

Whisker, R&D Company

Volume of investments required: \$ 5 000 thousand

Use of funds

R&D - 4%

Acquisition of fixed assets - 88%

Marketing - 6%

Acquisition of current assets - 2%

Company profile

1. Date of establishment – February 2003.
2. Size and source of investment to date – \$ 750 000, including: business-angels – \$ 240 000; Project initiators – \$ 60 000; investment via tender of the Russian Ministry of Science – \$ 450 000 (for 2005–2006).
3. Production – high-resolution probes for atomic-force microscopy.
4. Target market – instruments for nano-technologies.
5. Sales 2004 – \$ 4 000 (experimental-test party).
6. Description and value of assets – none.
7. Goodwill and intellectual property rights – patents of Russian Federation, of USA, and Patent application in Europe for design and technology.
8. Signs of public recognition – First prize of the competition of business-plans of venture projects of Business of Innovation Technologies (sponsor – The Intel Company), June 2005.

Owners

Individuals	100%
Share of government property	0%

Products characteristics

The high-resolution AFM probes are used as spending materials in atomic force microscopy (AFM) at scanning the solid surfaces with resolution 1–3 nm. Price of the probes ranges from \$ 15 to \$ 250 depending on two principal parameters: (1) cone angle of the probe at the apex (its diameter and possibility to penetrate into narrow trenches) and (2) curvature radius of the apex (the sharpness ensures the sensitivity to the surface). Company plans to use its proprietary technology of single-crystalline vapor growth and prepare a product having the both best parameters on reasonable prices about \$ 150. A key value for customers is a possibility to obtain a qualitative (high-importance) information about object studied, as well as (together with) a multiple saving (both) the time and the money with our probes.

Markets & Competition

Data	Whisker probes (2006)	NanoWorld (Switzerland, 1992)	Nanotools (Germany, 2002)
Geographical Region – USA, Europe, Japan, Asia. Market size \$ 50 million			
2004 Company market share, \$ ths / %	-	25 000 / 50%	2 000 / 4%
Geographical Region – USA, Europe, Japan, Asia. Market size \$ 80 million			
2009 Company market share, \$ ths / %	25 000 / 31%	25 000 / 31%	-

Marketing & Sales

Total volume of the world probe market is more than \$ 60 mln a year (1 million of probes) with the annual growth 10-15%. Geographic structure of the market: USA (30%), Europe (30%), Asia (30%). The principal producer of the probes is NanoWorld (Switzerland/Germany), its product takes more than 45% of the market. The product is presented practically in all the market segments:

low-price segment (\$ 30, with both the low parameters of the probes) – 75% of the world market as related to the number of probes, however, only 35% as related to the money flow. Under a brand "Budget", the NanoWorld competes with the Russian company Micromash;

middle-price segment (probes SSS and HAR with prices \$ 80 to \$ 130) – more than 50% of the world market. The segment is divided, practically in equal parts, by NanoWorld (Nanosensor), Nanodevices (USA) and Olympus (Japan);

high-price segment (probes of quality "special", \$ 250 up). Money volume of this segment is less than 10%. Leaders here are a specialized company Nanotools (Germany, interacted with NanoWorld) and Team Nanotech (Germany).

The both important parameters of our whisker probes are superior and corresponded in quality to the "special". These are going to be sell at prices \$ 150. This allows to attract current customers of all the price segments and to satisfy potential customers that are limited by the prices existed. Our principal competitor is the group NanoWorld.

Prospects of development

Going to the market is planned at the beginning 2006 with using advertisement discounts in order to stimulate "first purchases" Also, it is planned to use our broad professional contacts with potential customers.

The company Whisker considers the following ways for the sale:

dealers of expendable materials for the nanotechnology instruments; in each of the sale regions (USA, Europe, Japan, etc.) several dealers independent of producers exist, the dealers operate with the customers and have stock-in-trade;
producers of atomic-force-microscopes are contacting with customers/microscope users and seeking a post-sale service, including probe delivery;
possible partnership with other probe producers and using their sale channels.