ALIOTH Profile

Russian leading card manufacturer and smart card software developer, owner of SCOne, an EMV certified card platform with a set of payment, BIO ID and non-financial applications.

• More than **10 years of experience** in the smart card industry
• Professional R&D team: **more than 60** software developers, analysts and project managers.
• High annual **investments in R&D**
• More than **100 million SCOne modules in the field**
Independent ranking

- No1 card manufacturer in Russia and CIS countries
- Average annual volume of 80 million EMV cards, most of them are based on SCOOne operating system.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total shipments, mln.cards</th>
<th>Shipments of SCOOne, mln. modules</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>33,3</td>
<td>6,6</td>
</tr>
<tr>
<td>2016</td>
<td>45,8</td>
<td>16,6</td>
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<tr>
<td>2017</td>
<td>48,6</td>
<td>31,9</td>
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<tr>
<td>2018</td>
<td>64,9</td>
<td>42,2</td>
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</table>
ALIOTH Expertise

Card manufacturing and personalization
- EMV chip-modules
- Payment cards
- Payment wearables: ring, key fob, wristband

Consulting
- EMV-migration, pre-issue, post-issue
- Card personalization solutions
- Instant issuing
- Microfinance solutions

Software development
- Card applications, Java applets
- Card operating system (COS)
- Host software for non-financial services
- Card and application management system

Implementation of complex projects
- Social card
- Smart ticket for public transport
- Biometric ID card
- Driving license
- Campus card
- Health card
- Fan ID card
Smart card manufacturing
Facts and figures

• Established in 2008
• Production capacity of 80-90 million payment cards per year
• Over 300 employees
• ISO 9001-2015 certification
• PCI CP compliant
Smart card manufacturing. Certificates

- Card manufacturing
- Chip embedding
- Card personalization
- Chip personalization
- Mailing

ISO9001-2015 Quality Management System
A reliable connection to the antenna allows a lifetime of ten years and more, which is essential for identification documents.

The card is easier to produce, which decreases quality issues.

Coil-on-Module technology was developed by Infineon to improve the robustness and long-term reliability of dual-interface payment cards as well as identity documents.

- A reliable connection to the antenna allows a lifetime of ten years and more, which is essential for identification documents.
- The card is easier to produce, which decreases quality issues.
Personalization service
EMV cards

ALIOTH offers the full range of graphic and electric personalization service

- **Visual personalization**: embossing with coloring (tipping), indent-printing, thermal printing, laser engraving;
- **Electronic personalization**: encoding of magnetic stripe, encoding of chip module;
- **Contactless personalization**;
- **Packaging, wrapping, storage and handling**.
Personalization service
ID cards

ALIOTH represents a number of unique visual security features to be introduced into high-security ID cards:

- Laser engraving of personal data
- Security printing
- Microtext laser engraving (very high resolution printing)
- Changeable laser image
- Positive and negative embossing for tactile recognition
Laser engraving of chip modules

Laser engraving is a process of visualizing images and logos on the pad of chip modules, thanks to a focused laser beam.

- Full automation of the process
- Advanced equipment
- High-definition images
- Image stability
- Possibility to engrave images, logos and QR-codes*

* While meeting the requirements for images

Image or logo

Chip modules are decorated with an image by using high-end laser station
Card design and special effects

In-house design bureau
- Full cycle service from concept to final card design
- Design validation with payment schemes
- Short design time

Special effects on cards
- Tactile effect
- 3D-effect with a visible depth of the stereo image
- Foiling, printing with metallic ink
- Transparent cards
- Chameleon effect
- Colored core/edges
- Contact plate engraving
- Printing on magnetic stripe
SCOne
Card operating system

SCOne – EMV is a certified card operating system for payment and identification solutions and for other non-financial services.

Since their first release in 2013, SCOne products have achieved a strong position in the Russian market.

Today, SCOne products are market-proven with more than 100 banks issuing more than 120 million cards in the field.
SCOne
Dual products

![Infineon Logo](infineon.png)

- **M/Chip Advance 1.2.1 DS**
  - LoA expires 29.03.2021

![VISA Logo](visa.png)

- **VIS 1.5.4**
  - LoA expires 09.12.2028

![MIP Logo](mip.png)

- **MIR 1.1, MIR 1.1 Light**

- **Inductive technology**
  - (Coil-on-module, SPS)

- **348 KB Flash-memory** – platform for multi-application projects

![Samsung Logo](samsung.png)

- **M/Chip Advance 1.2.3 DS**
  - LoA expires 04.03.2022

- **MIR 1.1, MIR 1.1 Light**

- **Conventional technology**
  - (FlexBump, Edgelink, ACF)

- **232 KB Flash-memory** – platform for cost-efficient projects
SCOne
Contact products

VISA
VIS 1.5.4 – LoA expires 28.10.2028

M/Chip Advance 1.2 – LoA expires 10.10.2021

MIR
MIR 1.1, MIR 1.1 Light

EMVCo
CPA – LoA expires 15.03.2022
SCOne Additional applications

- Digital signature – CryptoPro CSP
- Mifare Manager compliant – contactless smart ticket solution
- DPFS – multipurpose solution designed for new applications and integrating a new chip-module
- Possibility to carry out several financial applications
- Transport application – Mifare Classic 1K, 4K
- Global pin technology support
iPay – EMV compliant white label application

iPay is a generic payment application designed for local system providers. Thanks to the compliance with the standard POS terminals, iPay solution brings fast time to the market and minimum investment to the infrastructure.

Market-proven security levels ensure secure transactions in online and offline modes. Each transaction is digitally signed in order to ensure high-level protection against counterfeiting and fraud.

**Key features**

- Offline data authentication (SDA, DDA, CDA)
- Offline PIN generation
- Standard EMV-CPS personalization
- Full compatibility with existing EMV-infrastructures
- Contact only or dual interface enabled

✔️  Local payment
✔️  Microfinance
✔️  Fuel card
SCOne payment ring

Payment ring is an innovative payment solution in a jewel with the capabilities of a contactless bank card. Using your ring to pay is faster and more convenient!

• Payments are made on contactless payment terminals or online
• Multi-applications option (mass transit, loyalty, access control)
• Always on your hand, convenient to use
• Expression of individuality
• Variety of shapes, sizes and materials, low-cost or luxury design
• Robust and waterproof
• No battery
Tokenization is an easy process of linking the wearable to the banking card allowed to provide payment functionality to different devices.

ALIOTH|PAY allows not only to issue payment card tokens and load them onto a device, but also to provide a customer access to various non-banking services, offered for both contactless wearables and through ALIOTH|PAY mobile app.

ALIOTH|PAY wearables portfolio offers a wide range of smart accessories – rings, bracelets, key fobs –. These devices are meant to erase the border between fashion and technology.
SCOne metal cards

- **Materials**: Gold, silver, platinum, bronze, titanium, palladium, stainless steel and other metal alloys
- Incrustation of **precious stones**
- Personalization by **laser engraving** equipment
- Engraving of **logo and design elements**

**Advantages for banks**

- An effective tool for customer attracting and retention
- Possibility to be differentiated from competitors by providing innovations to clients
- Meeting the needs of the most affluent and demanding clients

**Advantages for customers**

- Using high-end quality banking product
- Expression of individuality
- Unique sound
- Excellent durability
- Luxury design
ALIOTH
Global smartcard projects

Smartcards
• ID card
• Social card
• Public transport
• Loyalty
• Campus
• Corporate card
• Fan ID
BIO ID for citizens

The biometric ID card allows the identification and authentication of people, on the basis of a unique and specific set of recognizable personal data.

Benefits for the users:
- Confirmed legal ID
- Less fraud and misidentification
- Digital signature
- Multi-application ID card (health, transport, access control, payment, social)

Benefits for the Government:
- Biometric authentication
- Secure identification of citizens
- Voting card
Social card: what is it?

Social card is a multi-purpose payment card given to citizens receiving social benefits.

Card features:
- Basic banking services, social benefits
- Social tickets for public transport
- Electronic digital signature
- Secure authorization at the eGovernment portal
- Identification (access control, medical records, etc.)

Consultancy & solutions:
- Social card concept development
- Card and application management system
- Embedded software development
- Card personalization service
- Smart Ticket system for public transport
- System integration
Campus card

ALIOTH Campus card is an electronic identification document enabling strong authentication of students and staff, offering a secure access control, attendance monitoring and a range of additional services.

SCOOne cards help to implement all necessary services in the campus
Public transportation card

This card can be used as an electronic ticket for public transport (including subsidized travel).

To pay for public transport, the cardholder only has to hold the card against the device (mobile or stationary validator, turnstile) installed in the public transport vehicle.
Corporate card

A card for the employees of the company eligible to work in a given position and to have access to the company’s services, including statistical reports on working time.

- Documents flow, digital signature
- Electronic certificates
- Canteen
- Medical records
- Material pass
- Access control and working hours
Success story

Since entering the market in 2013, the SCOne card products have been selected by more than 100 banks with more than 100 million modules shipped.
Moscow Social Card

- Since 2014
- Powered by SCOOne OS (secure EMV banking product developed in Russia)
- Mifare Emulation
- PayPass application using inductive contactless Coil-on-Module technology from Infineon (improved reliability)
- Certified digital signature-application onboard
- Laser engraving of personal data (increased durability)
- Issued by several banks

More than 6 000 000 new-generation cards produced – the largest project in Russia that brings together payment and ID services in one card!
Moscow State University (MSU) Campus

- MSU Campus card based on Moscow social card with additional applications
- Available campus services:
  - Holder identification
  - Access control
  - Libraries, etc.

Sberbank – Bank No.1 in Russia
MSU – University No.1 in Russia
As the Official Payment Services Partner of FIFA, Visa has enabled contactless payments throughout the 11 FIFA World Cup stadiums to ensure fans can get through lines quickly and not miss any of the action in the field. In the stadium, fans were able to pay with contactless Visa credit and debit cards and wearables.

ALIOTH together with Alfa-bank and PayRing offered to fans Visa Payment rings allowing customers to make purchases on any contactless payment terminal.

The results revealed that 6500 rings were distributed, and that about one in five (17%) purchases with Visa used a contactless payment technology.
Thank you!

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