

# Creation of New specialized Manufacture of Import - Substituting Components for Electronic Control Systems of Hydraulic Drives of Mobile Machines

## A. Project opportunity description

### A1. Project name:

Creation of new specialized manufacture of import -substituting components for electronic control systems of hydraulic drives of mobile machines

#### A1a. Short name:

Expansion of capacities on a batch production of import-substituting goods. Creation of new manufacture.

#### A1b. Full name:

Creation of new specialized manufacture of import -substituting components for electronic control systems of hydraulic drives of mobile machines

#### A1c. Summary description:

As a result of technical re-equipment of OJSC "Izmeritel" it will ensured:

- the unconditional output release of developed and reclaimed products;
- the implementation of development programs of import-substituting products by product PA "MTW", OJSC "MAZ", OJSC "BelAZ";
- the improvement of economic and qualitative indicators of OJSC "Izmeritel" in 2011-2015. The investment project on technical upgrading and expansion of OJSC "Izmeritel" will provide an annual increase of net income of the enterprise, and, consequently, an investor, due to the expansion of availability, throughput increasing and sales of products.

### A2. Project status:

The plan of production re-equipment and a feasibility report for the year 2011-2015 have already developed. Necessary calculations for the project are conducting.

### A3. Organization involved and their roles:

OJSC "IZMERITEL": 211440, Vitebsk region, Novopolotsk, 166 Molodiozhnaya str., - the organization realizing the project

Director General – Reshko Jury Pavlovich , tel:+375(214) 52-28-36

Technical Director – Pljushchikov Vasily Gennadevich, tel: +375 (214) 52-16-25.

Ministry of Industry of the Republic of Belarus: 220033, Minsk, 2 Partizanski Ave., block 4 –State body.

### A4. Project description:

The aim of the project is the creation of specialized production of components for electronic control systems for hydraulic drives of mobile machines on OJSC "Izmeritel", forcing from the domestic market the foreign companies similar products, which currently acquired by the leading enterprises of Belarus: PA "MTW", OJSC "BelAZ", OJSC "Amkodor", PA "GomSelMash". These components include sensors of different physical variables (effort, pressure, temperature, frequency, speed, position, etc.), controllers that contain software to ensure the

implementation of the required control algorithms to the impact of the various hydraulic devices (electro hydro distributors, pressure regulators, etc.).

In addition, control systems usually include control panels, or other defining device - pedal mode selector that connect people with the system. These devices are also assumed to produce at a specified workplace.

Re-equipment includes the modernization of storage shop, machining production, stamping production, thermal, welding and assembly line, complete replacement of printed circuit boards, replacing of electroplated anodizing and galvanizing lines. As a result, increasing productivity with high quality products is primarily achieved, energy consumption becomes lower, the technological capabilities in products producing improve.

Development of a batch production and delivery of import-substituting products are provided for today:

- Dashboard and voltage converters for “MAZ”
- Complex control devices mounted mobile machines for “MTW”
- Voltage converter 14/28 B. Electro-hydraulic control system distributors external customers with the ability to program the sequence of operations for the software "MTW".
- Electronic pedal sensor and control fuel supply to diesel engines Euro-3 standard and above.
- Joystick for mobile machines.

In a working out and development stage in a batch production there are perspective items:

- Mechatronic system contactless copy topography by remote measurement of working bodies of the mobile machine and reduce its slipping.
- Combination of devices for “Minsk tractor plant”.
- Selectors of control modes for “MTW”
- Metering device controller
- Gages of physical sizes (effort, distance, temperature, pressure, a corner of turns)

#### **A4a. Project cost:**

7.64 mln. \$

#### **A5. Background /history/overall programe/related or similar projects:**

The basis for the offer development is the list of perspective investment projects of the organizations of the Ministry of Industry which realization has been carried out since 2009.

The availability of the competent staff having a wide experience of working out and manufacturing of technically difficult items, considerable quantity of free floor spaces, personnel base, the geographical arrangement, turned out communications in the field of motor industry, will allow to carry out the given capital investment project and to enter the world market in future, with manufacturability of competitive items of auto tractor and automobile subjects for leading world manufacturers of engineering.

#### **A6. Environmental impact summary:**

Negative consequences for ecology at realization of the given project is not expected.

**A7. Possible obstacles/problems/risk degree:**

The degree of risk is minimal. Current products are widely in demand in the Belarusian market

**A8. Time period for project implementation and pay-back period (years):**

5 years- for Belarusian market, 2 years – for world market

**A9. Project branch:**

Machine-building industry

**B. Capital cost Items**

<b>B1. Project physical component:</b>	<b>B2. Capital cost USD million</b>
<ul style="list-style-type: none"> <li>- modernization of procuring shop,</li> <li>- shaped mechanic production,</li> <li>- forming production,</li> <li>- thermal and welding production,</li> <li>- assembly production,</li> <li>- complete re-equipment of printed-circuit boards shop, replacing of electroplated zinc coating and anodizing lines.</li> <li>- modernization of the control trial equipment.</li> </ul>	7,64
Cost for circulating assets	
Total	7,64

<b>B3. Sub-project by location</b>	<b>B4. Capital cost USD million</b>

**C. Capital Resources Available (owner, associates, sponsors etc.)**

<b>C1. Resources, grants, investments, equipments, equity/ownership etc.</b>	<b>C2. Sum, USD million</b>
Enterprise internal funds	0,42
Enterprise production area	1,00

**D. Required Investment, Deficient Funds**

**D1 Necessary Financing, Required Type of Financial Participation:**

Credits, loans, the innovative fund of the Ministry of Industry

<b>D2 Source of finance</b>	<b>D3. Type of Investment</b>	<b>D4. Amount USD million</b>
Assets of banks , investments of investors, investment fund of The Ministry of Industry	Credit / <u>direct investments</u>	6,22

## E. Demand (Users) and Revenues

### E1. Type of Users, Volumes, Pricing, Revenues, Estimated Profit/Savings

Consumers are the large industrial enterprises of the Republic of Belarus, such as PA "Minsk Tractor Works ", OJSC "Minsk automobile plant", PA «GomSelMash», Borisov plant "Autohydrousitel"; factories of the Russian Federation – "ZIL", OJSC «NPO of Rummyantsev», OJSC "Factory the Component", FGUP «GKNPC of Hrunichev», OJSC "MTM", Electrostal.

These are volumes of some products production:

Control system of electrohydraulic allocators of external consumers with an opportunity of programming of sequence carried out operations - annual need of 3000 units, for the sum 2,4 million dollars per year.

Complex of management of hinged devices of mobile machines - 5000 units, for the sum 4,56 million dollars per year.

Components of a control system of submission of fuel for tractors with engines of Euro-3 and above (an electronic pedal and a sensor control of manual management) - 3000 complete sets in a year, for the sum 1,6 thousand dollars per year.

Mechatronic control system of hydromechanical transmission of dump trucks for "BelAZ" - 1000 sets per year The control system of Multistage Pumps tractors "Belarus" - 1000 sets per year Transmission control system of self-propelled front-end loader Amkodor - 1000 sets per year The system of non-contact copying of the surface profile - 600 sets per year Joystick for transmission control of energy-tractors "Belarus" with hydromechanical transmission - 1500 units per year Spool position sensor (DPZ) - 1000 units per year

### E2. Financing Sources

### E3. Revenues (Sales)

## F. Transaction and Operating Costs

### F1. Costs Components, Capital Allowance Policy, Industrial Engineering etc.

### F2. Cost item:

### F3. Amount

## G. Net Income Value

### G1. Net Income Value:

### G2. Amount

Net profit

2 million dollars

## H. Project Information Source:

H1. This form was completed by (name, appointment):

Kuntsevich Sergey Vasilevich, Acting Chief Engineer

H2. Organization:

Open Joint Stock Company " IZMERITEL ", Novopolotsk, 166 Molodiozhnaya str.

H3. Tel./ Fax/E-mail:

Tel: 375 214 52-28-3, fax: 375 214 52-02-55, [www.izmeritel.org](http://www.izmeritel.org),  
office@izmeritel.org

H4. **Date:** March, 2011

H5. **Supreme organization:**  
Ministry of Industry of the Republic of Belarus