

## Horizon Fuel Cells LTD

Volume of investments required: **\$ 1 500 thousand**

Intended use of investment required:

<b>Prototypes of fuel cells (FC), optimization of active phases , design of gas-diffusion diodes</b>	<b>45%</b>
<b>Working capital</b>	<b>30%</b>
<b>Marketing</b>	<b>15%</b>
<b>Personnel training</b>	<b>10%</b>

Company profile:

1. Date of establishment - August, 30 2004.
2. Stage of development - Start up.
3. Size and source of investment to date - \$ 40 th.
4. Industry - Power supplies.
5. Target market - Low-power power supplies for mobile phones, smartphones, PDA, notebooks, UPS.
6. Sales in 2003 - None.
7. Intellectual property rights - Patents and patent applications for not containing metals of platinum group chemically stable materials for hydrogen and oxygen electrodes alkaline FC.

Owners:

Legal entities	<b>80%</b>
Individuals (3)	<b>20%</b>
Share of government property	<b>0%</b>

Management and key personnel:

Kuchkin Kirill - Director.

Antipov E.V.- Scientific Director.

Dyachenko O.G. - Deputy Science Director

Tsirlina G.A.- Deputy Manufacture Director

Products characteristics:

Low temperature alkaline FC, not containing platinum metals. Materials of catalysts for FC.

Catalysts and electrodes for alkaline FC.

The basic sector of the market is determined as manufacture of power supplies for a starting of small vehicles (up to 2 kw) and maintenance with the electric power of mobile devices (up to 5 kw).

Comparative analysis with existing alternatives:

Horizon Fuel Cells	EBARA-BALLARD (Canada - Japan)
Cost of developed materials of catalysts in 100-200 times is lower in comparison with cost platinum-contain catalysts of the leader in the international market of firm E-TEK Achieved now catalytic reactivity in calculation on weight of an active material - in 1,5-2 times is lower,	There are no exact data. The company plans to carry out trial deliveries on the market of Japan. Company EBARA-BALLARD is joint venture of company EBARA Corporation of Japan and Bal-lard Power Systems Inc, created in January,

<p>than at E-TEK, service life - in 2-2,5 times is less. In view of necessity of optimization of designs of fuel elements and other initial technological investments for the potential consumer it allows to expect depreciation of a fuel element at 5-10 times</p>	<p>2003 for precommercial deliveries FC, first of all on the market of Japan.</p>
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#### Markets/Competition:

Developed alkaline fuel elements are actively applied in aeronautics. All deliveries FC on the market have only estimated and precommercial character. More the wide circulation is prevented by their dearness owing to use of platinum and a palladium as components of electrode materials.

According to the review of company Fuel Cell Today manufacture of fuel elements in the world has reached record parameters in 2003, having increased on 2800 piece up to 6800 piece, the fiftieth years made from the end as this alternative energy source is in demand the increasing demand. Also it is marked, that the sector of portable fuel elements has got appreciable support of militarians and manufacturers of consumer electronics.

In March, - April 2004 the big attention of consumers has involved the message on development of an alkaline fuel element by firm Astris Energi Inc. (Canada). Reaction to it for the present not quite checked up message has brightly illustrated essential excess of demand for a product over the offer.

On the basis of data on projects on FC it is possible to conclude, that, basically, the problem of electrode materials is solved within the framework of a problem of minimization of amount of platinum (for example, by full or its partial replacement by a palladium), instead of full refusal of precious metals.

Realness of idea « Horizon Fuel Cells » consists in refusal of attempts of development средне- and the large-scale energy sources, not feasible in conditions of not usual market of fuel elements.

The company will concentrate efforts to maintenance of growth of manufacture of power production on "small sites" for:

- starting of small vehicles capacity up to 2 kw.
- decentralize power supply mobile devices capacity up to 5 kw.

The appropriate segments of the power market are extremely flexible and have prospect of the fastest development.