

GORO Scientific Research Center of Ecological Resources

Volume of investments required: **\$ 1 150 thousand**

Intended use of investment required:

R&D (new material production - aerogel)	28%
Fixed assets acquisition	40%
Marketing	10%
Patenting and certification	6%
Working capital	16%

Company profile:

1. Date of establishment - August 31, 1999
2. Stage of development - Start-up
3. Size and source of investment to date - \$ 200 th. - own funds
4. Industry - Chemical supercritical fluid technologies and equipment, new material production
5. Target market - Chemical industry, construction, aerospace, etc
6. Sales in 2003 - \$ 360 th.
7. Description and value of assets - \$ 300 th. - unique supercritical fluid equipment designed and manufactured by the company
8. Intellectual property rights - 6 patents, patentees - SRC ER "GORO" and its founders.
9. Signs of public recognition - The Mechnikov golden medal, the Erlich golden medal, the Golden medal of the 4th Moscow Forum of Investment and Innovations, Grand Prix of the 1st "High Tech - 21st Century" regional exhibition; a collective member of the Scientific Council for theoretical basics of chemical technologies of the Russian Academy of Science.

Owners:

2 natural persons	85%
Share of government property	0%

Management and key personnel:

Averin, Konstantin Mikhailovich - Chairman of the Board of Directors, 38, strategic and financial planning and management. The main investor in the project. Initiator of the "Supercritical technologies in Russia" project.

Vodyanik, Alexander Rifatovich - Commercial Director, 46, innovational management, commercial aspects of innovations, day-to-day management, strategic and operational management of structures, involved in a group of supercritical technologies. The initiator of the establishment of the technological cluster of supercritical technologies in the Russian Federation with participation of all scientific institutions, working in this field.

Vorontzova, Natalia Nikolaevna - Scientific Consultant, 42, chemical engineer, State Premium winner for the development of industrial chemical processes in Military-industrial establishment, chief engineer in a number of large-scale chemical projects in Russia, an active participant of the innovational process for commercialization of the supercritical fluid technologies in the field of defense and security of the RF.

Products characteristics:

Equipment for supercritical fluid production of aerogel - a new material with unique properties: the lightest weight material on the planet. It can be produced with variable transparency to provide daylighting, unique heat- and sound-insulating properties. Application: construction (heat-insulating grazings, facade heat- and sound-insulation, quickly erected buildings and constructions), aerospace equipment (fuselage and hull heat insulation and thermal covering, etc.).

The application of the supercritical fluid technologies enables one to produce a material with required properties. Creating the conditions when parameters of pressure and temperature exceed a so-called critical point, gas transforms into a supercritical state, penetrates into an extracted matrix, dissolves and transports the solutes principally better than conventional organic solvents. An important issue is that all processes are conducted under the mild temperature of 89-90°C to prevent the decomposition of compounds.

Comparative analysis with existing alternatives:

Characteristics	Products/services of exhibiting company, year of bringing to market	Cabot Corporation (USA), 2004, brand name NANO GEL	AirGLASS AB (Sweedden), 1998, brand name AIRGLASS
Density, g/cm ³	0.03...0.30 "Goro" does not produce this product but offers start its industrial production	0.03...0/30 granules	0.03...0.30 tiles up to 15 mm thick
Porosity, %	80 ... 99		
Pore volume, cm ³ /g	4 ... 14		
Specific surface area, m ² /g	400 ... 900		
Average particle size, nm	4 ... 6		
Refraction index	1,006 ... 1,060		

The world market for aerogel is currently being formed. The main market participant is Cabot Corporation, a company which produces three kinds of insulating glazings for buildings and constructions and operates six plants all over the world. Other players are basically producing special-purpose aerogels (radioelectronics, airspace systems, etc.): MATCHUSHITA (Japan), "Thermalux" (USA), Corpo Nove (France), Aspen (USA).

Aerogel for insulating glazings is produced in two forms: sheets 5-15 mm thick, granules and blocks for research purposes.

Markets/Competition:

	Characteristics	Products/services of exhibiting company	Cabot Corporation	MATCHUSHITA
2004	Geographical Region- USA, Canada, Western Europe, Market size \$ 500-600 million			
	Company market share, \$ ths./%	0	300-400 / 80%	10-15 / 5%
2008	Geographical Region- Russia, Northern Europe, Market size \$ 800 million			
	Company market share, \$ ths./%	60 / 7,5%	>500 / 62%	40 / 5%

There are several research groups in Russia working in the field of supercritical fluids, but there is no broad industrial application of these product, unlike such countries as Germany, France, USA, etc. SRC ER "GORO" is the only Russian producer introducing the technologies based on supercritical fluids. The realization of this project assumes that the domestic market will be formed and there will be an opportunity to enter the world market of aerogel products. The company's goal is to acquire a dominant position in the field of equipment and technology supply and to gain a leading

position in the production of aerogel products.

Market entry strategy: sales of the finished product , license issue.