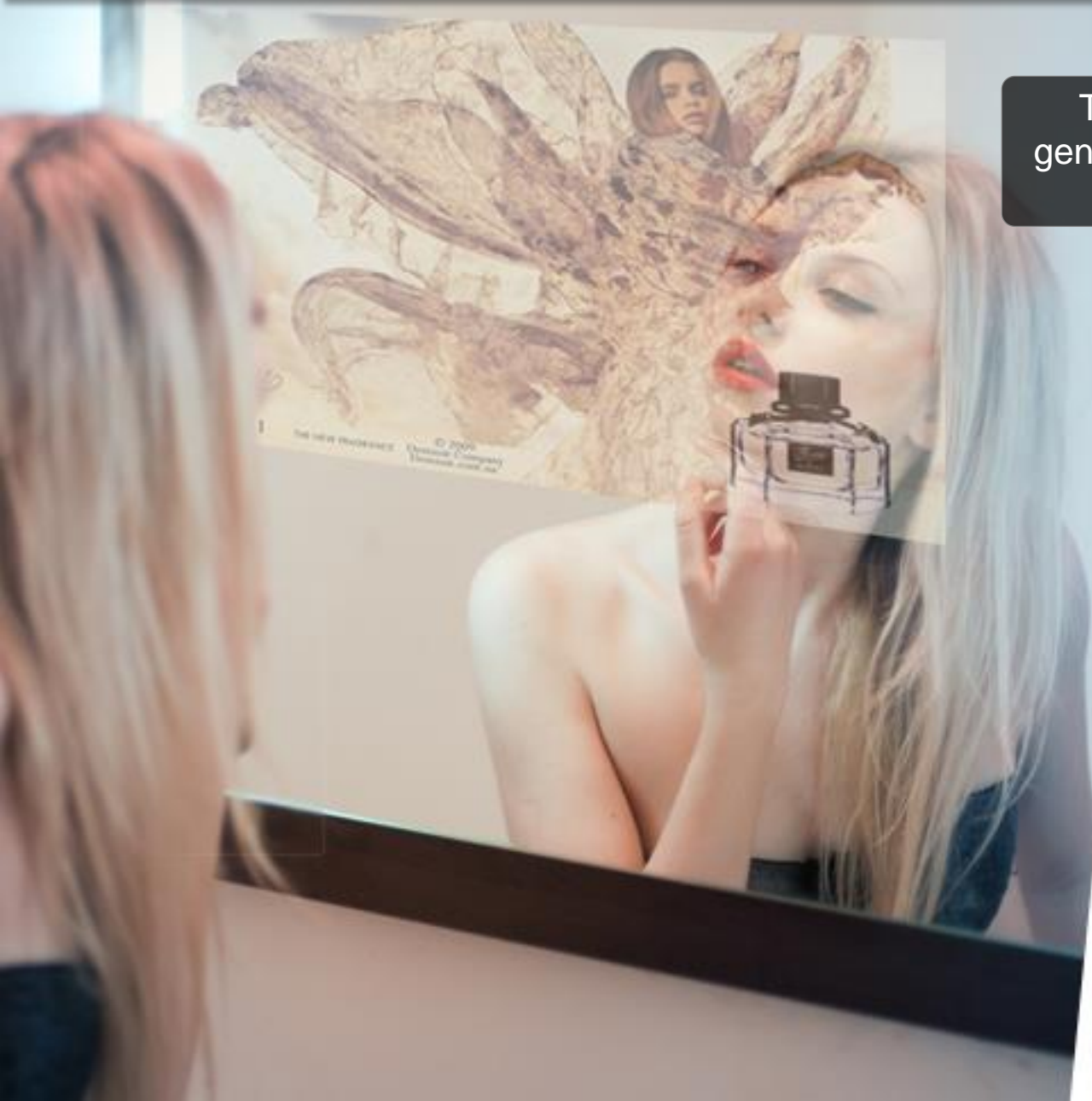
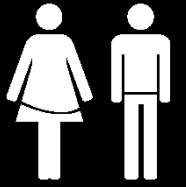
Innovative advertisement tool



Singapore Patent claim № SG 10201702912S
METHOD AND SYSTEM FOR TARGETED ADVERTISING
BASED ON PERSONAL PHYSICAL CHARACTERISTICS

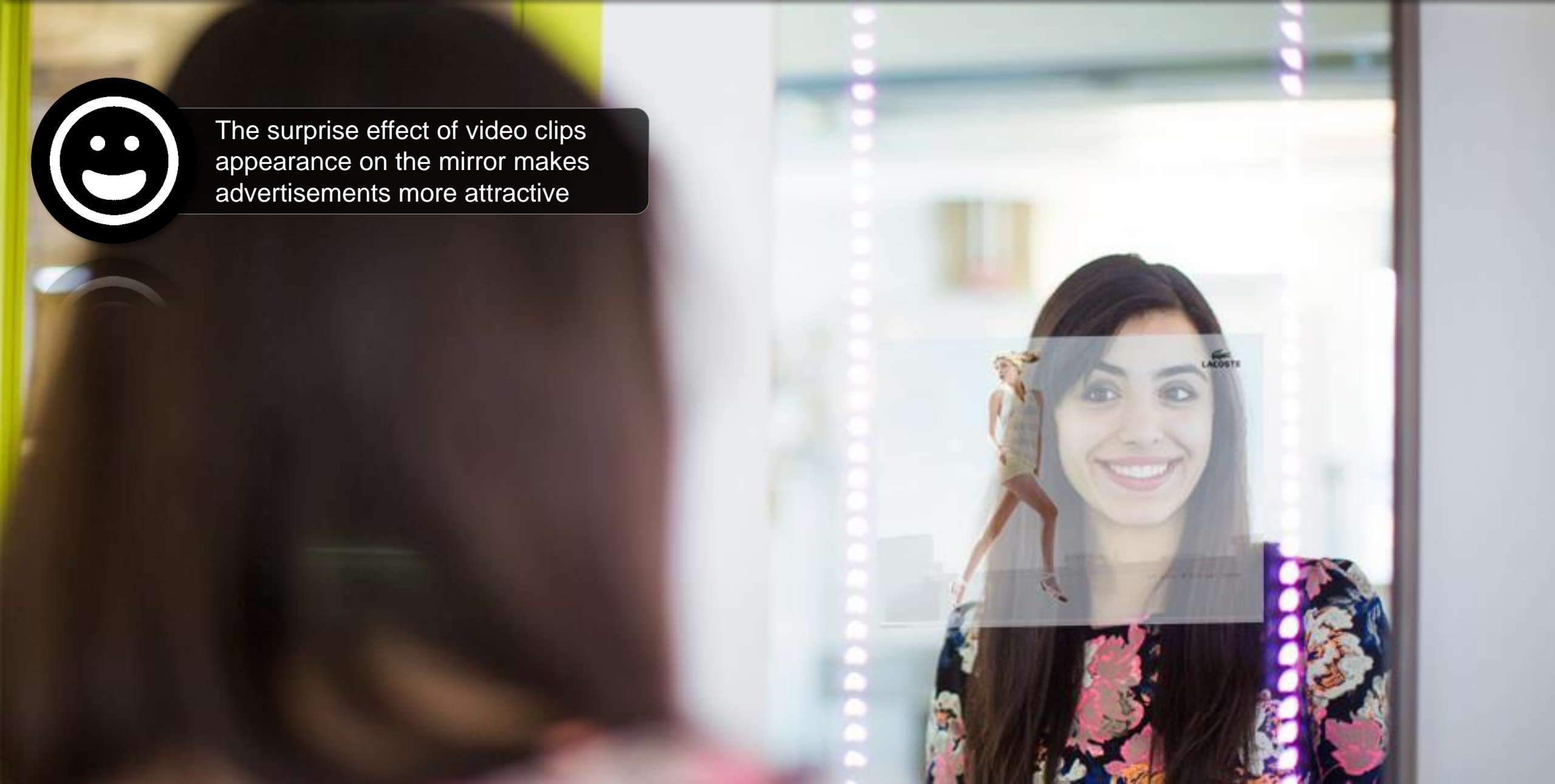


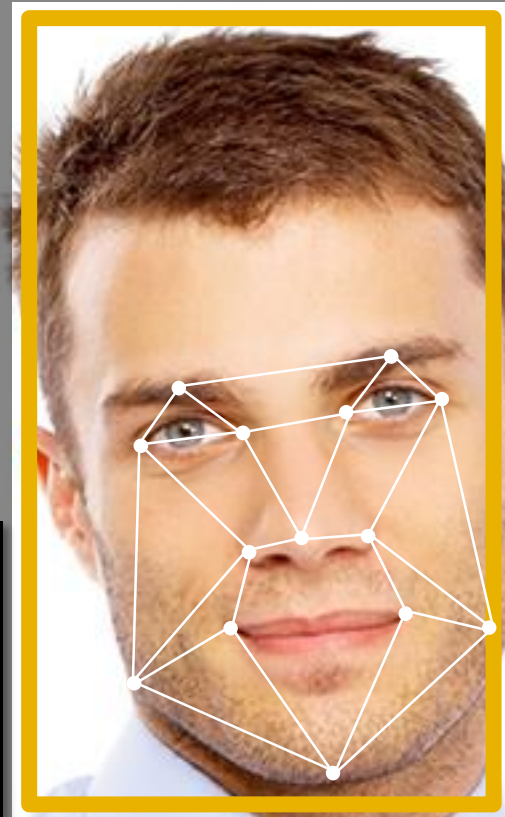
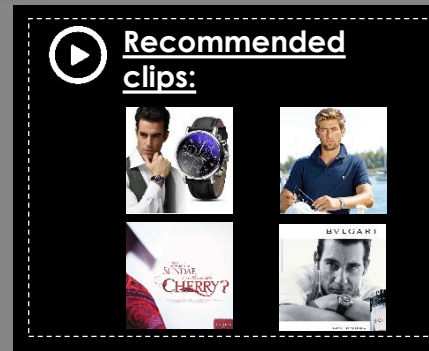
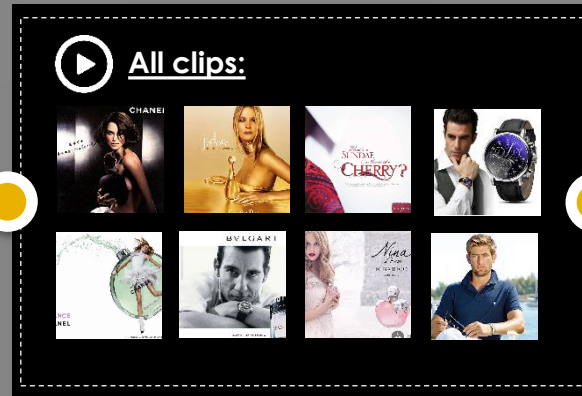
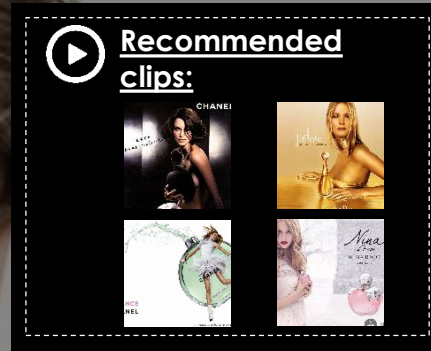
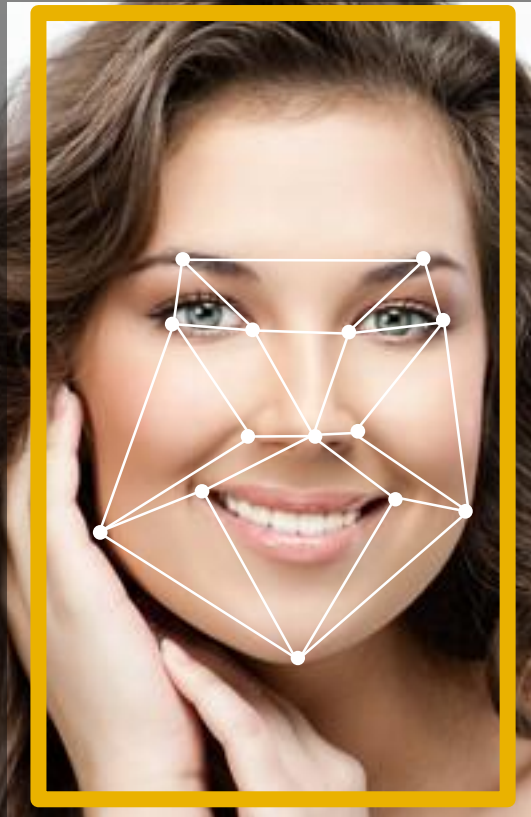
The technology makes it possible to determine the gender with great accuracy. The received data allows to keep statistics and target content





The surprise effect of video clips appearance on the mirror makes advertisements more attractive



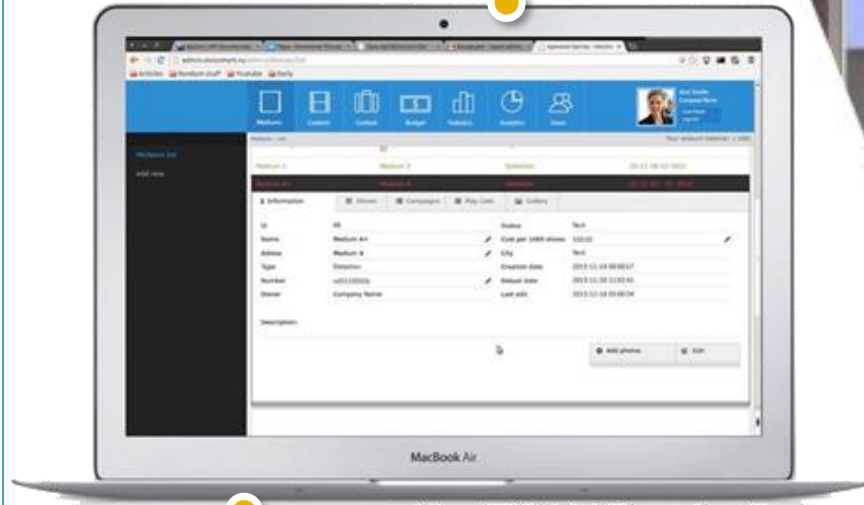


Advertising effectiveness increases due to the demonstration of video clips specifically to the target audience



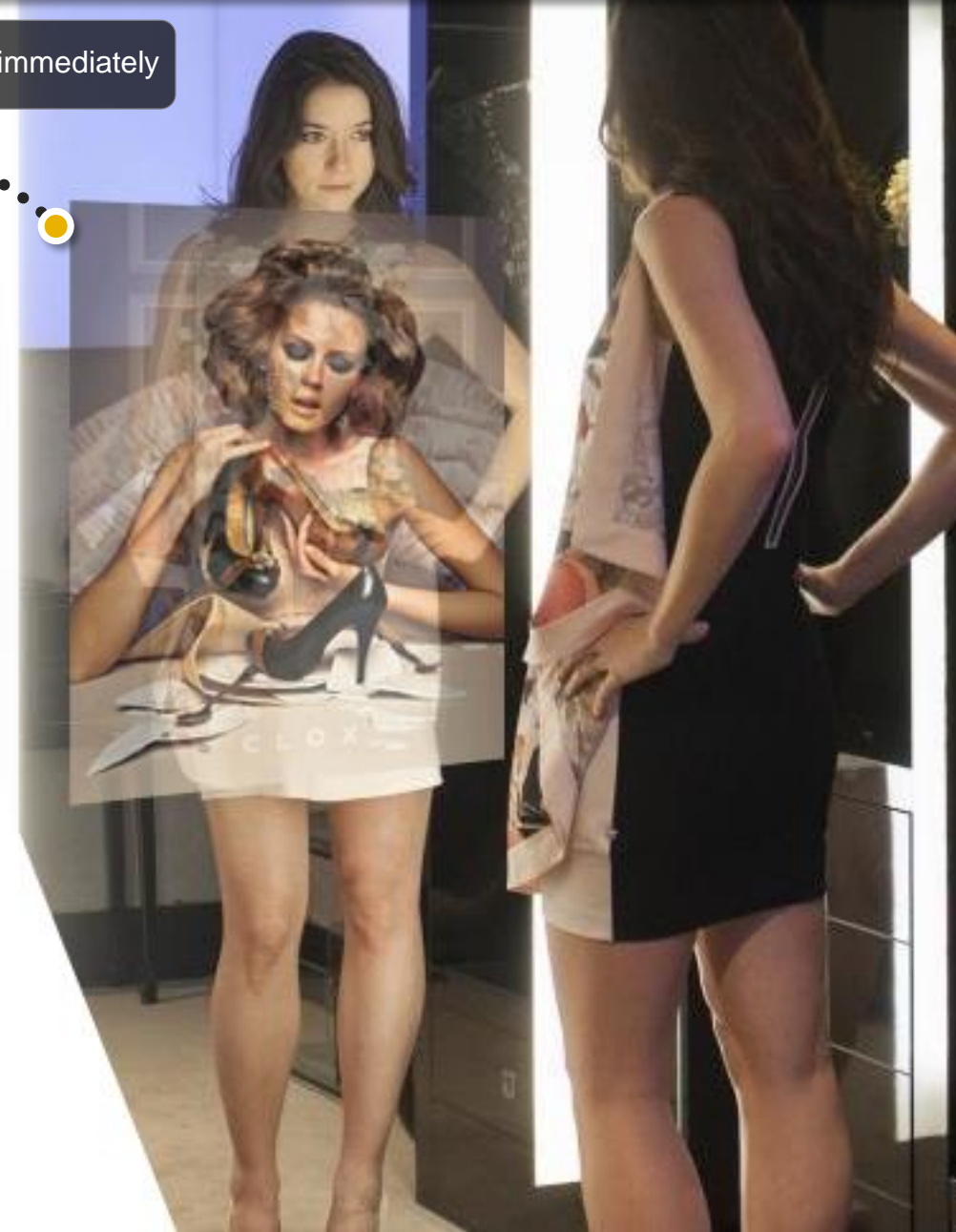
Flexible settings for advertising campaigns

1. Select the media device for your advertisement campaign
2. Adjust the target audience
3. Set the date and time when you want to advertise



Displays immediately

Drag and Drop





Security

Built-in analyst system allows you to compare the obtained images (faces) with a previously created database



Nobody purposefully looks at surveillance cameras. It is very difficult to register the face image using cameras.



While looking at their reflections, people look directly into the lens, which allows the device to take high-quality pictures for further analysis

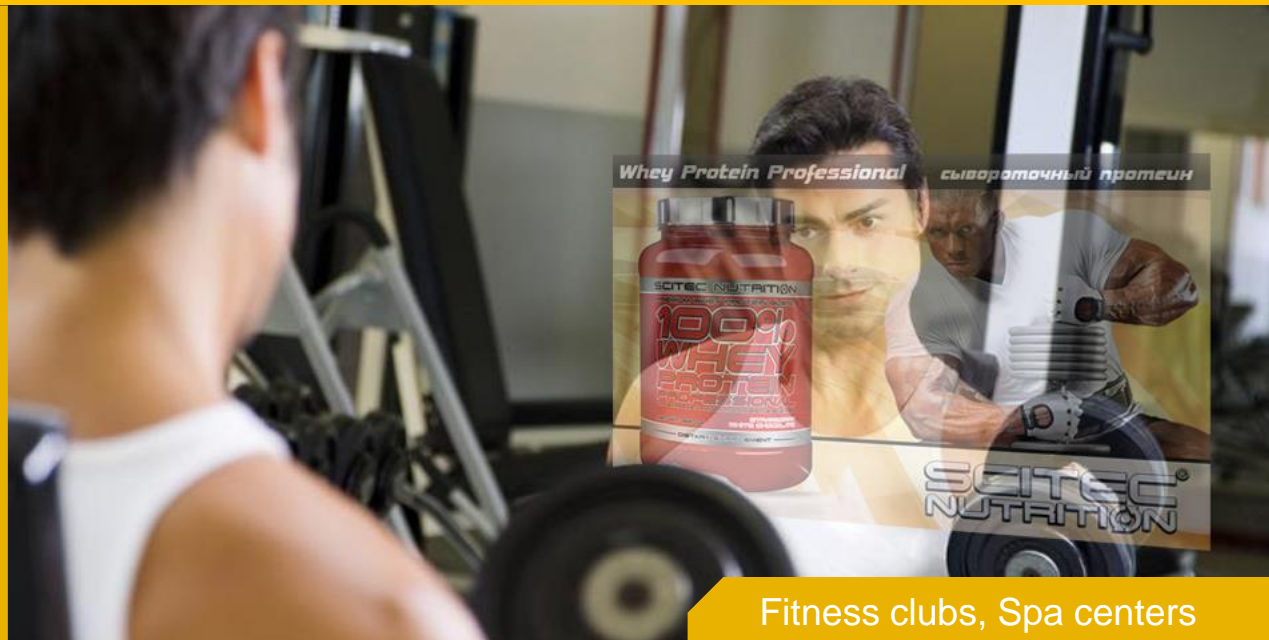




IMPLEMENTATIONS



Hotels, Beauty salons



Fitness clubs, Spa centers



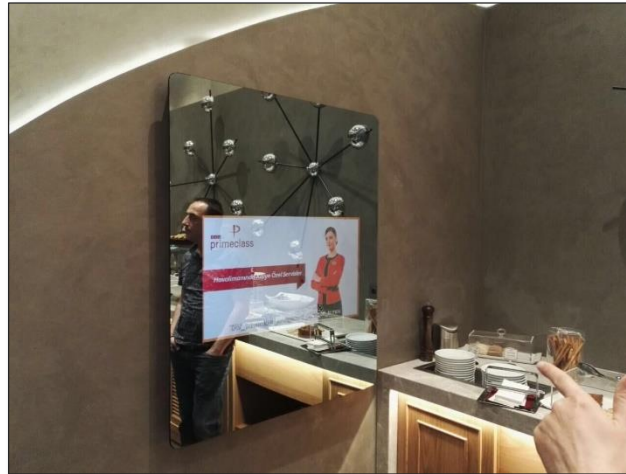
Business centers, Airports



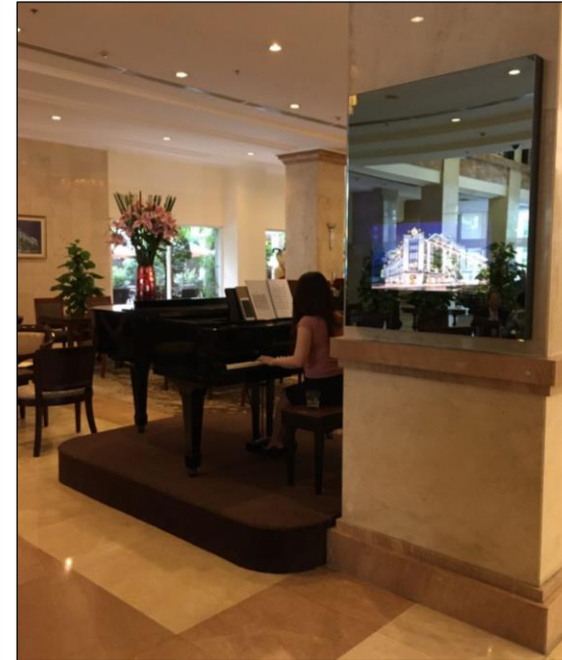
Restaurants, Night clubs



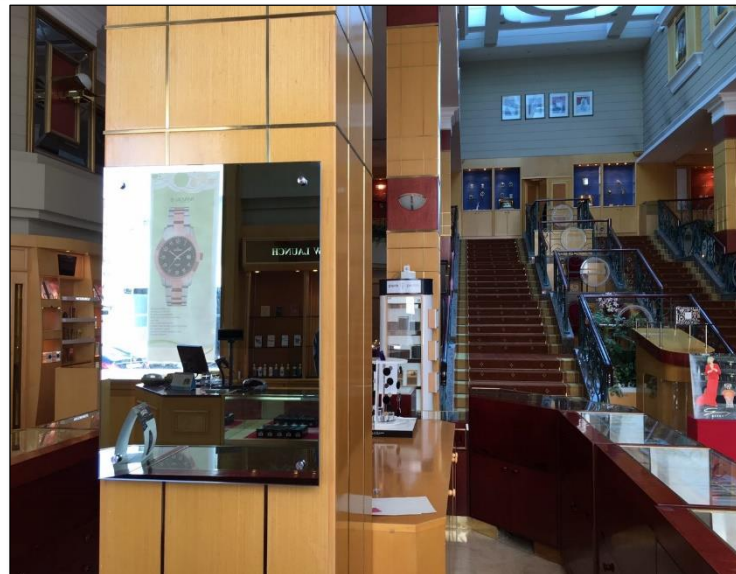
WOW!Mirror in Turkish airports



WOW!Mirror in Ho Chi Minh and Hanoi, Vietnam



WOW!Mirror in
Bahrain





IT





AeroLabs

E-COMMERCE PLATFORM



Online ticket booking
for airline website



Client relationship
management system
(CRM) for airline



Terminal for registration
and payment of luggage
at the airport



Main facts about AeroLabs solutions:

- ✓ AeroLabs solutions are free for Airlines, we charge for service
- ✓ AeroLabs solutions increase Airlines income by 20%

Online booking module

Our proposed Online booking module allows :



Customization according to Airline requirements.



A reduction of the host Global Distribution System requests by up to 90%, significantly reducing cost



Free updates

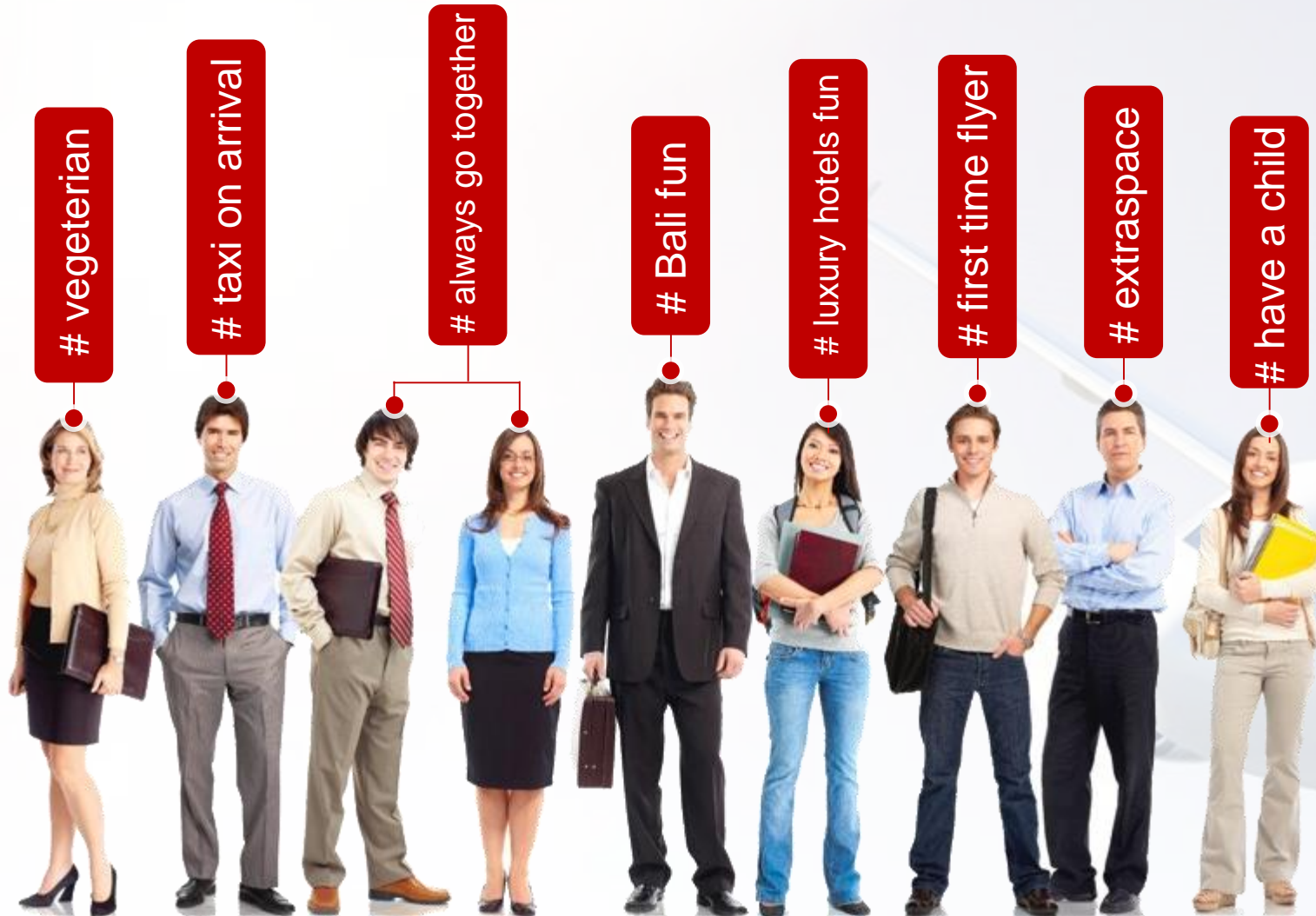


"Calendar of prices" option





Customer Relationship Management



more than
+ 100
default tags

As far as AeroLabs system processes all online web checkin it puts all information to **biggest database** and process all information based on **BigData** principles for airline to address each client of the airline individually. It gives growth in share of loyal and **profitable** clients

Customer Relationship Management

Customer Relationship Management because of individual approach helps to Increase flight loads



For example CRM finds passengers, flying 3 times a year in one direction and **sends them e-mails** or place **personal proposals** in their profile.

Self-service terminal at the airport

We offer a terminal for check-in and payment of luggage at the airport that:



Check in without waiting and queues



To pay for extra baggage



There is no risks for airline in implementation of Aerolabs system at all



Implementation cost is \$ 0

For the first stage we take only 1 to 5% of traffic

After testing we increase by **20%/week**

We take **100% traffic** only if you are completely satisfied



Photon

Digital Forensic Software

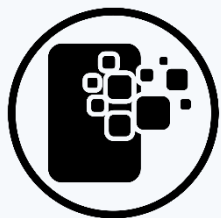
PhotoN

is a software complex which allows to detect frauds of any level automatically and reliably.



Metadata analysis.

Every image has hidden parameters (metadata) which are changed (deleted) after image is edited



Deep digital analysis.

Assumes imposing different kinds of «filters» on the image which allows to identify the edited areas.



PhotoN provides reliable fraud detection

PhotoN analyses the code of images instead of applying popular recognition algorithms.



Fraud examples

Fake passport photo

The result of digital analysis



Fake document scan

The result of digital analysis

