

*LIFE IN MOTION* 

**BALTIC BEARING COMPANY-RIGA**



**Welcome!**

## Baltic Bearing Company-Riga



The company was founded in May 2012  
The factory produced the first bearings in 2015  
About 100 people are involved in the production  
The plant produces up to 11 million bearings per year

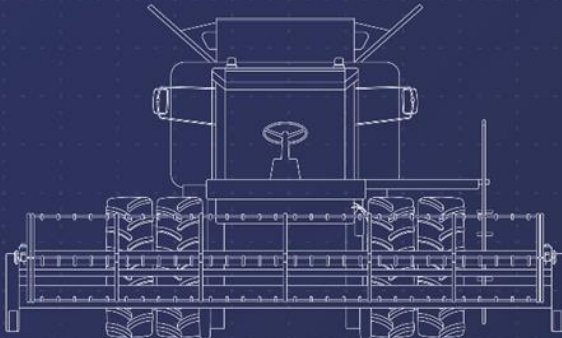
### Sales offices

Riga (Latvia)  
Lodz (Poland)

### Distributors

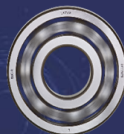
Almost all EU countries  
Turkey  
USA  
Most Latin American countries  
Taiwan  
Great Britain  
Countries of North Africa and the Middle East

- STRATEGY
- COMPETITIVENESS
- FLEXIBILITY



LIFE IN MOTION

**BALTIC BEARING COMPANY – RIGA**



BEARING MANUFACTURER

## PRODUCTION PROCESSES





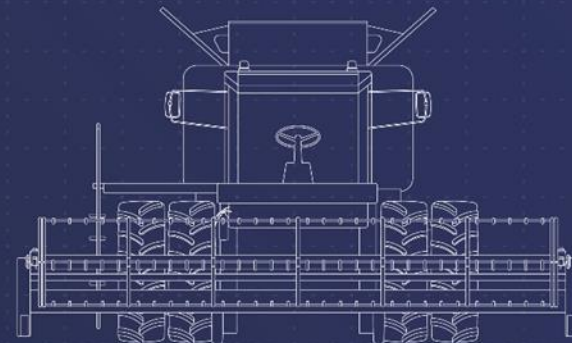
# PRODUCTION: centreless and edge grinding



In the course of 1st grinding treatment stage, work surfaces are formed at starting operations (edges of internal and external rings and an external cylindrical surface of the external rings).

The section of centreless and edge grinding includes:

- machines for processing ring edges
- machines for processing the outer cylindrical surfaces of the rings



# PRODUCTION: grinding and superfinishing



The final grinding section includes:

- 18 automatic grinding lines and
- 15 special semi-automatic grinders

During the subsequent operations, work surfaces are formed that are passing grinding and superfinishing treatment (bearing races, borders and fitment bores). Precision of the equipment at all technological stages allows manufacturing rings to assemble bearings of the accuracy grade 6. Methods of statistical regulation of technological processes are introduced at all operations.





# PRODUCTION: assembly workshop

The assembly site includes 63 units of equipment for bearings assembling



The following are used to assemble deep groove ball bearings:

- 4 automated assembly lines for bearings with the outer diameter of 40-125 mm
- 2 semi-automated assembly lines for bearings with the outer diameter of 40-240 mm



The assembly floor is organised by applying both short semi-automatic aggregates for assembling cylindrical and tapered bearings, and fully automatic assembly lines for assembling ball bearings.

This equipment has devices for automated part delivery, accumulation of in-process stock, control, isolation of improper products, as well as washing and lubrication loading, thus minimising human influence on the process of assembling bearings.

In the course of assembling, all bearings are subjected to the 100% operational control of key parameters in the automatic mode.

Processes of marking and preparation for storage of bearings are also automated.

# QUALITY CONTROL



Control operations are performed at the enterprise, where a **three-stage control system** is organised:

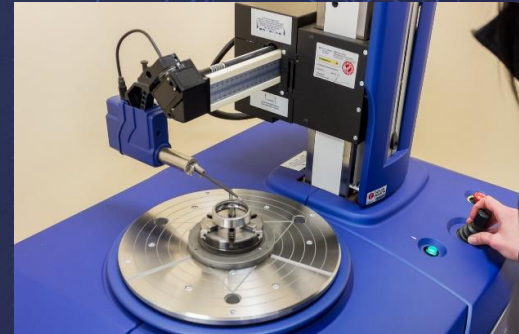
## Incoming control



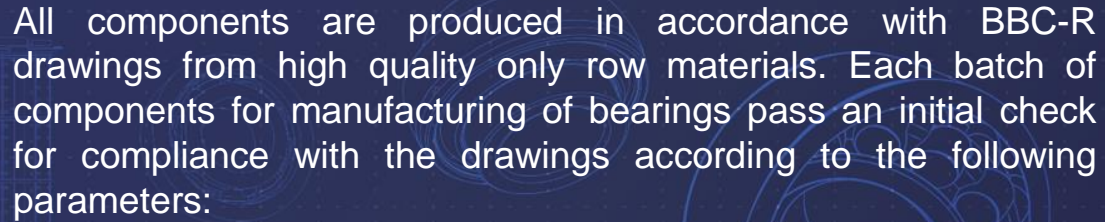
## In-process control



## Acceptance control







- 





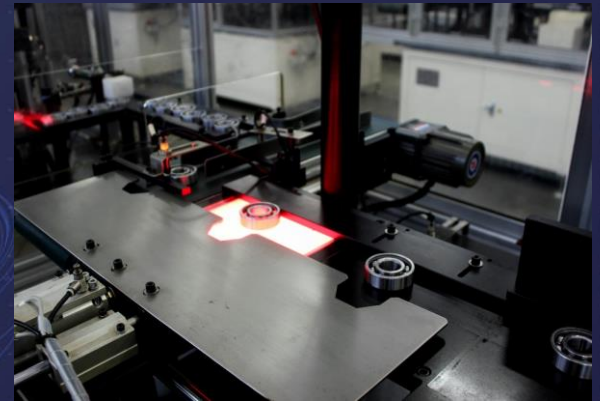
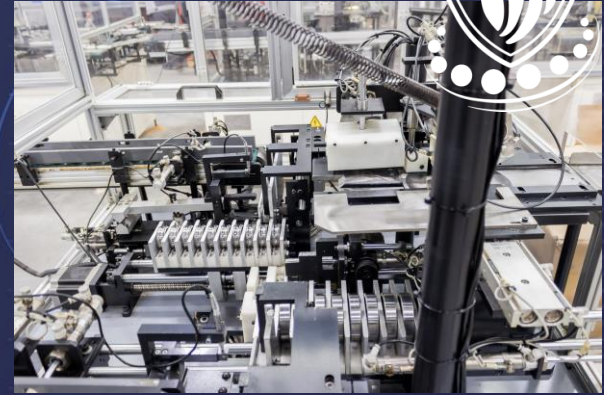
# QUALITY CONTROL: In-process control



Apart from the selective control by operators and controllers in the course of the production, most of the important parameters are controlled by 100%. In the process of grinding operations of work and mounting surfaces, each ring is checked automatically in real-time by the active monitoring system, built-in grinding lines. After processing the measurement data, the system performs automatic adjustment of the machine. The data are automatically entered into the database, statistics are kept for monitoring the stability of the equipment work and quality of the treatment.

At assembly operations, variability of external and internal diameter, radial clearance and vibration level are controlled automatically.

The process stability:  $C_p, C_{pk} = 1.49..1.51$



# QUALITY CONTROL: Acceptance control

BBC-R bearings are checked additionally for compliance with the requirements of the standards and technical documentation by such important parameters like noise and vibration, dimension sizes tolerances and radial clearance. Also we make bearings life time tests.



Life time testing machine



Noise and vibration testing machine





# QUALITY CONTROL: PLANT LABORATORY



The laboratory is equipped with modern high-precision equipment of leading manufacturers, which allows to perform a wide spectrum of researches of bearings and their parts such as:

- measurement of micro- and macro-geometry parameters (degree of roughness, circular, cylindricity, flatness, straightness deviation, undulation, etc.);
- line and angle measurements;
- metallographic examinations;
- analysis of load at failure;
- vibration level control;
- examination of surface defects;
- analysis of contamination;
- analysis of magnetisation intensity



# ENGINEERING

## The R&D department provide:

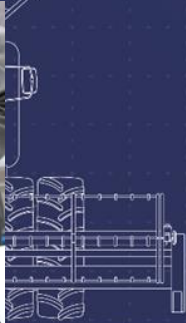
- selection of suppliers of bearing components for production;
- technical inspection of the quality of supplies;
- audits, point assessment and development of suppliers (PDCA);
- development and coordination of different technical documentation both with suppliers and consumers;
- technical support of orders;
- new lines of bearings design.

## DESIGN AND TECHNOLOGY department provide:

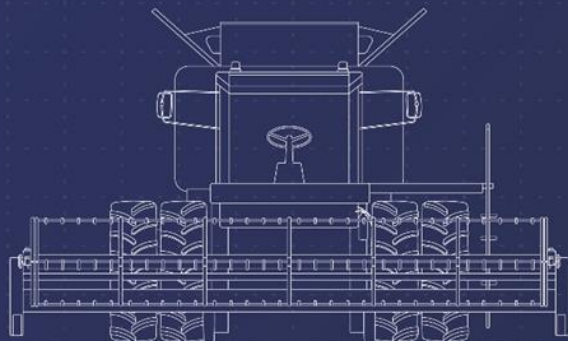
- development of design documentation that meets requirements of the consumer;
- improvement of design of the bearings, increase of their technical level and competitiveness
- introduction of the developed designs in production;
- conduction of required tests to determine the achieved technical level of the released bearings.
- failure mode and effects analysis (FMEA)

## Metrological and QC department provide:

- factory certification (ISO 9001, 14001, 50001);
- stable three-stage control system work;
- monitoring of work of all measurement machines (MSA);
- development and coordination of different technical documentation both with suppliers and consumers;
- technical support of orders;
- complaint management (8D).







## INTEGRATED QUALITY MANAGEMENT SYSTEM

The company is certified in accordance with three standards:

ISO 9001-2015 (quality management)

ISO 14001-2015 (Environmental management)

ISO 50001-2018 (Energy management)



# PRODUCTS: main line



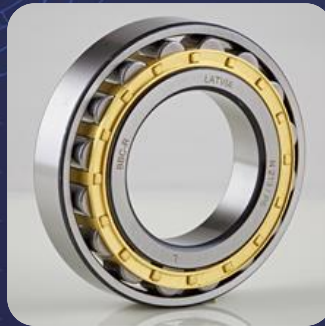
**BBC-R produce** wide range of bearings of different design groups and sizes.

The operation support facilities and the modern high-precision equipment allows the enterprise to release bearings of the accuracy grade 6.

The production capacity of the plant allows manufacturing up to 11 million pieces of bearings per year and provides the possibility to master and release new types of bearing products as per the order of the consumer.



**Ball  
bearings**



**Cylindrical  
roller  
bearings**



**Tapered  
roller  
bearings**



**Spherical  
roller  
bearings**



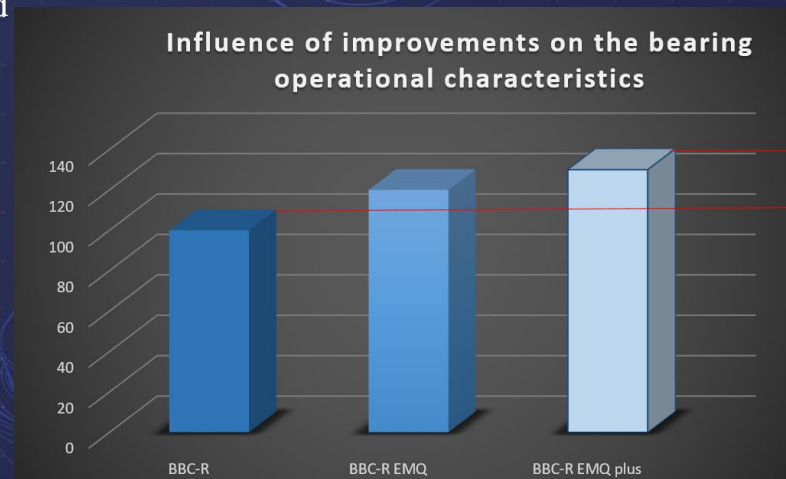
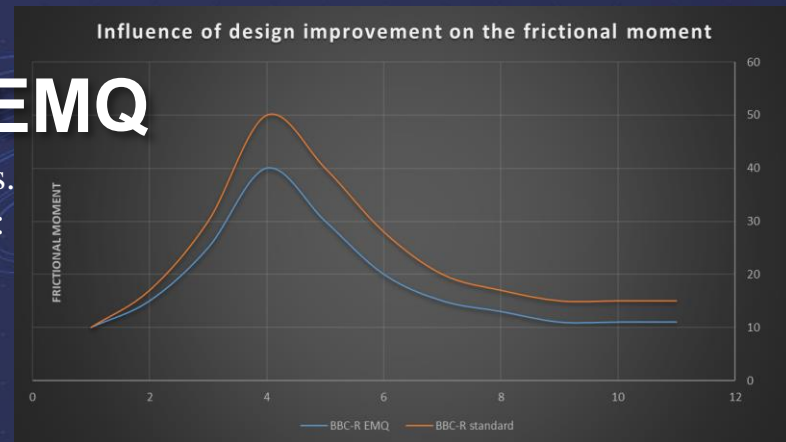




# PRODUCTS: specialised line BBC-R EMQ

EMQ bearings are designed especially for electric motors.  
There are 2 main product lines of BBC-R EMQ bearings:

- BBC-R EMQ (deep groove ball bearings with special requirements for noise and vibration with standard grease).
- BBC-R EMQ plus (deep groove ball bearings also with special requirements for noise and vibration with specialized grease (the selection of which is possible according to customer requirements and depends on the specific of the unit operation)).

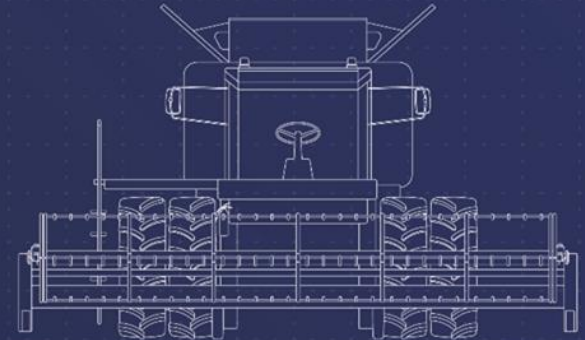


## Principles of work with clients

### Individual approach

We adhere to the principle of adapting our products to the needs of the client.

In addition to guaranteed quality and competitive prices, our company is ready to work with individual orders: using lubricants according to customer requirements, ensuring maximum bearing performance, individual or industrial packaging

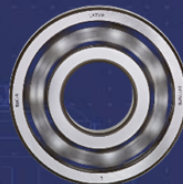






*LIFE IN MOTION*

# BALTIC BEARING COMPANY – RIGA



BEARING MANUFACTURER

## Thank you for your attention!



+371 29 815 040



[www.bbcr.eu](http://www.bbcr.eu)



[sales@bbcr.eu](mailto:sales@bbcr.eu)  
Latvia, Riga, Traleru street 2c

