

BHARAT FORGE LIMITED



Bharat Forge is the largest exporter of auto companies from India.

Background

Bharat Forge Limited (BFL), the flagship company of the US\$ 1.5 billion Kalyani Group, is a 'Full Service Supplier' of engine and chassis components. It is the largest exporter of auto components from India and one of the leading chassis component manufacturers in the world. The company was incorporated in 1961.

The company has over the years built up a strong capability in design and engineering, including a full fledged product testing and validation facility, which gives it a Full Service Supply Capability - from product conceptualisation to designing and manufacturing, as well as product testing and validation. With manufacturing facilities spread over nine locations and six countries - two in India, three in Germany, one in Sweden, one in Scotland, one in North America and one in China, the company manufactures a wide range of safety and critical components for passenger cars, commercial vehicles and diesel engines. The company also manufactures specialised components for the railway, construction equipment, oil & gas and other industries. It is capable of producing large volume

parts in both steel and aluminium. The company is accredited with ISO/TS 16949:2002 and ISO 9001:2000.

The promoters hold the majority stake in the company (35 per cent stake). Foreign holding consisting of foreign institution holding and GDRs is about 22 per cent of the shareholding. Indian institutions hold around 12.7 per cent of the stake and non-corporate promoters hold around 13.9 per cent of the stake, while the remaining stake (16.3 per cent) is held by the Indian public.

Products and brands

BFL is a leader in steel forging and has diversified its presence in other areas such as finished machined crankshafts, component assembly, sub-assembly of industrial machinery, etc. It has technical tie-ups with Tokyo Drop Forge, Japan, for improving quality of hammer forgings and with Judisha Buhin Kogyo, Japan, for machining of axle beam.

The company has a tie up with Cranfield University, UK, under which Pune based Kalyani Cranfield Manufacturing Management Centre, has been established for technology, professional development and applied research.

Company	Products	Established	Founder	Distribution	Production plants
Bharat Forge Limited	Open die forging, Open die forging closed die forging, and Services	1961	Kirloskar Group	Europe, USA, Far East and Asia Pacific	India, Germany, Sweden, Scotland China and America

Segment	Products/Activities
Open Die Forging	Pinion & Pinion Shafts, Kiln Support Rollers, Tie Rods, Crusher Shafts, Fully / Semi Machined parts, Mill Roller Shafts, Tail Bats, Shredder Shafts, Cane Cutter Shafts, Fibrizior Shafts, Gear Blanks / Rim, Excavator Axles & Components, Wheel and Gear Shafts, Propellers, Casing / Tubing Spool, Valve Body, Well head blocks, Tube sheets, Interconnecting blocks, Die blocks, Crankshafts, Hammer Spares, Piercing Mill rows, Mandrel bars, P-20 blocks for Plastic injection moulding, H-13 steel blocks for pressure casting tools, Pump Casings, Steel Pump Shafts, Conveyor Shafts, Wobblers roll blanks for cold rolling mills, Hardened hot rolling mill rolls
Closed Die Forgings	Crank shafts, Rocker Arm, Connecting Roads, Front axle beams, Steering knuckle, Transmission parts, Hubs, Oil & gas
Services	CAD, CAM, Product design validation and testing

Financial Analysis

BFL has shown strong financial performance between 1999 and 2005. Its gross sales have witnessed a CAGR of 18 per cent during this period, with gross sales reaching US\$ 288 million in 2005. Exports contributed US\$ 118 million, which were approximately 40 per cent of the gross sales in 2005. The company's net profit has grown at a CAGR of 27 per cent to reach US\$ 37 million in 2005.

The company's return on net worth and return on capital employed have both increased substantially

over the years though there has been some variation in both the returns indicators in a few years owing to adverse market conditions and rising input costs.

BFL's contribution in making 'Made in India' global

In order to become a global player in the forging industry, BFL has focused on a strategy based on increasing exports and setting up global operations through acquisitions or own bases to service its customers. It entered the export market as early as





the eighties. Initial exports were to erstwhile Soviet Union and the company soon started exporting to European and Japanese markets. It started supplying front axles to Mitsubishi Motors in Japan in 1984. In 1990, the company made a breakthrough in the US market with an order from Rockwell, the largest front axle manufacturer in the world. Thereafter, the company entered the international car market by supplying components to Toyota's world car in 2003. The company was then chosen by Ford Motor Company and Daimler Chrysler as a supplier of components for their global passenger car programmes.

Currently, the company is the leading supplier of engine and chassis components to global customers. It enjoys a strong relationship with over 36 global customers and is identified as a strong long-term supply partner by leading global OEM and tier-1 customers.

Over the years, the company has established itself as a major supplier of critical components, like fully machined crankshafts for medium duty diesel engines used in trucks in China. It has significant business share of the two largest Chinese engine manufacturers, Wuxi First Auto Works and Yuchai, which are associated with major OEM - First Auto Works and Second Auto Works. The global customer base of BFL includes some of the leading players in the global automotive industry like Toyota, General Motors, Honda, Mitsubishi, Ford, Daimler Chrysler, Mercedes Benz, Caterpillar, Audi, Renault, Cummins, Dana Corporation, Perkins, Yuchai, Timken and Arvin Meritor.

Apart from exports, BFL has also focussed on achieving growth through acquisitions route. On November 22, 2003 it announced acquisition of Carl Dan Peddinghaus GmbH (CDP), one of the largest forging companies in Germany. With this

acquisition, BFL emerged as the second largest forging company in the world. The acquisition of CDP Aluminiumtechnik (now renamed as Bharat Forge Aluminiumtechnik) enabled the company to enter the aluminium auto parts industry in Europe.

To increase its pace of inorganic growth, the company acquired Federal Forge, Michigan, USA in June 2005 through its wholly owned subsidiary Bharat Forge America Inc.. Federal Forge is engaged in the design and manufacture of complex forged steel components for automotive industry, with primary focus on passenger cars and light trucks in the US. This acquisition has enlarged the customer base of the company and provided it with an access to General Motors (through their component supplier ZF Lemforder) – thereby giving a fillip to the company's presence in the global passenger car and light truck business.

The company also acquired Imatra Forging Group in Sweden and Scotland in September 2005. Imatra Forging Group comprises Imatra Kilsta AB, located at Karlskoga, Sweden (now being renamed as Bharat Forge Kilsta AB) and Scottish Stamping Ltd. located at Ayr Scotland UK (now being renamed as Bharat Forge Scottish Stampings). Both Imatra Kilsta AB & Scottish Stamping Ltd. are profitable companies in their respective segments. Acquisition of Imatra Forging Group is of strategic significant to BFL since it substantially strengthens its position in the commercial vehicles, diesel and passenger cars segments in Europe.

In December 2005, BFL signed a joint venture with FAW Corporation – the largest automotive group in China. Through this new joint venture, BFL makes a powerful entry into the large and fast growing Chinese automotive market. The forging company of the FAW group, is the largest in China, and by joining hands with them, BFL instantly becomes the largest forging company in China.

Factors fuelling Bharat Forge's global initiatives

The strategy adopted by BFL to become a global player in the forging and axle components globally has been a mixture of organic and inorganic growth actions. In addition to adding capacities in its existing locations and participating in the growth plans of existing customers who are spread across the globe, BFL has also followed the inorganic expansion route to add capacity, capabilities and to reach new customers.

- **Creating global level capacity:** The company has continuously relied on creating capacities which can cater to the global customers requirements both in terms of quantity and also quality. The company is now focusing on expanding capacities in heavy forging, heavy duty crankshaft machining and small forgings for passenger cars in order to further increase its global presence.
- **Global Centre of Excellence:** As part of its strategy to become "Full Service Supplier" for





the critical and highly engineered engine and chassis components, BFL has set up a Centre of Excellence in Germany. This centre has a specific focus on developing front line product development capabilities, participating in the product development initiatives of the company's customers and to migrate to the level of "Development Partner" with the key global customers.

BFL has also set up a strong back end design and engineering pool and a full service product testing and product validation laboratory. With this BFL has now set up comprehensive product development & product validation facility to meet the specific requirements of the customers and is capable of offering these services on the principles of "Dual Shore" capability. The Centre of Excellence has been staffed with the global experts in the field of design, product engineering and metallurgy.

- De-risked business model: BFL has focused on de-risking its business by spreading its revenues

across customers in various geographical regions and vehicle segments. Its customers range from Asia Pacific region to Europe to Americas. In the year 2005, 44 per cent of the company's export revenues came from North America, with 23 per cent from Asia Pacific and 33 per cent from Europe. Similarly, the company's customers are from passenger cars, commercial vehicles, railways and other segments.

- Dual shore manufacturing model: BFL's "Dual-shore" manufacturing model revolves around the concept of establishing more than one manufacturing location for the core components. Typically, one of the locations is close to the customer and another one is in a low cost, but technologically competitive destination such as India. This provides the customers several advantages including risk mitigation and assured supply through established supply source, reduced costs and optimisation of procurement. BFL has therefore focused on a three-pronged strategy to offer following services to its customers:

- Dual-shore design capability
 - Dual-shore forging manufacturing capability
 - Dual-shore machining capability.
- Inorganic growth to achieve globalisation plans: BFL has always been on the look out for acquisitions that would provide value through access to technology, markets and technology. BFL acquired CDP and CDP Aluminumtechnik, both based in Germany. With this it has emerged as the second largest forging company in the world. It further acquired Federal Forge, USA, which gave Bharat Forge a manufacturing presence in the US. Acquisition of Imatra Kilsta in Sweden and Scottish Stampings in Scotland, strengthened Bharat Forge's position in the commercial vehicles, diesel and passenger car segments in Europe. The FAW joint venture in December 2005 gave BFL a powerful entry into the large and fast growing Chinese automotive market. The forging company of the FAW group, is the largest in China, and by joining hands with them, BFL instantly becomes the largest forging company in China. These acquisitions have provided BFL access to customers in new geographies, enhanced technological capabilities and enlarged the company's product range.

Future plans

BFL is in a particularly strong position in China. Its joint venture with FAW Corporation – the largest automotive group in China, BFL makes a powerful entry into the large and fast growing Chinese automotive market. The forging company of the FAW group, is the largest in China, and by joining hands with them, BFL instantly becomes the largest forging company in China.

The company hopes to derive a much larger share of its growth from collaborative development approach, where customers offer new

opportunities to get a much larger share of their business. This involves working with global OEM and Tier I manufacturers for their future concept designs as their development partner. The company is actively pursuing this approach and is already working as development partner with some of the major Global OEM customers

The company also plans to set up technology front-ends in the developed markets of Europe and USA to provide customers with comprehensive solutions by fully leveraging its technology capability, full service supply capability and manufacturing superiority. The company intends to diversify into more value added products by getting involved in the customers' product development cycle at an earlier stage. It also plans to increase its focus on the North American and Asia Pacific markets, the largest and the fastest growing automotive markets respectively.

Globalisation at a glance

- Exports comprise nearly 40 per cent of sales
- Leading supplier of engine and chassis components to global customers
- Strong relationship with 36 global customers like Toyota, GM, Honda, Mitsubishi, Ford, Daimler Chrysler, Mercedes Benz, Caterpillar, Audi, Renault, Cummins, Dana etc
- Made several acquisitions to achieve growth - CDP Aluminiumtechnik (a forging company in Germany), Federal Forge (manufacturer of complex forged steel components in the US) and Imatra Forging Group (having forging companies in Sweden and Scotland)

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