



PRODUCTS FROM CERAMICS AND METAL-CERAMICS MATERIALS

PROJECT

For implementation there is provided a project on manufacturing ceramics and metal-ceramics products.

The project is considered promising due to the following reasons:

- **47 billion USD** was a volume of world special ceramics production in 2013. **CAGR for last 5 years was 19%.**
- Experts expect **9.8% GAGR** in special ceramics market till 2018. World special ceramic market will reach **68 billion USD in 2018.**
- The production of plain bearings, rings, mechanical seals, wear-resistant industrial products, cutting tools, brake systems are the most promising market segments .
- Key markets – Russian Federation (import volume **190 million USD**. CAGR for last 5 years was 15%.) and Belarus (import volume **45 million USD**. **CAGR for last 5 years was 15%.**).
- **Capex** varies between **USD 30-100 mn, IRR 25-30%.**

MARKETS

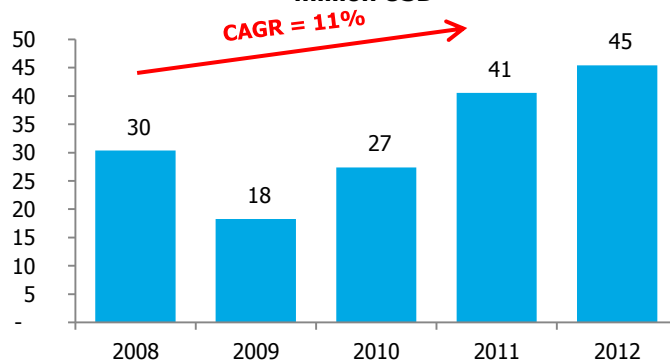
Belarusian market:

- **45 million USD** was an volume of metal-ceramics products import to Belarus in 2012. **CAGR for last 5 years was 11%.**
- **Germany, South Korea and Russia** are the largest exporters of metal-ceramics to Belarus.

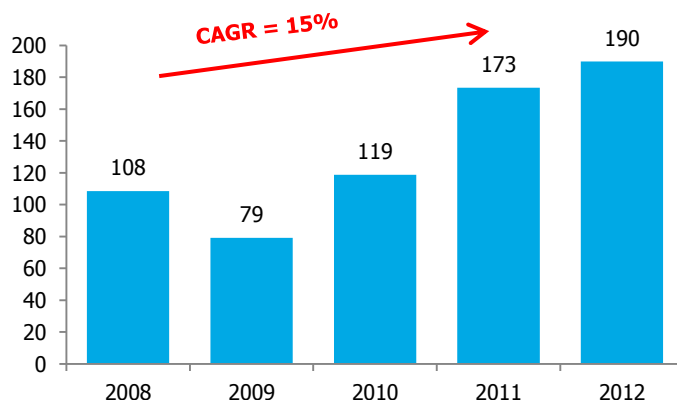
Market of Custom Union:

- **190 million USD** was an volume of metal-ceramics products import to Russia in 2012. **CAGR for last 5 years was 15%.**
- **Germany, China, Sweden** are the largest exporters of metal-ceramics to Russia.

Import of metal-ceramics products to Belarus, million USD



Import of metal-ceramics products to Russia, million USD



MARKET OPPORTUNITIES

Global opportunities:

- **47 billion USD** was a volume of world special ceramics production in 2013. **CAGR for last 5 years was 19%.**
- Annual average growth rate of special ceramics market is expected to reach 9,8% by 2018. World special ceramic market will reach **68 billion USD in 2018.**
- Major consumers will increase metal-ceramics consumption in brake systems up to 60%.

Regional opportunities:

- Industry is a major metal-ceramics consumer. Till 2020 Russia plans to spend **130 billion USD** according to the industry development program till 2020.
- Metal-ceramics is widespread in automobile industry:
 - In 2012 Russian automobile market reach pre-crisis level. In 2012 there were **260 automobiles per 1000 people. 2935 thousand automobiles** were sold in Russia in 2012 (11% growth).
 - **69 thousand motor-buses** were sold in Russia in 2012.
 - **41.8 billion USD** was a volume of Russia spare car parts market in 2012.

Attractive segments:

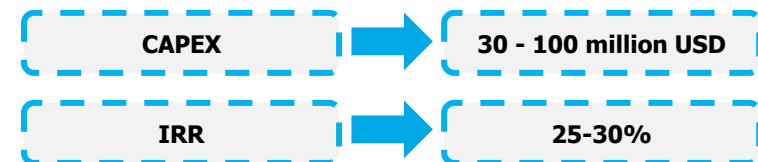
- The production of plain bearings, rings, mechanical seals, wear-resistant industrial products, cutting tools, brake systems are the most promising market segments .

POTENTIAL INVESTORS

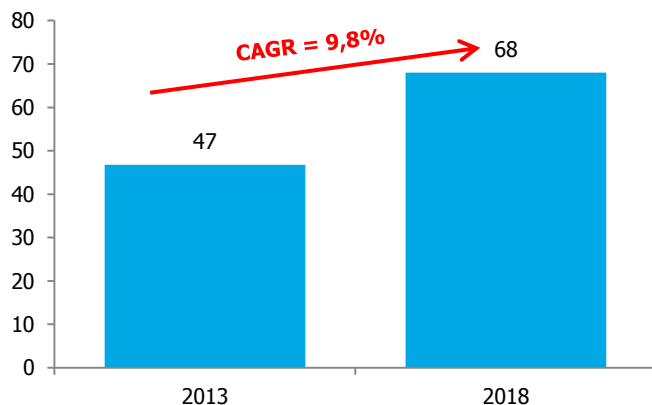
Large producers of metal-ceramics from China, South Korea and Russia.

Large automobile producers.

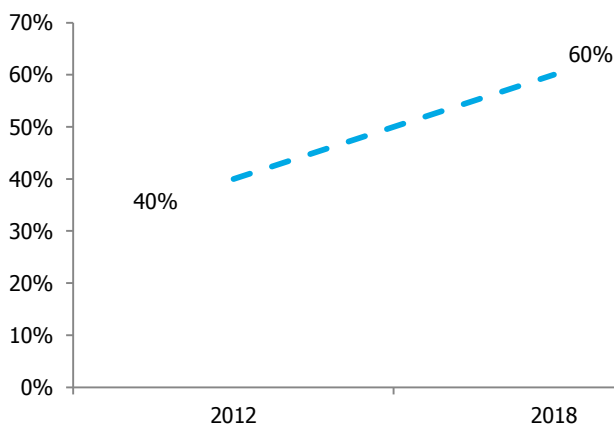
INVESTMENT OPPORTUNITIES



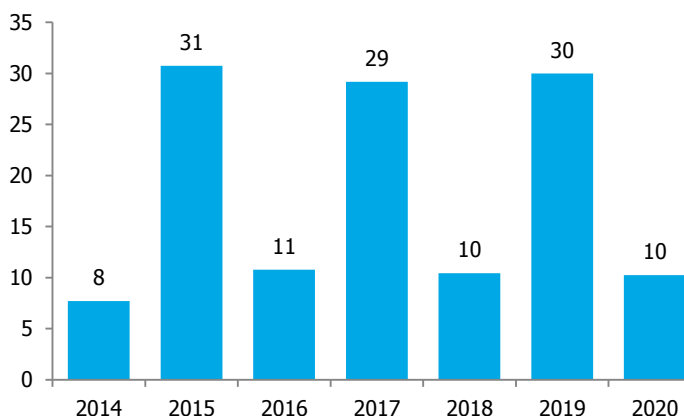
Global special ceramics market (including metal-ceramics), billion USD



Metal-ceramics brace systems,%



Budget funding according to the Russia industry development program, billion USD



Major metal-ceramic consumers

Automobile industry, metallurgy, shipbuilding and construction

Chemical, oil refining industry

Mining industry