Smilart

Secure. Smart.
State-of-the-art.

Smilart is the world leader in biometrics, providing custom tailored facial recognition software solutions that meet the needs of any customer.

With our very own in-house developed algorithm platform that is unmatched in speed and accuracy, Smilart has the fastest, best-in-class, real-time solution you require. Whether you demand precise, secure monitoring in a high safety risk environment or need a cost-effective entryway access system, we have it. Our solutions have been installed in airports, schools, office facilities, prisons, as well as train stations, metro rail transportation systems, and more. Smilart products are scalable and can be adjusted to fit any requirement, no matter how unique.

About

Smilart is the world's leading facial recognition technology software provider.

It was founded in 2006 when two entrepreneurs with backgrounds in banking and computer gaming met two scientists specializing in visual object processing. Together they decided to form Smilart.

The first result of their collaboration was an **online photo editor**, which was extremely effective in removing the infamous 'red eye' effect from pictures. Other products soon followed, effectively establishing the company as a major player in the market for visual processing. Smilart then attracted the attention of a major Russian investment firm whose focus was the high-tech market. Having quickly secured the necessary financing Smilart began developing new projects. Eventually Smilart was introduced to a group of criminology experts consulting for the Russian Ministry of Interior. They had a discussion about biometry and areas of a human face that were not affected by aging. Smilart took a great interest and developed its own facial recognition system. We have been been perfecting those algorithms ever since.

The Smilart platform is a technology stack which uses facial recognition algorithms to reliably identify humans in cooperative and non-cooperative real-time scenarios.

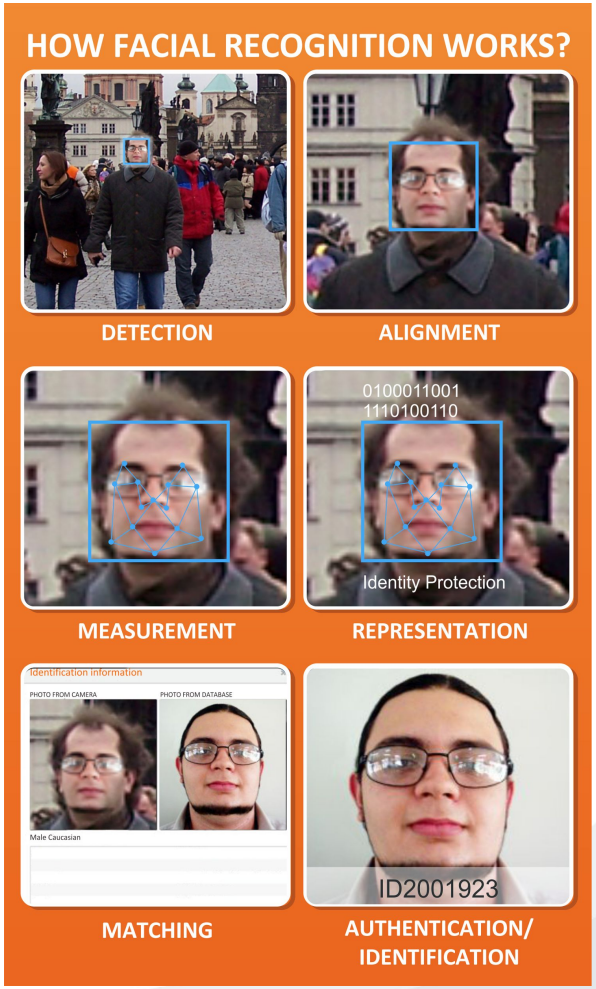
Our advanced **algorithms** are a culmination of years of research in the fields of computer vision, digital signal processing and machine learning. They can robustly identify people and have proven to be resistant to occlusions, aging, pose and even glasses. Smilart is currently used in numerous production and development projects and by private organizations and government agencies alike.

How it works

Facial Recognition Technology (“FRT”)

FRT works with numeric codes sometimes called **faceprints**. Such systems identify up to 80 nodal points on a human face. In this context, nodal points are end points used to measure variables of a person’s face, such as the length or width of the nose, the depth of the eye sockets and the shape of the cheekbones. These systems work by capturing data for nodal points on a digital image of an individual’s face and storing the resulting data as a faceprint in a database. The faceprint can then be used as a basis for comparison with data captured from faces in an image or video. Smilart’s matching software takes milliseconds, thereby rendering results in real-time.

Smilart’s solution is currently the fastest on the market! The sensitivity of our technology is also adjustable to particular functions depending on what a client’s ultimate purpose for having this system is in the first place.



Features

Fast

High optimization
Uses GPU
30 milliseconds per search

Reliable

Unrivaled accuracy
Secure
High redundancy

Flexible

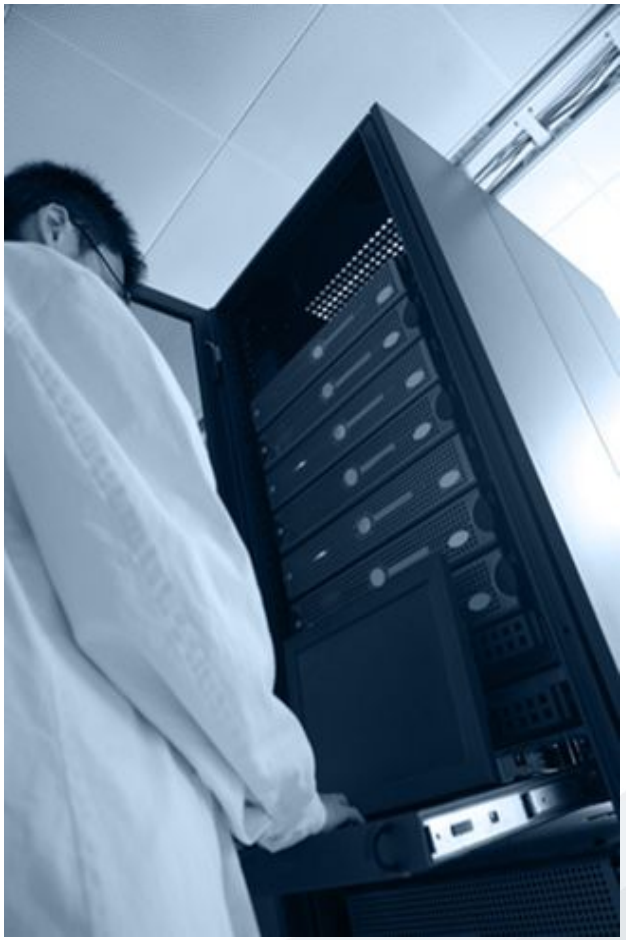
Client specific installation instead of one size fits all
Scalable architecture
Adjustable to specific task or purpose

Original

100% in-house platform, coding, patents & algorithm (true vendor)
No additional license payments to outside vendors

Value

Competitive pricing
Superior product – best on the market!



Applications

Physical security & law enforcement

Police surveillance, customs enforcement, penal & correctional facilities, private investigation, guard posts & clearance-only stations, public safety

Individual identification in crowded environments

Airports, public transportation, shopping & commercial centers, parks, streets & recreation, stadiums & entertainment complexes, amusement parks

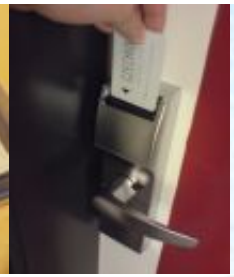
Identity & ID verification

School safety, eLearning/online education, workplace entrance/access, fraud prevention, ethnicity, gender

Accessibility

Internet, vehicles, personal computers and devices, banking

And much more!

Benefits

Safety

- Protect your community
- Secure schools
- For the workplace: keycards get lost, stolen or can be handed off
- Prevent identity theft
- Fly safe!

Ease

All you need is a face. The rest is even easier!

Efficiency

- Monitor
- Keep logs
- Compile data
- Analyze data effectiveness
- Save time
- Increase accuracy
- Reduce human error.

Benefits

Privacy

Smilart's technology converts image files into algorithmic numbers to create a mathematical faceprint. This numeric code is what then gets stored in place of a physical image.

Save money and time!

Smilart solutions are not only more precise and highly competitive in the FRT marketplace; but other, outdated technologies can be very costly and only become more costly with time. Maintenance, human capital, replacement, employee turnover, and ROI all factor into an organization's bottom line.

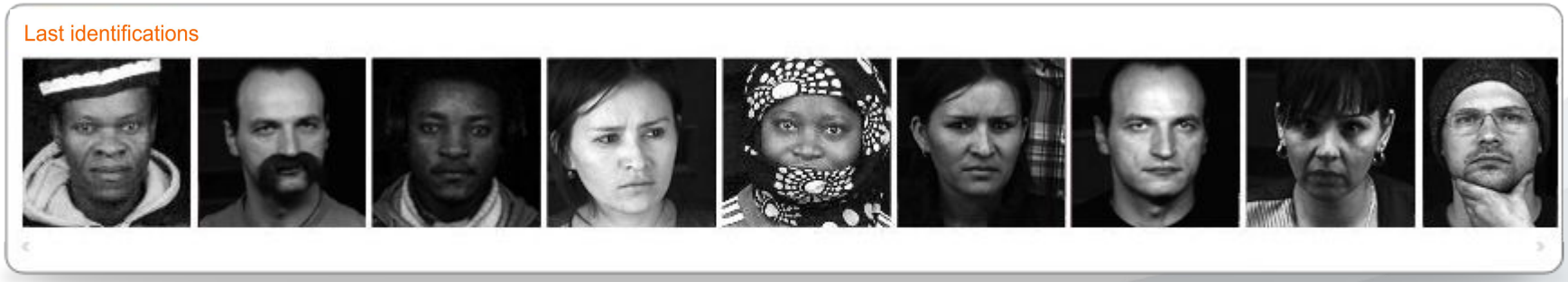
Our system is scalable, supported, dependable, designed for long-term use, requires no maintenance, and does the work of several individuals, with less room for error. Smilart significantly reduces cost and increases value that can be quantified, all while requiring less operating cost, less time, and less supervision.

In action

Depending on your requirements, our software can be precisely tuned to identify individuals flawlessly through a controlled system in a high security setting, or to verify candidates for authorization purposes and access management.

Example 1: controlled environment – high sensitivity mandate (safety) or authorization (security)

Results unaffected by obstructions, ethnic features, shadows
High tolerance – set to ignore glasses, mustaches, beards, headgear, among cooperative candidates



Example 1A

Male Caucasian

Unobscured
With hat & glasses

Example 1A

Male Caucasian

Unobscured
With hat & glasses

Example 1B

Female African-American

Unobscured
With scarf, partially obscured

Example 1C

East Asian male

In action

Smilart's solution is based on a universal algorithm and can therefore be easily set for uses such as identifying potential threats in a crowd under surveillance or monitoring conditions, as well as simple tasks such as calculating numbers of people who pass through a designated point.

Example 2: crowded environment – identify potential threats (surveillance) or head count (data)

Results unaffected by multiples, frequency, direct frontal view
Low tolerance – set to identify potential matches among several uncooperative candidates




Examples

Smilart

Crowded areas

Case study: high school

Customer requirement: To provide an alternative to RFID as a means of verification on entry to a school in Moscow, Russia.

Project: Smilart created a test bed for its technology in a real-world environment. We chose a high school with hundreds of young kids (13-17 years old), teachers, service and security personnel. Each one was provided with an RFID badge and his or her face was introduced to the Smilart system. Everyone was given a choice: either use their face or their RFID badge for entry to the premises. To make the system more engaging for kids Smilart provided the installation with monitors for each checkpoint so kids could see themselves being identified by their faces. The system is still operating today and has carried over into a long term customer contract.

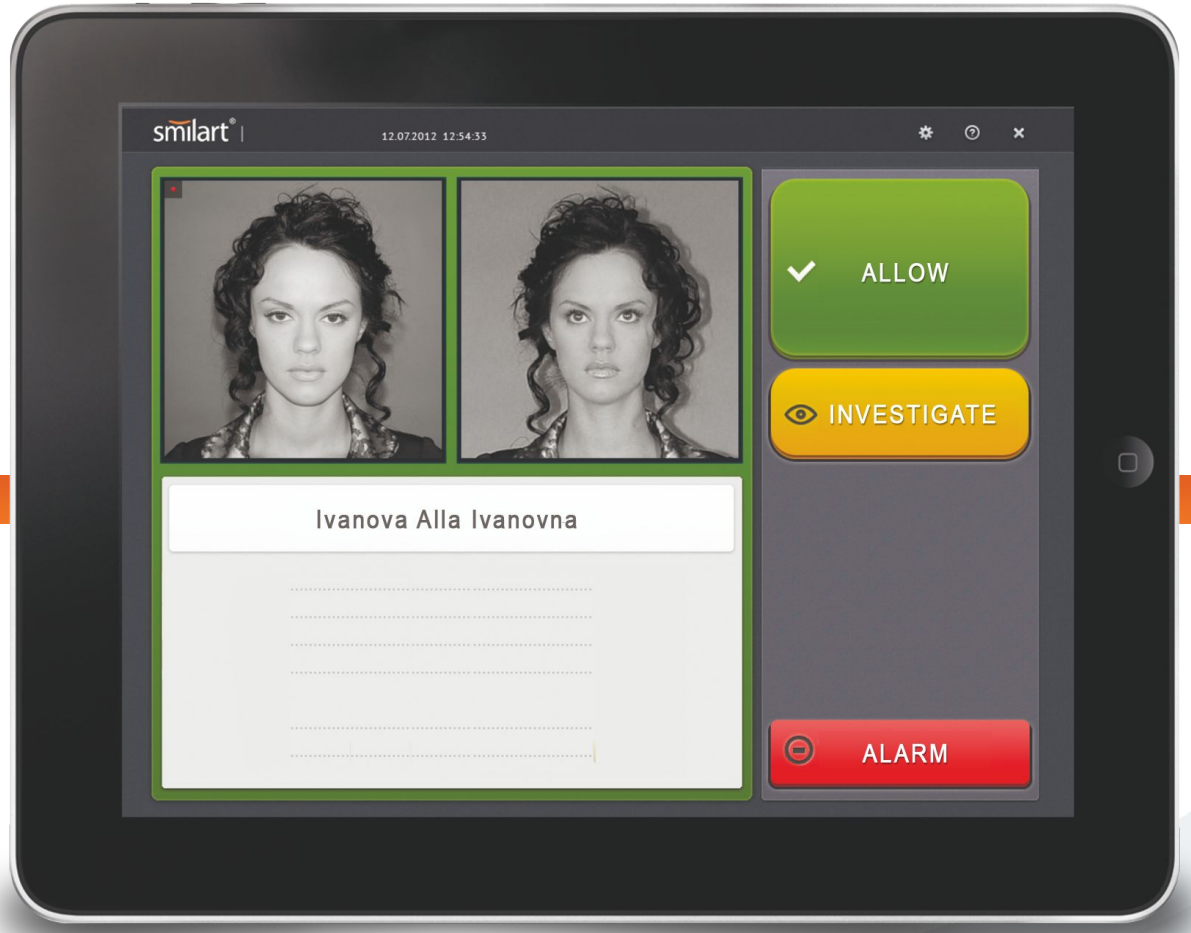
Result: Some 75% of kids in the school database **preferred** to use their faces as an ID for entry. When interviewed they provided the following reasons:

*It works **faster** than the RFID badges*
*You **cannot forget** your face at home*
*It's **easier** to look into the camera than it is to go looking for the RFID badge in your bag*

Technology utilized: The system uses proprietary face detection (FD) and face recognition (FR) algorithms that utilize GPUs (nVidia CUDA). The processing is done on an Intel CPU (i5 or better). The video cards used are the relatively cheap GTX-780s. Initially the cameras used were various models made by Arecont, but once we discovered the Basler ACE series we decided to switch in favor of performance (FPS, image quality) and price.

Case study: high school

On the right: Actual screenshot from our customer in Moscow utilizing Smilart's software solution to verify students as they access the school entryway.



Case study: airport

Customer requirement: Sheremetyevo International Airport in Moscow, a major world hub with over 26 million passengers annually, needed a more effective solution to help identify and catch smugglers.

Project: Smilart collaborated with the airport authority and its security scanner hardware provider. Together we had the scanner frames in the "green" passenger corridor ("nothing to declare") fitted with an inexpensive lighting unit in accordance to our specifications, and our software was installed and set to work in sync with the surveillance system. As smugglers were caught, they were photographed and entered into the airport security database. Since then, each time a subject who is in the database passes through the corridor, a computer screen alert warns airport authorities of a potential threat in real-time, at which point the officer on duty can take further, appropriate measures. On January 29, 2014, M24.ru news agency, an Itar-Tass affiliate, published an article about our project quoting Evgeny (Chuck) Bogorad, Smilart's SVP of Product Development, about the effectiveness of Smilart's solution. You can follow this link to view the article (**Please note:** the article was published in Russian, however we can provide a translation upon request): http://www.m24.ru/articles/35871?attempt=1

Result: Security effectiveness went up immediately. Customer feedback described our solution as:

Using Smilart helped significantly increase security and reduce the need for numerous officers to be stationed in one area. Now one officer reads the screen and if an alert registers then another is sent to detain the subject. It's simple and instantaneous, but moreover, accurate and effective. Green corridor congestion is almost nonexistent, even during peak times.

Case study: airport

On the left: Actual live photo from the green corridor in Sheremetyevo International Airport as passengers walk through a security scanner that uses Smilart's software solution to help identify potential smugglers.

Also trusted by

Here are just a few more examples of valued customers that trust Smilart

Smilart's identification surveillance systems operate in 5 busy central railway stations:

- Paveletsky Station
- Leningradsky Station
- Central Station, Tver, Russia
- Central Station, Samara, Russia
- Central Station, Vologda, Russia

Smilart ensures safety by monitoring access into and out of 4 maximum security correctional facilities:

- Central lockup, city of Vladimir, Russia
- 3 prisons in Krasnoyarsk, Russia

Right at this moment, Smilart's solutions are keeping a close eye out for wanted persons in 8 metro subway platforms across Moscow

Smilart helps a popular internet dating service detect if its customers are providing a real photo of a human face when registering.

Technology

Smilart

Open source systems

Optimization and concurrency

nVidia CUDA - GPU microprogramming

Equipment

Depending on user needs

Cheaper consumer-grade systems, with game-optimized GPUs (nVidia GTX-1080)

Clusters of enterprise-grade systems, with industrial GPUS (nVidia Tesla)

Contact us today!

Please let us know how we can help you be more efficient.

Pre and post-sale:

Incredibly fast development
Professional services
Support
We also have standard products ready-to-go

Let us answer all your questions. We're here to help!

Please contact:

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