

Technical Development of Spherical Roller Bearings Production on 2010-2020 year.

A. Project opportunity description

A1. Project name:

Technical development of spherical roller bearings production on 2010-2020 year.

A1c. Summary description:

Equipping of the basic production facilities with new modern equipment in order to provide bearing production.

A2. Project status:

Stage of realization

A3. Organization involved and their roles:

Open Joint Stock Company « Minsk Bearing Plant », Labusov Alexander Fedorovich, General Director,
Tel: (+375-17) 295-10-52; fax: (+375-17) 296-29-79; e-mail: mpz@mpz.com.by

A4. Project description:

The investment project provides modernization of basic manufacture of enterprise. Purchase of the modern special precision process equipment with CNC for replacement of physically worn out and obsolete equipment is planned.

A4a. Project cost:

69.6 Million \$

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

The factory was established in 1948. The first bearing was assembled in 1951. Open Joint Stock Company «Minsk Bearing Plant » produces more than 800 standard sizes of bearings with diameter from 10 up to 980mm, weight from 20g up to 880kgs, 28 constructive versions.

A6. Environmental impact summary:

Production will be equipped with the state-of-the-art systems for waste disposal so that to meet all requirements related to environmental protection.

A7. Possible obstacles/problems/risk degree:

The most serious risks are marketing risks related with deficiency of profits as a result of reducing sales volumes, absence of sales markets, low competitiveness, and also risks of nonobservance of the project schedule, excess of the project's budget, and general economic risks.

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

Project implementation period – years 2011-2015. Project pay-back period – 5 years.

A9. Project branch:

Machine building

B. Capital cost Items	
B1. Project physical component:	B2. Capital cost USD million
Conduct of project research works	0.03
Purchase of the equipment:	
Spherical roller bearings one and double row	
Vertical turning machine with CNC for inner and outer ring treatment of spherical roller bearings Ø 400-800MM after thermal treatment (2 units), (Germany, the Netherlands).	2.2
Turning 2-spindle CNC machine with the automatic loading/unloading of blanks for brass cage treatment in Ø up to 250MM (2 units), Germany.	1.9
Turning CNC machine with the automatic loading/unloading of blanks for brass cage treatment in Ø 200-450MM (2 units), Germany.	1.65
The circular grinding machine for grinding raceways of inner rings Ø350-570 mm, OJSC Machine-tool plant "Krasny Borets", Orsha	0.42
Grinding machine for grinding of end ribs of inner rings Ø350-570 mm, OJSC Machine-tool plant "Krasny Borets", Orsha	0.39
Machine for the outer ring sphere grinding Ø450-600 mm of spherical roller bearings, OJSC Machine-tool plant "Krasny Borets", Orsha.	0.37
Superfinish automatic machine for superfinishing of raceways of inner rings up to Ø250 mm, Germany	0.85
Superfinishing semiautomatic machine for superfinishing of raceways of inner rings up to Ø250-550 mm, Germany	1.1
The strip-cutting detachable machine for cutting blanks up to Ø260 mm (3 units), Germany	0.17
Laser labeling installation for the bearing rings (2 units), (Belarus)	0.41
Bearing packing machine (2 units), (Germany).	0.14
Machinery for steel cage production (Germany, Czech Republic).	1.5
Tapered bearings	
The lathe with CNC for machining outer and inner rings up to Ø250 mm (4 units), Germany	2.8
The circular grinding machine for grinding raceways of inner rings and carrying end ribs of the inner rings up to Ø250mm (2 units), Germany (Italy)	2.7
The equipment for tool manufacture	
The electrical-discharge machine, Switzerland	0.21
The five-access machining center, Germany	0.76

Chemical -thermal treatment of bearing components	
The unit for thermal treatment of bearing components, (2 units), Germany (Poland)	8.3
The equipmernt for forged piece annealing, (1 unit), Germany (Poland)	3
Forge-pressing and punching equipment	
The equipment for heating of blanks for further forging (5 units), Germany (Italy)	6.1
Heating furnaces with walking bottom for the rod heating used for the hot-rolled machine with the automatic rod loading (4 units), Italy (Germany).	3.5
Ring rolling mill up to Ø600 mm, Germany	13.7
Ring rolling mill up to Ø400 mm, (3units) Germany	9
Total for equipment:	61.17
Design of shop layout, start-up, building and assembly jobs for new equipment	8.43
TOTAL:	69.6

B3. Sub-project by location	B4. Capital cost USD million

C. Capital Resources Available (owner, associates, sponsors etc.)	
C1. Resources, grants, investments, equipments, equity/ownership etc.	C2. Sum, USD million
Equity	15.1
Grants (the financial help) from the republic budget	30.0

D. Required Investment, Deficient Funds
D1 Necessary Financing, Required Type of Financial Participation:
The required equipment is necessary to be financed.

D2 Source of finance	D3. Type of Investment	D4. Amount USD million
Investor	Credit	24.5

E. Demand (Users) and Revenues
E1. Type of Users, Volumes, Pricing, Revenues, Estimated Profit/Savings
The basic consumers of bearings are the large enterprises of machine-building, metallurgical, mining, power industries. Sales: domestic market -35,4%, export -64,6%.

E2. Financing Sources	E3. Revenues (Sales)
Sales income (2010-2020 г.)	808

F. Transaction and Operating Costs

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

For realization of the project the factory has necessary production premises, engineering networks and communications. Construction of new buildings and premises is not required.

F2. Cost item:	F3. Amount
Material expenses	374
Personnel expenses	242
Amortization	72
Other	48
Total:	736

G. Net Income Value

G1. Net Income Value:	G2. Amount
Net profit	72

H. Project Information Source:

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

Barmah Stepan Stepanovich, The Head of Chief Technology Department

H2. **Organization:**

OJSC «Minsk Bearing Plant», 2, Zhilunovich str., Minsk, 220026

H3. **Tel./ Fax/E-mail:**

Tel: (+375-17) 295-10-52; fax: (+375-17) 296-29-79; e-mail: mpz@mpz.com.by

H4. **Date:** 26.01.2011

H5. **Supreme organization:**

Ministry of Industry of the Republic of Belarus