

## MEIT Laboratory LTD

Volume of investments required: **\$ 600 thousand**

Intended use of investment required:

<b>R&amp;D</b> (Silicon-On-Insulator (SOI) structure and Micro Electro-Mechanical Systems (MEMS))	<b>40%</b>
<b>Fixed assets acquisition</b> (SOI production)	<b>60%</b>

Company profile:

1. Date of establishment - April, 06th, 2004.
2. Stage of development - Seed
3. Size and source of investment to date - \$25 th. - The Foundation for Assistance to Small Innovative Enterprises (FASIE).
4. Industry - Microelectronics Technology and Materials
5. Target market - Microelectronics and Micro electro-mechanical systems
6. Sales in 2003 - No
7. Description and value of assets - No
8. Intellectual property rights - The right of MIEE products and know-how.

Owners:

MIEE	<b>20%</b>
2 natural persons	<b>60%, 20%</b>

Management and key personnel:

Timoshenkov Sergey Petrovich - The Scientific Adviser, 46, the leader of the group. He graduated from MIEE and now he is the manager of Microelectronics chair in MIEE. He is a specialist in the field of microelectronics and microelectronic productions. In 2004 he became a Doctor of Science in the field of SOI. At present he leads projects of MEMS (accelerometer, gyroscope, micromirror, micromotor and so on) on the basis of SOI.

Hachaturyan Leonid Petrovich - The Director, 44, graduated from MIEE and had been a programmer and developer of IT-systems and manager till 1992. In the period of 1992 - 1996 he was entrepreneur and the chief executive of a small business. In the period of 1999- 2003 he developed and lead the innovational social project. Since 2003 he became the member of MIEE. In the project he manages the financial - organizing and marketing parts. He is a specialist in business accounting.

Kalugin Viktor Vladimirovich - The Head of Research and Development, 30, graduated from MIEE and worked as a technologist for a microelectronic enterprise, a candidate of science on SOI structure. He has been researching SOI since 1995. Currently he is working for doctor's degree in MIEE.

Products characteristics:

### **SOI structures:**

1. The alternative for usual silicon wafers, which are is the main material for most microelectronic productions.
2. It is used in integrated circuit production and for lowering of consumable power, increasing speed of operation, lessening of details' size.
3. It is the basic technology for micromechanical sensors and equipment. 4. It is the base for integrated circuit and also for sensors working in hard conditions of environment in terms of high temperature and radiation, also integrated circuit for special use including high-voltage application.

Comparative analysis with existing alternatives:

Characteristics	Our production. Type: «DI»	Our production. Type: «SOI»	Alternative 1	Alternative 2
The year of market entry	Late 2004	Late 2004	-	-
Structure diameter, mm	100	100	100	100
Cells on device layer	Yes	No	No	No
Thickness of device layer, micrometer	10-20	10-20	20	10-20
Type of insulating layer	Glass	Glass	SiO2	SiO2
Price, \$	160	130	200	230
The release of produce is planned taking into account coming investments:				
The year of market entry	2005	2005	-	-
Structure diameter, mm	150	150	150	150
Cells on device layer	Yes	No	No	No
Thickness of device layer, micrometer	10-20	10-20	20	10-20
Type of insulating layer	SiO2	SiO2	SiO2	SiO2
Average (expert) price, \$	400	320	550	600

SOI structures don't have precise nomenclature and are characterized by about 15 technical parameters, which are not fully standardized at present. The price variation for SOI structures depending on different parameters is about 50 per cent (taken from average expert price). The main technical parameter is structure diameter. SOI structures and SiO2 in insulating layer are used more widely than glass. Cells are formed in instrument layer of SOI structure according to the client's demand.

Alternative 1: Produce with the least offer price (taking into consideration the cost of delivery and customs procedures.)

The supplier - Ultrasil Corporation 100 mm.

Alternative 2: Average expert price is given here for produce with denoted technical parameters, released in the Russian market.

Markets/Competition:

	Characteristics	Products/services of exhibiting company	Foreign alternative (*2)	Russian alternative (*1)
	Geographical Region - Russia Market size \$ 4,000 th.			
2004	Company market share \$ th./%	-	4 000 / 100	-
2008	Geographical Region - Russia Market size \$ 12,000 th.			

	Company market share \$ th./%	4 000 / 3,3	102 000 / 85	14 000 / 11,7
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The release of produce is planned only to Russian microelectronic enterprises. Some agreements concerning supply of pilot lots are signed with "Voskhod"- KRLZ and «NIIME and Micron foundry». At present in the Russian market there are no SOI structures, made by Russian producers. According to forecasts, SOI structures produced by Russian companies are to emerge in the Russian market by 2008.

(\*1) NTC of Schematic Design, IFP SO of Russian Academy of Science.

(\*2) Produce of more than 10 suppliers is represented, market share of each supplier is unknown.