

## "MACDEL" JSC

Moscow

Owners:	7 individuals
Staff:	9 permanent employees, 25-30 temporary employees
Previous financing (overall):	\$ 484,000, including external funds of \$ 14 000
Current financing:	\$ 70,000 - internal funds
Volume of investment required:	\$ 1,200,000

Intended use of the investments required:	<ol style="list-style-type: none"><li>1. Increase in sales of physiotherapeutic apparatuses for ophthalmology in Russia, bringing the sales volume to \$ 5 million and creation of a basis for an exit on the world market, " 64 % of the total investment amount, including:<ul style="list-style-type: none"><li>o modernization and development of new apparatuses with the purpose of implementing the integrated strategy of filling up the niche of physiotherapeutic and diagnostic apparatuses for ophthalmology - 18%</li><li>o marketing system organization (promotion, dealers, mobile treatment groups, leasing) - 28%</li><li>o organization of production and manufacture of start-up batches of apparatuses - 18%</li></ul></li><li>2. Expanding marketing activities to include 2-3% of the world market (\$ 25 million):<ul style="list-style-type: none"><li>o patenting and patent support abroad " 9%</li><li>o obtaining authorization to use the apparatuses in Korea (KFDA) and other countries " 9%</li><li>o promotion of the technology in the markets of Korea and other countries " 18%</li></ul></li></ol>
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### Company profile

In 1991 the concept of **MACDEL** (Medical Automated Complex: Diagnostics-Expertise-Laser) brought together a team of enthusiasts and resulted in joining creative efforts of the researchers of Bauman Moscow State Technical University and several medical research institutes wishing to realize their ideas in high medical technologies. Production of the first apparatuses was started in 1992, with a new generation coming every two or three years. MACDEL Joint Stock Company was set up in 1999. All the R&D work was carried out by MACDEL Company. Medical results substantially enhanced by the application of high-tech also belong to MACDEL. Some intellectual property objects remain the authors' property and the copyright will be transferred to MACDEL if necessary. MACDEL is authorized to work in medico-technological sphere.

### Area and directions of activity

1. Medical engineering. Research and development, manufacture and market promotion of complexes of intelligent technical devices for medicine, including laser therapeutic apparatuses, ophthalmologic and diagnostic systems, etc. Medical staff training.
2. Development of high tech optronic and information systems.

### Products/Services/Technologies

Medical techniques and laser ophthalmologic complex for nonoperative (therapeutic) treatment and prophylaxis of the most common eyesight diseases - 90% of sales volume. The technique for treating myopia (amblyopia, nystagmus, strabismus, computer-related eye fatigue syndrome, etc.) is in the lead among therapeutic treatment methods, its efficiency being 3-5 times as high as that of eye training, electrostimulation, magnetic stimulation, pneumomassage, etc. (<http://macdel.elexpro.ru>, (S. Nebera, L. Orbachev-sky, "Medical technology for maintaining good eyesight", Summa Technologiy (Collection of Technologies) Jour-nal, #2, 2000). 45-75% of developed nations population are potential

customers. Using preventive methods this technique allows to reduce the number of nearsighted people by order of magnitude.

The technology's efficiency is proved by the following achievements:

- selling of more than 250 apparatuses in all regions of Russia, including 65 apparatuses delivered by special request from the city of Moscow in 1998-1999. The number of customers is approaching 300 thousand people
- use of the technology by Pediatric Polyclinic of the Medical Center for the Russian President's Administrative Department, Ghelmgolts Medical Research Institute of Eye Diseases, Excimer Ophthalmologic Company, seaborne aircraft pilots' eye health care medical consulting room (Cruiser Admiral Kuznetsov)

Medical techniques and MACDEL multipurpose therapeutic laser apparatuses. MACDEL-02 portable apparatus competes in price with well-known brands beating their technical characteristics. MACDEL-05, in addition to providing for exposure to laser radiation applied in therapy. The apparatus is PC compatible. Methods of premature and newborn infants' perinatal pathology treatment and prophylaxis ensure the demand for the apparatuses in all maternity hospitals.

Personnel training and maintenance service of MACDEL apparatuses (Russia, Commonwealth of Independent States).

Training in Laser Therapy including MACDEL techniques enhances apparatuses' efficiency. The after-sales service provides for repairs over the period of more than 7 years.

Medical care service at customer's premises and/or under the contract with enterprises. A mobile group of doctors can carry out work aimed at eyesight disease prevention in a school with the number of students of over 500 during an unlimited period of time. Computer companies, railroad workers, etc. are also among the company's customers.

Contract research and development jobs in optronics, information measuring and data systems.

Consulting services. 2002 - "Development of Occupational Standards for Occupations Which Are Critical for Market-Based Economic Development", including occupational standards for managers of innovation for scientific and technical sectors, work done within the framework of the Contest of the Russian Fund of Social Reforms.

#### Achievements

- Efficient team of scientists, engineers, doctors, managers, experienced in commercialization of medical and technical projects.
- Global licence for medical and technical activities; authorization, certificates, patents.
- Leader in therapeutic apparatuses of laser ophthalmology.
- Performed order from the city of Moscow for the delivery of ophthalmologic apparatuses (1998-1999).

#### Prospects of Development

Keeping up MACDEL's 50% market share with a steady growth of the market of physiotherapeutic apparatuses for ophthalmology in Russia to reach \$10 mln. sales volume, expanding market activities to include 2-3% of the potential world market (\$ 25 mln).

Foreign market development envisages search for partners and getting over high authorization-related barriers. At present negotiations are under way in Korea, China, Israel, Saudi Arabia and Check Republic.

Sales volume (over the last 12 months): \$ 300,000, including apparatuses sales worth \$ 80,000

year	Without investments requested	With the investments requested
2003	\$ 96,000	\$ 390,000
2004	\$ 115,000	\$ 1,429,750
2005	\$ 138,240	\$ 9,548,900
2006	\$ 170,000	\$ 24,192,000
2007	\$ 230,000	\$ 30,240,000