Automotive Bearings

Industry poised for phenomenal growth in India
As the Indian automotive industry is getting super-attractive on the global map, the component suppliers are reaping the harvest. One such industry among them that witnessed a phenomenal growth in the last few years is the country’s bearings industry. It is no wonder that the world’s second largest automobile industry has seen a breakneck space in the production of bearings. The manufacturing operations began long ago in the late 40s with the production of small and standard bearings. And now, there are 20 large and medium sector enterprises which together churn out close to 1.7 billion bearings every year. The industry is growing at a CAGR of nearly 8-10pc for the last few fiscals as there are multiple models in every vehicle segment entering the market. Even though there has been some sort of soft landing when it comes to vehicle uptake, the overall automotive industry has shown a positive growth rate since 2006.

The Indian bearing market has been growing at the same pace.
as the Chinese market and now accounts for about 4pc of the
world bearing market (worth US$ 56 billion) and is estimated at
US$2.2 billion (₹11,500 crore). The automobile industry is the largest
growth driver for the OEM market as it accounts for almost 45pc of
total bearing market at ₹5,175 crore. This market is characterised
by requirements of high quality, stringent delivery norms and lower
margins. The engineering sector, which accounts for 28pc (at ₹3,220
crore) of total share, holds the second growth driver.

Further, in the automotive bearings market, the organised
segment manufacturers cater to 50pc of the demand. While
overseas players have set up their manufacturing footprint here, the
domestic ones have licensed the technology from internationally
renowned manufacturers. About
15pc of the production is met by
semi-organised and unorganised
players, and the remaining 35pc of
demand is fulfilled through imports.
Out of the total revenues in the
automotive segment, 60pc of the
revenues are contributed by the
OEMs and the remaining 40pc is by
the demand from the aftermarket.
Some small and medium enterprises
do make some units in small
numbers, but are not in tune with
global standards. They produce
bearings from imported components
by assembling them.

The key players in the organised
market consist of numerous
domestic and international
manufacturers like National
Engineering Industries (NEI)—also
referred to as NBC Bearings), NRB
Bearings (incorporated as Needle
Roller Bearing Company, later
the company name was changed
to NRB Bearings Ltd.), Austin
Engineering Company Ltd. (AEC),
ABC Bearings Ltd. (incorporated as
Antifriction Bearings Corporation,
in 2002 the company name was
changed to ABC Bearings Ltd.), Tata
Bearings, SKF Bearings (founded
globally as Aktiebolaget Svenska
Kullagerfabriken), the Timken
company and FAG Bearings India
Ltd. (Since 1905 the FAG brand is
registered with the patent office in
Berlin. The registered trademark FAG,
which stands for Fischers Aktien-
Gesellschaft, is protected in over 100
countries today. INA, FAG and LuK
make up the "Schaeffler Group"").

Other bearing majors include NTN
Bearing India Pvt Ltd. (subsidiary
of NTN Corporation of Japan),
ZKL India (Indian Associate of the
internationally acclaimed ZKL Group
of Czech Republic), EBC India (part of
European Bearing Corporation based
in Russia) and GGB Bearings have set
up manufacturing based in India,
to cater to local demand and also
export to other markets.

Generally, bearings have been
standardised internationally i.e. the
boundary dimensions of the product
have been laid down.

Given below is the tabular
representation of the distribution
of bearings used in the automotive
industry with their contribution in
percentage.

<table>
<thead>
<tr>
<th>BEARING TYPE</th>
<th>SHARE (%)</th>
<th>OD RANGE (MM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ball Bearing</td>
<td>54</td>
<td>&lt;200</td>
</tr>
<tr>
<td>Taper Roller</td>
<td>30</td>
<td>&lt;280</td>
</tr>
<tr>
<td>Cylindrical roller</td>
<td>7</td>
<td>&lt;200</td>
</tr>
<tr>
<td>Needle roller</td>
<td>6</td>
<td>&lt;80</td>
</tr>
<tr>
<td>Spherical roller</td>
<td>3</td>
<td>&lt;300</td>
</tr>
</tbody>
</table>
“Presently Indian bearings market is quite bullish with excellent growth prospects, thanks to the enormous growth in the automobile sector giving rise to demand for bearings. Most of the major manufacturers have got their capacities booked till 2014. Understandably, companies are looking for alternate sources for bearing supplies. This offers a huge opportunity for more and more international brands exploring India as manufacturing base. The market is hot in the automotive industry. More than 30 lakh vehicles are coming every year. Every vehicle requires bearings. When these vehicles start requiring maintenance after five years, there is again a demand for bearings. In the automotive sector the requirement for bearings will never get exhausted,” revealed industry specialist Ajay K. Gupta, who is also the Managing Director of Kamtech Associates Private Limited.

Bearings for the automobile OE market that includes two and three wheelers account for slightly more than 30pc of the total demand. Industrial OE segment accounts for almost 40pc of demand and includes manufacturers of light and heavy industrial machines and equipment as well as off-highway and railway vehicles. Sales through distributors (industrial distribution and the independent vehicle aftermarket) make up another 30pc of bearing demand, of which around 25pc is related to the vehicle service market and around 5pc to the industrial market.

CURRENT CHALLENGES

Like other industries in the Indian component space, the domestic bearing industry too is not shorn of challenges. Even though the locally made bearings are cheaper and competitively priced from imported bearings, they are more expensive than ones that are shipped in from China. This is primarily because the Chinese government gives 15pc subsidy on its export. As a result, the made-in-China bearings are about 50pc less in price than the price of what Indian made bearings manufactured locally. Further compounding the woes of the domestic players is the increase in prices owing to high input costs like steel, etc. Another challenge cropping up for domestic manufacturers is the longer lifespan of direct market products due to improved technology, improved fuel quality, and better maintenance of the vehicles. As a result, the
replacement rate for vehicles has come down, which in turn has led to slower growth in the aftermarket demand.

However, the biggest challenge that is giving sleepless nights not only to the global bearing manufacturers but also to the Indian manufacturers is the rampant piracy. "Branded auto component aftermarket products face a significant challenge from the spurious/substandard parts sold in their names. This not only eats away their market but also adversely impacts their growth prospects."

ACMA has taken several initiatives including the ‘Asli Naqli’ campaign to spread awareness as also curb counterfeiting in the aftermarket in India," said Gupta.

As the global vehicle makers look for precision, quality and spontaneity, the bearing plants in India are gradually getting automated. Unlike earlier, the production is more of assembly. Gupta also highlighted the fact that Indian automotive bearings manufacturers have enough business in hand and therefore no-one seems to be diversifying into new industries. There is enough scope for the Indian bearing industry and most of them are working at their full capacities, he added.

The automotive bearings market, particularly the OEM vertical, is totally organised. However, the aftermarket is still unorganised to the extent of 45pc of the total market. The replacement market accounts for 40pc of total demand for bearing industry. There has been a single digit growth in the non-direct space for a number of segments like LCVs, MUVs, cars, tractors and construction equipment. Most of the manufacturers are expecting sustained growth of 15-20pc in the aftermarket owing to the rising density of two-wheelers, passenger cars and utility vehicles. Many have acknowledged that the margins in this market are relatively higher as compared to OEM market.

EXPORTS

More than two billion bearings are sold annually in India, including big, medium and small. At this juncture, the domestic market produces 85pc of the automotive sector bearings and the rest are imported. Although the development of India’s ball and roller bearing industry is gaining prominence, only 14-15pc of the bearings (out of the 2 billion) are exported annually to Europe, USA and the Middle East. Mostly ball and cylindrical roller bearings for industrial applications are re-exported. Bearing components are sourced from India and are subsequently exported to Germany and Sweden where SKF and Schaeffler (formerly FAG) have manufacturing plants. However, India imports more bearings than it exports.

FUTURE TRENDS

As India becomes one of the key manufacturing hubs of global OEMs, the number of tier-I auto component firms will invest more on design and development of precision bearings which are not made here currently. In addition to that, the manufacturers are deploying a sizeable sum on research to develop better technologies, which increases the life of bearings. Bearings manufacturers have affirmed that there will be a recurring demand for bearings in the OE segment along with the unprecedented growth in the aftermarket vertical.
Leading players in the bearing industry

NATIONAL ENGINEERING INDUSTRIES LIMITED (NEI)

NBC Bearings is the brand of National Engineering Industries Limited (NEI), a part of the CK Birla group, which manufactures a wide range of bearings for the automotive, industrial and railways markets. NEI manufactures bearings in about 1,000 different sizes. The company has three manufacturing facilities located at Jaipur, Newai and Manesar. The company will be investing ₹500 crore for expansion in existing facilities and the setting up of a fourth plant in Gujarat. It
is the fastest growing bearings manufacturer providing its products to all the leading companies in India and abroad. In addition, the company exports bearings to more than 21 countries including OEMs in Latin America, Turkey, Europe and USA.

NBC’s current capacity is 100 million bearings annually, expandable to 110 million across its three plants. Its plant manufactures ball bearings, tapered roller bearings, cylinder roller bearings, railway bearings and large diameter special bearings. The NBC brand commands a market share of 26pc in the domestic market. Nearly 65pc of its sales are catered to the automotive segment, 30pc to railways and remaining to the industrial segment.

In the automotive domain itself, approximately 70pc of NBC’s sales are to original equipment manufacturers and 30pc into the replacement market.

NEI aims to double the production capacity in next seven years and is also considering major acquisitions in Eastern Europe, Germany and Spain. NEI uses a heat treatment machine (furnace) from Chugairo, Japan. The grinding technology is sourced from Izumi of Japan, Nova of Italy, LMT of Sweden and FMT of Italy. NEI operates 22 grinding lines out of which 17 are used for Deep Groove Ball Bearings (DGBB) and five are used for Double Row Angular Contact (DRAC) Bearings. NEI is also provided technical assistance by NTN (Japan) and Amsted Rail (Brenco, USA).

NEI is also working on next-generation technologies and is ploughing back at least 1-2pc of the revenue in its R&D activities. Currently, the company has developed a low torque bearing that can reduce friction up to 20pc, which results in better fuel efficiency.

**ABC BEARINGS**

Established in 1960 by setting up a plant in Lonavala, in collaboration...
company’s customers include Ashok Leyland, Tata Motors Limited and the tractor industry. To respond to the rapidly growing automobile market in India, which is undergoing continued economic growth, NSK is currently expanding operations of NSK-ABC Bearings Limited (hereafter, "NABI"), an automobile bearings manufacturer established as a joint venture with a prominent company in the region.

NSK decided that it was essential to further increase the production capacity of NABI to prepare for growing demand forecast in the Indian market. Toward this end, the company increased its capital stake in NABI by 1.590 million Indian rupees (approximately 2.4 billion yen) on January 12, 2012. As a result, NABI’s capital amounted to a yen equivalent of about 7.1 billion. As the amount is equivalent to 10pc or more of NSK’s capital, NABI qualifies as a specified subsidiary of NSK.

ARB BEARINGS

Headquartered at Delhi, the company was incorporated in 1990 and is run by professionals with over forty years of experience in the bearings industry. It is engaged in

with Steyr Diamler Puch, Austria, ABC Bearings which was previously known as Antfriction Bearings Corporation currently has three plants that serve automobile and other industries. These plants manufacture ball thrust, taper, spherical and cylindrical roller bearings particularly for the domestic market. During 1997-98, the company entered into a long term licensing and technical assistance agreement for ball and tapered roller bearing with NSK Ltd, Japan to upgrade its manufacture process and improve quality of the product. As the company incurred heavy losses in the ball bearing division, the management decided to exit from this business and concentrate more on its core business of manufacturing and marketing of roller bearings. The company has absorbed technology assistance from Japan and their experts visited the plant to guide the engineering staff and implementation of various technological improvements. The company also exports its products to the United States, Canada, the United Kingdom, Singapore, Sri Lanka, and Bangladesh.
the operations of manufacturing and exporting a wide range of automotive and industrial bearings and includes taper roller bearings, spherical roller bearings, needle roller bearings, ball bearings, deep groove ball bearings etc. Its products are exported to various countries including USA, Italy, Argentina, Austria, Poland, Germany and many more. These bearings are manufactured in various technical specifications and can also be customised to suit the varied requirements of the clients.

Within a short duration since inception, the company has carved a niche for itself in various segments ranging from automobiles to industrial machinery to household appliances. What was initially a private conglomerate is today a public limited company with an annual growth rate of 40%.

SKF INDIA LTD.

SKF’s roots in India can be traced back to 1923, when a trading arm of SKF Group was set up in Kolkata. Since then, SKF has been serving the Indian market with high quality bearings for over three decades. As the world leader in bearing technology for over a century, SKF has developed a unique understanding of rotating equipment and how machine components and industrial processes are interrelated. Today SKF provides a wide range of technologies and products to OEM and aftermarket customers around the world, in every major industry, at each phase of the asset lifecycle. SKF India Limited is engaged in manufacturing bearings and related components, which are used in a wide range of applications across industries. The company services various industries from agriculture machinery, automobile, cement, defense, general engineering, infrastructure power, machine tools, off-road vehicles, railways and steel. It manufactures its products out of plants based in Bengaluru, Pune and Haridwar.

NTN INDIA

NTN Corporation (a.k.a. Niwa, Tomoe, Nishizono) is one of the most prominent manufacturers of bearings in Japan, second domestically only to NSK Limited. The company is one of the largest exporters worldwide of friction-reducing products such as constant-velocity joints. The Japanese company is one of the world’s largest bearing producers. With manufacturing plants throughout the world, NTN is a leading bearing supplier to both the industrial and automotive markets. Founded in 1918, NTN has long been recognised for its stringent quality standards. Among its customers are some of the most recognised industrial and automotive brand names around the world and in India. Headquartered in Osaka, Japan, NTN employs more than 20,000 employees in 27 countries with sales, engineering, production and service networks throughout Japan, the Americas, Europe, Asia and China.

NTN Bearing India Pvt. Ltd. is a subsidiary of NTN Corporation Japan and provides marketing and technical support to NTN customers in India.

NRB BEARINGS LIMITED

NRB is the India’s largest needle roller bearing and cylindrical roller bearings producer headquartered in Mumbai. NRB was incorporated in 1965 as an Indo French venture with Nadella and pioneered the production of needle roller bearings in India. The company was formerly known as Needle Roller Bearing Company Limited and changed its name to NRB Bearings Limited in 1990. Its manufacturing facilities
produce various bearings.

AEC

Austin Engineering Company Limited (AEC) is a manufacturer of widest range of ball & roller bearings and its components in India without any foreign collaboration, located near Junagadh in Gujarat State. Founded by five technocrats as a partnership firm in 1973, the company has grown into a public limited company, with full array of high quality and precision bearings for various applications. From an outfit of 10 workers, that manufactured cylindrical roller bearings and deep groove ball bearings with an outside diameter of up to 50mm, AEC is today a global force in the bearings industry and churns out almost the entire range of anti-friction bearings up to an Outside Diameter (OD) of 1,000mm. It makes various kinds of bearings such as ball, cylindrical roller; needle roller, tapered roller, spherical roller, flexible roller, super precision and special purpose. AEC rolls out 4,000 size/types of bearings used in several industrial segments and are constantly adding more items to its current wide range to cater to all your rolling element bearing needs.

TATA BEARINGS

The Bearings Division of Tata Steel is one of India's largest quality bearing manufacturers, with a production capacity of 37 million bearing numbers. It is the only bearings manufacturer in India to have to win the TPM Award (2004) from Japan Institute of Plant Maintenance, Tokyo. Ever since the start of operations at the Kharagpur Facility, Tata Bearings has been constantly implementing new technology, and improving systems and processes through innovations in the field to deliver greater value to customers. In the initial stages the technology was obtained from M/s Societe Nouvelle de Roulements (SNR) - France, through a technical collaboration but presently all developments are carried out in-house. The Division has state-of-the-art IT hardware with ASP as the ERP platform for an online information system. Tata Bearings has a technical collaboration with Nachi Fujikoshi Corp., of Japan for developing and testing of key automotive bearings. For certain
applications, it has also tied up with the IITs and CMERI Durgapur.

**ZKL INDIA**

The brand ZKL was founded in the year 1921 and is more than 90 years old, which is located at Czech Republic which is an erstwhile part of East European Block. In India industries had been using this brand for over last 50 years. It was represented in India by a few dealers and distributors who simply used the brand for trading purpose. ZKL Bearings (India) Pvt. Ltd. was set up in late 2002 to provide an official representation for the brand in the country. With the Head Office located at Kolkata and regional offices present at Mumbai, Chennai, Kolkata and Gurgaon.

**FAG BEARINGS INDIA LIMITED**

FAG Bearings India Limited was incorporated in 1962. Since January 2002 FAG has been integrated into a strong network because that is when FAG, together with INA and LuK formed the Schaeffler Group. INA and FAG became the world’s second largest rolling bearing manufacturer. FAG India’s headquarter and manufacturing facilities are located in Vadodara, Gujarat, India. FAG India has its presence in automotive and across all core industrial segments. FAG India caters to all major industry segments including: construction machinery, electrical engineering, fluid technology, conveying equipment, industrial gears, mining and cement, power generation, agricultural engineering, steel plants, motorcycles, textile machinery, machine tools, wind power, pulp and paper and so on.

**TIMKEN INDIA**

Timken India Ltd. is engaged in manufacturing and distributing tapered roller bearings, components and accessories for the automotive sector and the railway industry. It also provides maintenance contract services. The company manufactures bearings in all types, such as large size tapered roller bearings, spherical roller bearings, cylindrical roller bearings and specialty ball bearings. It produces solid steel bars, billets and seamless mechanical steel tubing and also offers a range of power transmission products for automotive, aerospace and general industrial applications. Furthermore, it also offers repair services for industrial bearings, rail components, chocks and rolls used in primary metal applications, and aircraft assemblies, such as gearboxes and transmissions. The Indian arm of the US-based firm manufactures tapered roller bearings in its Jamshedpur plant. Timken India also set up its second facility at the Special Economic Zone in Chennai to manufacture and export large bore bearings and advanced products such as matched bearing assemblies.

**EBC BEARINGS INDIA**

EBC Bearings (India) Limited manufactures and markets bearings, industrial bearing, ball bearing, taper roller bearing, cylindrical roller bearing, spherical roller bearing, needle roller bearing, water pump bearing, and pillow block bearing. The company was incorporated in 2006 and is based in Hyderabad, India. EBC Bearings (India) Limited operates as a subsidiary of European Bearing Corporation OJSC. As of February 28, 2011, EBC Bearings (India) Limited operates as a subsidiary of Suajana Universal Industries Ltd. Manufacturer and exporter of industrial bearing, ball bearing, taper roller bearing, cylindrical roller bearing, spherical roller bearing, needle roller bearing, water pump bearing and pillow block bearing.