Machinery & Equipment Industry in Russia

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This report is an overview of the Machinery & Equipment sector in Russia rather than an exhaustive report. We would be happy to provide a more detailed report on a specific subject. An extended version of this document contains further statistics and other market information; a more detailed version of the report is available upon request.

For the purposes of this report the Machinery & Equipment sector consists of Electrical Engineering & Precision Equipment, General Machinery & Equipment, and Transportation Equipment. We do not cover the Automotive industry in this report. A separate research paper will be dedicated to this industry.
Executive Summary (1)

“The industry is very important for the country’s modernization. It needs significant investment”

- Russia’s Machinery & Equipment industry (excluding Automotive) is the 4th largest sector among other Industrial Manufacturing sectors of the economy, employing approximately 2 million people.
- High level of regional concentration: Central, North-West and Volga federal districts account for approximately 80% of the sector’s output.
- Significant dependency on imported machinery and equipment: 50%-90% depending on industry sector.
- Equipment will likely require modernization: rate of depreciation reaches 70% in certain sectors. For example, equipment used in wholesale and retail is 68% depreciated, oil and gas production: 64%; construction: 60%; transportation: 60%; industrial manufacturing: 54%.
- The Russian machinery and equipment market was an impressive USD 103 bn in 2015.
- China, Germany, Italy, USA and Japan are main sources of imports into Russia: among the five of them they account for 55% of Russia’s imports.
Executive Summary (2)

“Investment potential due to growing demand and state incentives”

– 13 industrial segments, such as Agrochemicals, Paints and Textiles, which are consumers of the machinery industry, show growth of 10% and more in the first six months of 2016 (see slide 14)

– These factors above can be sources of export opportunities for overseas manufacturers

– Government is pursuing an aggressive policy of import substitution and limits access to state procurement for companies that have not localized

– Share of machinery produced locally should be 60% by 2020 while China’s program ‘Made in China 2025’ sets this level at 70%

– At the same time, there are incentives available to investors who want to localize: machinery (power generation and energy) is the largest recipient of state aid from the Industry Development Fund

– Special Investment Contracts (SPIKs) are the new tool of the government’s industrial policy: investors should implement production and the state guarantees stability of tax and legal regimes, and provides incentives
Russia: Facts & Advantages (1)

“Educated labor force”

- Russia is a major market with 144 million inhabitants, of which 74% live in urban areas
- Very close to Europe with strong historic and economic ties
- 77 million people are working age (aged 15-72)
- Good education system with a strong technical/science heritage
- 100% of population is literate with 95% with at least upper secondary education
- 950 state and private universities produce 1.2 million graduates a year (almost double from 2000)
- According to OECD, 54% of those aged 25-64 have attained university degree
- Approximately 30% of graduates major in sciences and technology
- Average salary in the machinery and equipment industry is RUR 32,000-36,000 (EUR 440-490), putting Russia in the same group with Belarus, Bulgaria, Kazakhstan, Serbia and Thailand. Average salary in China is 50% higher than in Russia

<table>
<thead>
<tr>
<th>Indicators</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public debt, USD bn*</td>
<td>112</td>
</tr>
<tr>
<td>Public debt as a % of GDP</td>
<td>9%</td>
</tr>
<tr>
<td>Private debt, USD bn</td>
<td>165</td>
</tr>
<tr>
<td>Private debt as a % of GDP</td>
<td>13.2%</td>
</tr>
<tr>
<td>Human Development Index (HDI)</td>
<td>0.798</td>
</tr>
<tr>
<td>Unemployment, %</td>
<td>5.9</td>
</tr>
</tbody>
</table>

*Year-end exchange rates were used.
Source: Federal State Statistics Service (Rosstat), FocusEconomics, UNDP, Central Bank
Russia: Facts & Advantages (2)

- 12th largest economy in the world measured by GDP in real terms: USD 1,325 billion
- 6th largest economy in the world measured by GDP based on PPP valuation
- GDP per capita in 2015 at current prices: USD 9,055 (and USD 25,411 based on PPP)
- A survey by CEEMEA Business Group, a consultancy, found that 30% of foreign companies operating in Russia are planning some type of new investment in Russia in 2016. This is evidence that localization is seriously considered as an option for future development. The survey was conducted among major multinational companies
- 28% of foreign companies use Russia as an export base and another 20% are thinking
- Approximately 40% of multinational industrial companies expect double-digit growth in RUR sales
Russia: Facts & Advantages (3)

- According to a survey of the Association of European Businesses in Russia and the International Institute of Marketing and Social Research GfK-Rus, European business expects investments in Russia to grow in the next 2–3 years. In 2016, the integrated AEB-GfK Index grew by 14 points from 2015 and now stands at 120 points out of 200 possible, which is a shift to positive expectations.

- Manufacturing Purchasing Managers’ Index (PMI) elaborated by Markit rose to 49.6 in May from 48.0 in April - closer to the 50-threshold that separates contraction from expansion in the sector.

“Increase in investments expected”
Machinery: Role in the Economy

#4 among Industrial Manufacturing segments

8% is the sector’s contribution to the economy

2 million people are employed in the sector

3% of total working population

130,000 companies work in the sector

34% of players are small and medium companies

Explain the significance of the Machinery sector:

- **Coking coal & oil products**: 113, 23%
- **Foodstuffs**: 88, 18%
- **Metals**: 78, 16%
- **Chemicals**: 39, 8%
- **Automotive**: 32, 6%
- **Wood and paper**: 20, 4%
- **Mineral products**: 18, 4%
- **Other**: 44, 9%

Machinery & Equipment in Industrial Manufacturing output in 2015, USD bn; %

- Electrical engineering & precision equipment: 29, 47%
- General machinery & equipment: 20, 34%
- Transportation (excl. Auto): 11, 19%

**Source:** Federal State Statistics Service (Rosstat); own estimates

Exchange rate: RUR 65 to USD 1
Geographic coverage of the sector

“This sector has highest concentration in Centre, North-West and Volga”

<table>
<thead>
<tr>
<th>Federal District</th>
<th>Av. monthly salary, RUR</th>
<th>Av. unemployment rate as of May 2016, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centre</td>
<td>34,970</td>
<td>3.7</td>
</tr>
<tr>
<td>Far East</td>
<td>31,974</td>
<td>6.6</td>
</tr>
<tr>
<td>Urals</td>
<td>30,494</td>
<td>5.9</td>
</tr>
<tr>
<td>North-West</td>
<td>28,572</td>
<td>4.8</td>
</tr>
<tr>
<td>South</td>
<td>24,328</td>
<td>6.3</td>
</tr>
<tr>
<td>Volga</td>
<td>24,020</td>
<td>4.9</td>
</tr>
<tr>
<td>Siberia</td>
<td>21,490</td>
<td>8.1</td>
</tr>
<tr>
<td>Northern Caucasus</td>
<td>20,692</td>
<td>11.2</td>
</tr>
</tbody>
</table>

* - share in total industrial output

Source: Rosstat
Industry Players (1)  
Centre and North-West

Bryansk:  
Bryansky Mashinostroitelny Zavod (RU; Transmashholding/TMH) – Locomotives

Moscow:  
Demikhovsky Mashzavod (RU; TMH) – Electric trains  
Elektrozavod (RU) – Transformers  
Kolomensky Zavod (RU; TMH) – Locomotives  
Metrovagonmash (RU; TMH) – Metro carriages  
ZIO-Podolsk (RU; Atomenergomash / AEM) – Nuclear power  
Alstom (FR) – Locomotives  
GEA (DE) – Refrigerators and compressors

Voronezh:  
Siemens (DE) – Transformers

Volgorechensk:  
NOV (USA) – Drilling rigs

Petrozavodsk:  
AEM-Technology (RU; AEM) – Nuclear power  
Omega Tractor Plant (RU; Machinery & Industrial Group / KTZ) – Tractors

Saint Petersburg:  
Electrosila (RU; Power Machines / PM) – Generators  
Izhorskiye Zavody (RU; OMZ) – Heavy equipment  
Kirovsky Zavod (RU) – Tractors  
Leningradsky Metallichesky Zavod (RU; PM) – Turbines  
Siemens (DE) – Gas turbines

Tver:  
Tver Carriage Works (RU; TMH) – Passenger coaches
Industry Players (2)
Volga, Urals and South

**Kazan:**
Schneider Electric (FR) – Electric equipment

**Ulyanovsk:**
DMG Mori (DE) – Milling machines

**Engels:**
Bosch Evroradiators (DE) – Steel panel heating radiators
Bosch Heating Systems (DE) – Boilers
Bosch Power Tools (DE) – Electric tools

**Nizhny Tagil:**
UVZ Uralvagonzavod (RU; UVZ) – Transportation equipment

**Yekaterinburg:**
Uraltransmash (RU; UVZ) – Trams
ABB (CH) – High-voltage products
Schneider Electric (FR) – Electric equipment

**Krasnodar:**
BDM-Agro (RU) – Agricultural equipment
CLAAS (DE) – Agricultural equipment

**Rostov-on-Don:**
Rostselmash (RU) – Agricultural equipment

**Novocherkassk:**
Novocherkassk Electric Locomotive Plant (RU; TMH) – Electric locomotives

**Taganrog:**
Krasnyi Kotelshik (RU; PM) – Boilers

**Volgodonsk:**
Atommash (RU; AEM) – Nuclear power

**Volgograd:**
Volgograd Tractor Plant (RU; KTZ) – Tractors
Export Potential to Russia from Abroad (1)

Machinery and equipment industry imports and exports in 2015, % of total

- Total machinery and equipment market size in 2015 was a strong USD 103 bn (imports + domestic production – exports)
- Russia imported approximately **USD 66 bn** worth of machinery and equipment in 2015
- Still impressive despite reduction on 2014 (**36%**), and imports will rebound when investment becomes available

Source: Federal Customs Service of Russia
Export Potential to Russia from Abroad (2)

Main sources of Russia’s machinery and equipment imports in 2015, % of total

- Russia imports most from China, Germany, Italy, USA and Japan: 55% of total imports.
- Austria and Switzerland account for 3%.
- Is it time to think of expansion or changing sector focus? E.g., ABB is already changing its approach to sell more infrastructure equipment for data centers.

Further details of import and export statistics are provided in the Appendix.

Source: Federal Customs Service of Russia
Export Potential to Russia from Abroad (3)

Segments showing more than 10% growth in RUR terms in 2016, % y-o-y

- Pesticides and other agrochemicals: 54.3%
- Paints and vanishes: 24.0%
- Knitted fabric: 22.2%
- Machines and equipment for agriculture and forestry: 21.6%
- Vehicle bodies, trailers and semitrailers, containers: 21.0%
- Railway rolling stock (locomotives, tram motor cars and other rolling stock): 18.0%
- Electric lamps and lightening equipment: 17.5%
- Artificial and synthetic fibers: 17.0%
- Tanning and dressing of leather: 16.6%
- Production of knitwear: 13.6%
- Chemical sources of electric power (batteries and prime elements): 13.6%
- Tobacco products: 12.6%
- Soap, washing, cleaning and polishing substances, cosmetics: 10.6%

"Growing industries are potential customers"

Details of industries showing growth less than 10% in RUR terms in 2016 are provided in the Appendix.

Source: Rosstat Production Index
Key Consumers and Markets
Example: Steel Manufacturers

**EVRAZ**
*Main products:* Raw (coal, iron ore) and rolled products
*Equipment:* Danieli, Techint
*Capex:* USD 428 m (2015)

**Mechel**
*Main product:* Coal, iron-ore concentrate and rolled products
*Equipment:* Kasto, Eurolls Italia, Koch
*Capex:* USD 80 m (2015)

**Metalloinvest**
*Main products:* Iron ore, iron, steel
*Equipment:* Midrex Technologies, Siemens VAI, Linde, SMS Demag, IMATEK
*Capex:* USD 5.8 bn (2015-2023)

**NLMK**
*Main product:* Iron and rolled products
*Equipment:* Siemens VAI, Koch, MarioFrigerio, TeamMeccanica, FIB, EBNER, WAFIOS

**Severstal**
*Main product:* Coal, iron-ore, rolled products, pipes
*Equipment:* SMS GROUP, WISDRI Engineering & Research Incorporation Limited, Primetals Technologies Germany GmbH, EFD INDUCTION, Sundbirsta, Strabag, Danieli
*Capex:* USD 660 m (2016)

**MMK**
*Main product:* rolled products, pipes, feeds
*Equipment:* ELTRA, SMS group, Danieli
*Capex:* USD 348 m (2015)

"Russian Industrial Manufacturing companies have been traditional users of western technology"
Government Industrial Policy (1)

Government Decree

Import substitution program
#1936-R of 30.09.2014

Import substitution plans for 18 industrial sectors

Law

“On the industrial policy”
#488-FZ of 31.12.2014

Government decrees with access restrictions for foreigners:

Medicine, Machinery, Light industry and gov. contracts (tenders)
#1289 of 30.11.2015, #656 of 14.07.2014 and #791 of 11.08.2014

Investment contracts in selected industries
#708 of 16.07.2015

Determination of the country of origin
#719 of 17.07.2015
Government Industrial Policy (2)
Import Dependency

Government decree regarding import substitution #1936-R of 30.09.2014:
- The Ministry of Industry plans to start the production of 800 products in 18 industrial sectors in Russia by 2020:

- Agricultural & forestry machinery
- Automotive industry
- Chemical industry
- Civil aviation
- Construction
- Conventional weapons
- Electronics industry
- Equipment for the oil & gas industry
- Ferrous metals
- Forestry industry
- Heavy machinery
- Light industry
- Machine tools
- Machines for the food & beverage industry
- Medical technology
- Non-ferrous metals
- Pharma industry (medicines)
- Shipbuilding, ship components
- Transport machinery
- Turbines, power grid equipment
Government Industrial Policy (3)
Import Dependency

- More than 2,000 projects in 20 sectors should be implemented by 2020
- Import substitution program till 2020
  - Examples (Import dependency in %):

<table>
<thead>
<tr>
<th>Product/Technology</th>
<th>Import dependency in 2014 (%)</th>
<th>Import dependency in 2020 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNC machines</td>
<td>90</td>
<td>60</td>
</tr>
<tr>
<td>Drilling machines</td>
<td>80</td>
<td>61</td>
</tr>
<tr>
<td>Grinding machines</td>
<td>97</td>
<td>85</td>
</tr>
<tr>
<td>Industrial robots and manipulators</td>
<td>95</td>
<td>69</td>
</tr>
<tr>
<td>Electric motors</td>
<td>100</td>
<td>86</td>
</tr>
</tbody>
</table>

- Modernization of the industry increases the demand for high quality tools and machinery
Government Industrial Policy (3)

Industry Development Fund

- The Fund provides loans at 5% p.a. for co-financing of industry development projects and facilitates negotiation of Special Investment Contracts (SPIKs)
- Focus area: modernize industrial production
- Consultative Centre operating in the Fund provides advice to companies and regional authorities
- One window approach
- The Fund’s capital is RUR 21 bn
- 102 loans for a total of RUR 30 bn given to date
- 4 programs:
  - Development projects (loan range: RUR 50-300m; term: no longer than 5 years)
  - Consortia projects (loan range: RUR 100-500m; term: no longer than 7 years)
  - Industrial-scale production of machinery and tools (loan range: RUR 50-500m; term: no longer than 7 years)
  - Leasing projects (loan range: RUR 5-250m; term: no longer than 5 years and no longer contract term)
- The fund will give loans to companies with foreign origin if they are registered in Russia

RUR 30bn
Total loans given

RUR 6.75bn
Loans given to Machinery & Equipment companies

http://frprf.ru/
Special Investment Contracts/ SPIKs (1)

- Introduced by Government Decree #708 dated 16.07.2015
- SPIK is made between an investor and the federal or regional government
- Types of SPIKs:
  - Creation or modernization of industrial production
  - Introduction of best available technologies
  - Manufacturing of industrial products that have no equivalents in Russia
- Duration: project starting to earn operating profit + 5 years but no more than 10 years in total
- Minimum investment: RUR 750 million (for SPIKs where the Russian Federation acts as a party to the SPIK)
- Industry Development Fund (IDF, an agency of the Ministry of Trade) is a go-between for the investor and the government when the SPIK is discussed (see next page for process flow)
Special Investment Contracts/ SPIKs (2)

Process of agreeing and signing a SPIK: stages, document flow and timing

1. IDF and Investor
   Work together and prepare an application together with the document pack
   VERY IMPORTANT STAGE!

2. Ministry of Industry (MIT) together with IDF
   Prepare a preliminary opinion, agree it with MIT’s departments and regional authorities
   No longer than 30 working days

3. Inter-Ministerial Commission*
   Review the project and decide on the possibility of concluding the SPIK, its key provisions
   No longer than 60 working days from the beginning of Stage 2

4. MIT of Russia together with IDF
   Prepare the draft SPIK, agree it with MIT’s departments and the Ministry of Finance
   No longer than 10 days

5. Investor and MIT
   In case the Investor agrees, the contract is signed
   No longer than 20 days

*Appointed by Government Decree

Source: Ministry of Industry and Trade
## SWOT Analysis
### Machinery industry in Russia

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
</table>
| - History of achievement/ traditional industry  
- Strong industrial base  
- Access to affordable energy  
- Educated workforce  
- Large market  
- Significant demand | - Low investment in modernization and R&D  
- Weak Ruble and high interest rates  
- Management inefficiencies  
- Dependency on imports in civil engineering |

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
</table>
| - Know how transfer through localization  
- Special Economic Zones, Industrial Parks, Special Investment Contracts  
- Government industrial policy is geared to localization  
- Low cost location for export  
- Reduced dependency on energy revenues | - Further devaluation of the Ruble, high fluctuations of commodity prices:  
  - Steel billet: Dec 2015: 170 USD/ton; June 2016: 325 USD/ton  
  - Oil (Brent): Dec 2015: 37.3 USD/barrel; June 2016: 49.7 USD/barrel  
  - Natural gas: Dec 2015: 2.3 USD/MMBtu; June 2016: 2.9 USD/MMBtu | - Further reduction in investment in modernization  
- Competition from Asia, especially China |
Our industry-specific services (1)

- **Market research/business partner search**, incl.
  - Advice on localization options (special economic zones, industrial parks, etc.)

- **Company registration**, incl.
  - Legal and business address

- **Tax and legal services**, incl.
  - Structuring advice
  - Contract of delivery to Russia
  - Installation: tax advice for installers (short- and mid-term stay) in Russia, annual tax returns, official registration, accounting, contract with subcontractors, visas and work permits, taxation and tax risks (for example, double taxation risk)
  - Establishment of production
  - Transfer pricing

- **Interim management**, incl.
  - General Director, head of branch or representative office
  - Risk management
Our industry-specific services (2)

- **Import services**, incl.
  - Classification decision
  - Customs handling and consultation
  - Consultation regarding appropriate customs value
  - Certification
  - Coordination with the logistics provider, DDP services for after sale services (spare parts)

- **Accounting outsourcing**, incl.
  - Transformation and reporting according to IFRS/US GAAP/HGB
  - Payroll accounting with special knowledge about business trips, shift work, regional coefficients and corporate compensations
  - Accounting tax policy with focus on the machinery industry
  - Revenue recognition in special cases
  - Cost management
  - Tax accounting

- **IT services**, incl.
  - ERP systems implementation (1C and SAP), including Logistics and Manufacturing Development (1C, SAP, C++)
  - System Admin set up and permanent help desk
  - Hosting (Recovery Time Objective: 1 hour, Recovery Point Objective: Last Save)
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