

## Institute of Network Technologies

### Volume of investments required: \$ 2 000 thousand

#### Use of funds

R&D - 65%

Marketing - 5%

Acquisition of current assets - 35%

#### Company profile

1. Date of establishment – December 2005.
2. Size and source of investment to date – \$ 2 697 000 consisting of shareholders' investments and re-invested profits (\$ 2 574 000).
3. Production – networking and telecommunications software and hardware, information security.
4. Target market – distributed information systems for corporate and government customers.
5. Sales 2004 – \$ 3 668 000.
6. Description and value of assets – \$ 1 715 000 – office building and assets, the R&D infrastructure and equipment.
7. Goodwill and intellectual property rights – no patents held.
8. Signs of public recognition – none.

#### Owners

|   |                        |
|---|------------------------|
| Legal entity: The Russian Technology Fund | 18.04%                 |
| Individuals:                              | 81.96%, consisting of: |
| 1st Individual                            | 46.52%                 |
| 2nd Individual                            | 22.27%                 |
| 3. Others                                 | 13.17%                 |
| Share of government property              | 0%                     |

#### Products characteristics

The company intends to launch a family of products significantly different from the products currently on offer – this is why the venture investment is desirable.

Current INT products are mostly targeted at the government (including the military) and corporate market, with an emphasis on security. The products include:

IP routers with mandatory and discretionary access control that are optimized for using VHF radio links;

VPN routers (IPSec) certified for processing classified information;

A secure e-mail solution ("X.400 lite").

INT also provides services. They include:

Development of embedded software for communication devices to order;

Development of secure distributed information systems to order;

Turn-key solutions, systems integration, support and maintenance.

INT makes profits in its traditional market areas. The revenues of INT grew at 50% CAGR from 1999; the net profitability is above 20%. The management of the company however seeks to diversify its sources of income and increase its presence in the international market.

The new family of INT products targets the international wireless sensor networks market. It intends to exploit the opportunities presented by the recently adopted ZigBee and IEEE 802.15.4 standards. The first products of the family will be:

A ZigBee-over-IP bridge allowing for connecting two or more wireless sub-networks into a single network with a traditional IP net (a LAN, over Internet, etc.);

A ZigBee-over-powerline bridge allowing for doing the same with in-house power lines instead of the IP network. The HomePlug standard will be supported to avoid jamming other devices communication across the power line;

A set of software tools for monitoring and control of the ZigBee networks and the devices mentioned above.

INT expects strong demand for such products in the areas of industry and building automation. The maximum allowed radio emission level imposes a limit on the range of wireless communication within buildings. Thick walls, metal floors, etc, often makes it impossible to build large wireless only networks spanning across a whole production plant or an office building. Complementing wireless communication with readily available wired links provides the best of both worlds, combining the flexibility of a wireless sensor net with the range and robustness of wired media.

### **Markets & Competition**

West Technology Research Solutions estimates that 500 million ZigBee compliant devices will be sold in 2008. INT expects that at least one bridge per 1 000 devices will be required; this makes a \$ 75 million market if the price of a single bridge is \$ 150. INT expects to be the first to offer such bridges in the market; the INT experience in routing packets over wireless links and in developing wireless sensors to order allows for producing very reliable products. Thus, INT could get at least 20% of the market.

INT is not aware of any directly competing products except a prototype announced by Mitsubishi Electric Research Labs. The prototype is not HomePlug compliant and currently (September 2005) is PC based, i.e., quite far from mass production.

Competition comes also from other wireless sensor technologies competing with the ZigBee standard. INT expects a bright future for ZigBee; should it fail the majority of the competing technologies still support the IEEE 802.15.4 standard (as the bridges under development will). The changes to the bridges needed to switch from ZigBee to one of such technologies are minimal, thus the investment in R&D will be protected.

### **Marketing & Sales**

The main sales channels will be:

Solution providers in the areas of industrial automation, building automation, AMR, physical security;

Store chains selling DIY and electronic goods, like Radio Shack or Hornbach;

Online OEM market places like Alibaba ([www.alibaba.com](http://www.alibaba.com)).

Advertisements will be targeted at solution providers and placed in the professional press. Trade fairs will be actively used for establishing contacts with potential distributors.

### **Prospects of development**

INT intends to become one of the world leaders in infrastructure building products for wireless sensor networks, as well as other networks for remote monitoring and control. One can think of it as "Cisco for wireless sensor networks".