EXPOSITION stand № II-5

Igloptika

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Volume of investments required – $ 300 thousand

Summary

1. **Production** – medical apparatus. An output of devices «Spektr» and «CCD» is planned. – They are specimens of new generation of small-invasive medical apparatus, designed for providing safety of a patient backbone puncture during an epidural anesthesia.
2. **Merchandise marks –** none.
3. **Realization volume for 2007** – none.

Company profile

Date of establishment – March 2007. The company was founded by a group of colleagues of St. Petersburg State University of Information Technologies, Mechanics and Optics, and Pavlov State Medical University of St. Petersburg for the project realization within the frames of program «START 2007».
Description and value of capital assets – $ 1 ths.; office equipment.
Previous rounds of investments – $ 30 ths. The Fund for assistance for development of small enterprises in STS.
Signs of public recognition – none.
Number of employees – 3 persons.

Structure of ownership

Natural persons (3)	100% (30%; 30%; 40%)
Aggregate share of government property	0%

Team

Shpakov Dmitry Vladimirovich – Director, 32 y.o. Graduated from St.Petersburg State University of Information Technologies, Mechanics and Optics. Has 10 scientific publications, 2 patents. An experience of work as leading designer (2 years).
Latyev Svjatoslav Mikhaylovich – Scientific Adviser, 65 years. The author of more than 100 science publications and four books; 20 author's certificates and patents.
The following persons are attracted for consultations:
Doctor, Professor ***Zverev V.A***. (SPbSU ITMO).
Doctor, Professor ***Volchkov V.A***. (Pavlov SPbSMU).

Production

An epidural anesthesia (EA) is used as a main kind of anesthetization in such fields of surgery as urology, gynecology, midwifery orthopedy. EA merits are a minimal organism toxicosis, consciousness preservation, a quick recovery.
An epidural space puncture is one of the most crucial phases of the epidural anesthesia. The space is located in a backbone canal between two shells. When doing puncture a needle must pierce a yellow ligament and not pierce a hard cerebral shell. A distance between the shells is maximal at a lumbar spine (5-7 mm) and it is minimal at cervical and pectoral spines (less 2-3 mm). A complexity of a puncture at cervical and pectoral spines substantially confines EA development.
Existent manual epidural space identification methods do not ensure a required safety level. Even experienced experts commit a hard cerebral shell perforation in about 1% cases. Backbone anomalies developments, peculiarities of a ligamentous backbone apparatus, a kyphoscoliosis, a fatness are factors which complicate EA realization.
Material losses caused with one complication case are valued at 60 ths. rubles in Russian Federation and $ 85 ths. abroad. About 200 ths. epidural blockades are carried out only in St. Petersburg during a year. One percent of complications amounts to 2000 patients and material losses of 120 mln rubles. On a national scale an economic effect will be 10 times more and amount to 1 bln rubles. Introduction of the proposed device will economize substantial funds due to a reduction of the complications number.
Methods of an optical identification of biology tissue have been worked out and experimental investigations have been carried out by members of «Igloptika». Obtained results enable creation of technical means, which have very high safety level.
Production developed is a device for an optical identification of an epidural space (DOIES)

Methods of an epidural space optical identification are protected with RF patents #2245674 of 15.12.2002 and #2243002 of 21.11.2002. A patentee is SPbSU ITMO. «Igloptika» has a contract of an exclusive license with the patentee for 10 years.

Comparison with analogues:
Direct analogues in the world are not present. The closest analogue makes the control of epidural space puncture with help of an ultrasound. However, this method uses identification signs of manual methods and so it has all there principal drawbacks.

Current state
The company «Igloptika» is completing a work out of a "Spektr" device prototype. Now main units of the construction, the device general composition and variants of the device kitting-up are worked out.

Development strategy

Use of funds

1. R&D 40%
2. Acquisition of fixed assets 20%
3. Marketing 20%
4. Acquisition of current assets 10%
5. Others 10%

Acquisition of licences, patenting and certification.

Prospective outcome of investment
As a result of project realization two devices «Spectr» and «CCD» will be created, which practical application will allow: to reduce number of complications at carrying out of a puncture of epidural space; to improve quality of training of the medical personnel.

Marketing & Markets
There are 2 groups of buyers:
The first group consists of organizations actively applying in the practice epidural anaesthesia, or other operations demanding identification of epidural space. Hospitals, maternity homes, fracture clinics, ambulance cars, life-saving services can be such organizations.
The second group consists of medical scientific and educational institutions, the educational organizations which are carrying out preparation of anesthesiologists, traumatologists, surgeons and other experts, in which practice epidural anesthesia use is possible.

From a fulfilled analysis of the market the decision on working out of two variants of the device is accepted:
1. «Spectr». For skilled experts and mass application in standard conditions, the simple, small-sized and inexpensive device is required. Such device can be realized on the basis of measurement of spectral characteristics of biological tissues, which are in a contact to a cut of a needle.
2. «CCD». For researches, training of experts, and also, at especially difficult, not standard operations, where in addition to a color a structure visualization of biological tissues is required. It can be realized with application in the device of a representing regular fiber-optical bundle and CCD-camera. The image from a video camera is transferred to TV-monitor.

This project will be developed further and will be extended at the expense of creation of the device updatings and of identification and diagnostics problems decisions in other areas of medicine.
Market: Russia, with the subsequent exit to the world market.
In 2006 the volume of the world market of medical products has made up to $ 260 bln, in Russia – $ 3.8 bln.
Annually the market shows dynamics at 15-16%.

Product distribution, stimulation of sales:
We will take part in large particularized exhibitions and conferences.
We actively co-operate with the scientific-practical society of anaesthesiologists-reanimatologs of St. Petersburg.

The following schemes of the product realization are proposed:
Direct sales, drugstores, etc.
Equipment granting in rent.
Production of particularized devices solving more specific problems of customers.

Interaction with investor

A company share of 30% is suggested.

Financial characteristics, $ thousand

Data	Facts			Forecast	Forecast with the investment required			
	2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Sales	-	-	-	-	75	350	950	1 700
Operating income	-	-	-	-	30	140	280	680