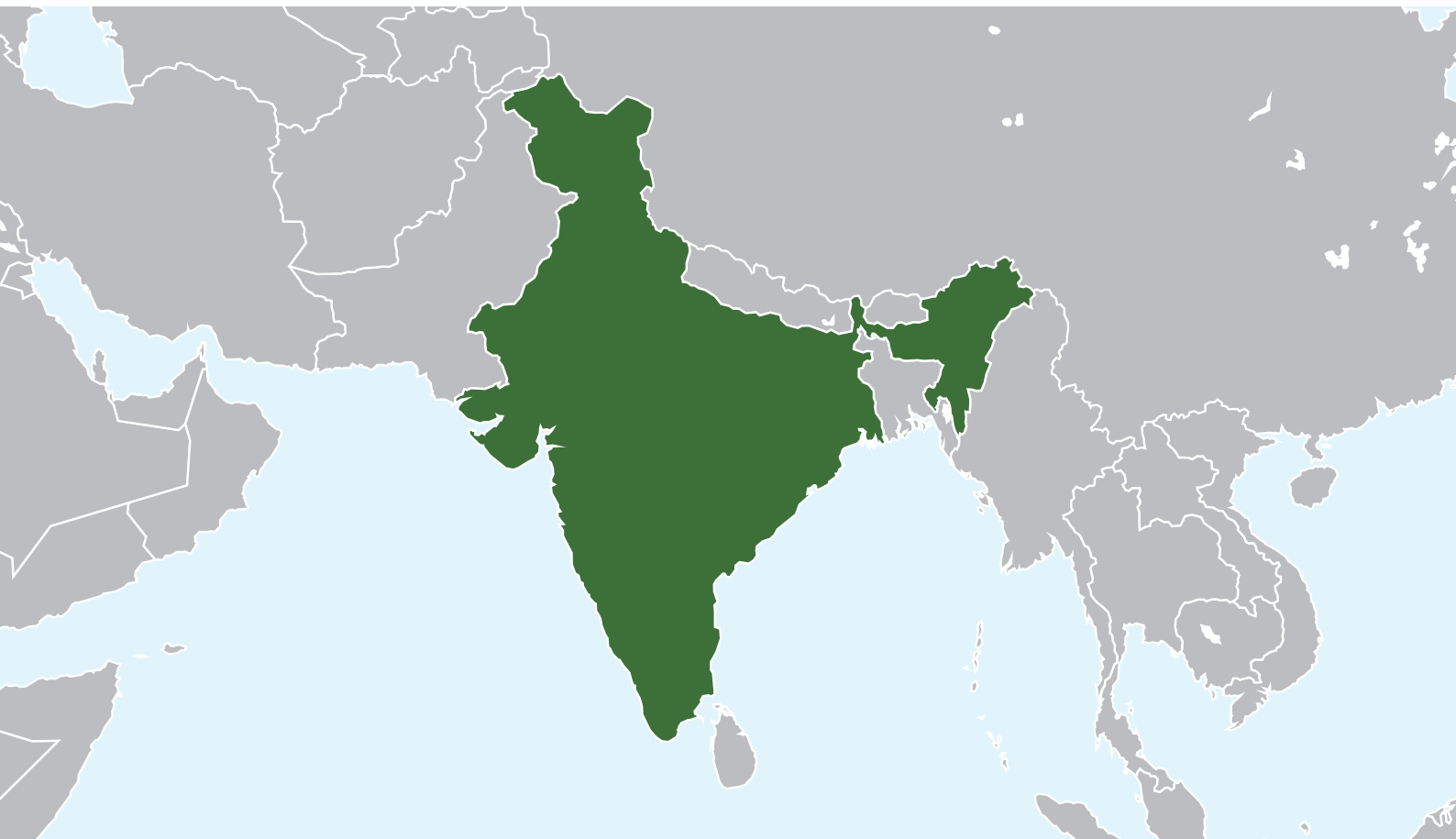


The construction equipment industry in India

TATA HITACHI

DECEMBER 2019



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COMPANY PROFILE

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INTRODUCTION

This is an update of the profile of **Tata Hitachi Construction Machinery Company Private Limited (Tata Hitachi)** last published by Off-Highway Research in December 2010. The company was formerly known as **Telco Construction Equipment Company Limited (Telcon)**.

Tata Hitachi is a subsidiary of **Hitachi Construction Machinery Company Limited**, Japan, which produces a wide range of construction equipment in the country. The company is especially well known for maintaining a leading position in the domestic hydraulic excavator market.

The report presents Tata Hitachi's operations in the country, and briefly touches upon its parent companies.

HISTORICAL OUTLINE

Table 1. Tata Hitachi: Historical highlights

1961:	Established Excavator Division at Jamshedpur Starts Tata-P&H excavators, shovels and crawler cranes production under a 15 year co-operation with Pawling & Harnischfeger (P&H) of the USA. Produced first excavator, the 955
1964:	Produced the 655 model excavator
1971:	Launched Tata 320 model of crawler crane
1974:	Launched 1055 model excavator
1977:	Introduced the first excavator under Tata brand
1982:	Launched the TH15 model, the first Telco designed hydraulic excavator
1984:	Collaboration with Hitachi Construction Machinery Co Ltd (HCM) for production of UH series of hydraulic excavators
1985:	Launched the first UH083 model of excavator Handed over its first UH501 excavator to Tata Steel
1990:	Licensing agreement with HCM extended to EX series of excavators and KH500 crawler cranes Launched TFC cranes
1991:	Launched the TWL3036 model of wheeled loader
1992:	Launched EX100 model of excavator
1993:	Launched EX400 model of excavator
1994:	Creation of the Construction Equipment Business Unit (CEBU) Launched EX700 model of excavator
1996:	Commences production of India's first mini excavator model, the TMX20 Technical collaboration with John Deere Industrial Equipment Co, USA for backhoe loaders
1998:	New manufacturing plant at Dharwad made operational Started production of the Tata-JD 315SE backhoe loader
1999:	Construction Equipment Business Unit becomes a separate company called Telcon
2000:	HCM bought 20 per cent stake in Telcon
2001:	Imported technology to manufacture EH600 rigid dump truck from Euclid-Hitachi, USA
2003:	Technical collaboration with Lebrero of Spain for tandem and self-propelled rollers Formed a joint venture TERPL with HCM, Green Arm of Japan and IVRL India
2004:	Produced 10,000th EX Series excavator Introduced the 140 horsepower Tata TG14 motor grader
2005:	HCM raised its ownership to 40 per cent in Telcon
2008:	Signed an agreement for acquisition of a 79 per cent stake in Serviplem S.A, Spain and a 60 per cent stake in Comoplesa Lebrero S.A, Spain
2009:	Launched new models TWL3034 wheeled loader and Tata 315E backhoe loader at Excon 2009 Telcon commenced operations at its new manufacturing facility in Kharagpur on 4th December
2010:	HCM increased its stake to 60 per cent in the joint venture
2011:	Launched TWL3034, a 100 horsepower wheeled loader
2012:	Introduced Zaxis 50 mini excavator Telcon changed its name to Tata Hitachi Introduced updated version of backhoe loaders TH76 and TH86 and wheeled loader TL360Z
2015:	Introduced imported mini excavator Zaxis 33U-5A Liquidation of Comoplesa Lebrero, S.A.U Changed name to Tata Hitachi Construction Machinery Private Limited
2017:	Launched upgraded wheeled loader model TL340H and introduced imported Zaxis 20U-5A Disinvestment in the joint venture NBSV and liquidation of Serviplem S.A.U
2018:	Local assembly of Zaxis 33U-5A Launched SHINARAI BX-80 backhoe loader

Source: Company Information

The holding company of Tata Hitachi, **Hitachi Construction Machinery (HCM)** was established in 1970, when Hitachi Ltd spun off its construction machinery division. Hitachi began manufacturing rope shovels in Japan in 1949, and in 1965 it launched the first indigenously designed Japanese hydraulic excavator model, designated the UH03.

Tata Hitachi's history begins with the entry of **Tata Motors** into the construction equipment business. Tata Motors, formerly called the Tata Engineering and Locomotive Company Limited (Telco), was established in 1945 at Jamshedpur, in the eastern part of India to manufacture steam locomotives. In 1954, the company embarked on the production of heavy and light commercial vehicles under a 15 year technical collaboration and financial co-operation with Daimler Benz AG of Germany, with products marketed under the TATA brand name from 1969.

Telco established an excavator division in 1961 and started production of Tata-P&H excavators, shovels and crawler cranes under a 15 year co-operation with Pawling & Harnischfeger (P&H), of the USA. It produced its first excavator, the 955 in 1961 and the 655 model of excavator in 1964.

The company launched the Tata 320 model of crawler crane in 1971 and the 1055 excavator model in 1974. The first excavator under the Tata brand was launched in 1977, while the first Telco designed hydraulic excavator, the TH15 model, was launched in 1982.

Tata Motors entered into a technical collaboration with HCM of Japan to produce the UH series of hydraulic excavators in 1984. The company launched its first hydraulic excavator model, the UH083, in 1985 and handed over the first UH501 excavator to Tata Steel.

In 1990, the licensing agreement was extended to cover production of the EX series of crawler excavators and KH500 crawler cranes. It launched the TFC crane in 1990. In 1991, the company started production of an indigenously designed 129 horsepower wheeled loader model, the TWL 3036. The company launched the Tata Hitachi EX100 excavator model in 1992, the EX400 in 1993 and the EX700 in 1994.

In 1996, the company commenced production of India's first mini excavator, the TMX20, a 2.2 tonne machine.

The company established a factory at Dharwad in Karnataka 1998, which is located about 400 kilometres north of Bengaluru. It signed a technology licence agreement with John Deere in October 1996 and started producing the 92 horsepower Tata-JD 315SE model of backhoe loader in 1998.

Telcon, a wholly owned subsidiary of Tata Motors, was established on 30th March 1999 to focus on the construction equipment business. HCM acquired a 20 per cent share of the company in 2000, and Telcon became an 80:20 joint venture between Tata Motors and HCM.

In 2001, the company imported technology to manufacture off-highway rigid dump trucks, with the EH600 model from Euclid-Hitachi, USA and started its production in 2002 at the Jamshedpur plant. In 2003 Telcon entered into a technical collaboration with Lebrero of Spain to produce tandem and self-propelled rollers.

It formed a joint venture called Telcon Eco Road Resurfaces Private Limited (TERPL) with HCM, Green Arm Japan and IVRCL India to promote environment friendly road resurfacing technology in India in the same year. In 2004, it introduced the 140 horsepower Tata TG14 model of motor grader. HCM increased its stake in the joint venture to 40 per cent in 2005 by acquiring another 20 per cent share from Tata Motors.

In 2008, Telcon acquired a 79 per cent stake in Serviplem S.A, a European construction equipment company based at Zaragoza in Spain, which manufactures transit mixers, dry bulk tankers, pumps and batching plants sold under the Baryval brand. In the same year, the company acquired a 60 per cent share in Comoplesa-Lebrero S.A, another company based in Zaragoza.

It launched the Tata 315-V model of backhoe loader in 2008 after the agreement with John Deere expired. The company launched a new backhoe loader model, the 76 horsepower Tata 315E model at the end of 2009, and inaugurated its new plant at Kharagpur in West Bengal, about 125 kilometres from Kolkata. HCM bought another 20 per cent stake in Telcon at the end of March 2010, and so the joint venture became an HCM subsidiary.

The company launched a 100 horsepower wheeled loader, the model TWL3034, in 2011. It launched the Zaxis 50 model of mini excavator weighing 4.8 tonnes.

Telcon changed its name to Tata Hitachi Construction Machinery Company Limited in November 2012. It introduced the updated versions of its backhoe loaders, the TH76 and the TH86, and the TL360Z model wheeled loader replaced the earlier TWL3036 model, at the end of 2012.

In addition to its locally produced models, Tata Hitachi introduced the imported Zaxis 33U-5A mini excavator weighing 3.5 tonnes in 2015. The company's wholly owned Spanish subsidiary, **Comoplesa Lebrero, S.A.U** which was engaged in the business of design, engineering, manufacturing and sale of soil and asphalt compactors, was liquidated in 2015.

Tata Hitachi was converted to a private limited company and changed its name to Tata Hitachi Construction Machinery Company Private Limited in March 2015.

Another Tata Hitachi wholly owned Spanish subsidiary, **Serviplot S.A.U**, was liquidated in 2017. Before the closure of its operations, the company divested its investment in Inner Mongolia **North Baryval Engineering Special Vehicle Company Limited (NBSV)**, its Chinese joint venture.

The wheeled loader model TWL 3034 was upgraded and re-launched as the TL340H in July 2017. The company stopped production of the Zaxis 50U mini excavator and introduced the imported Zaxis20U-5A at 2.3 tonnes in 2017. It started assembling the 3.5 tonne Zaxis 33U-5A model in 2018.

Tata Hitachi commercially launched a new 80 horsepower backhoe loader, the SHINARAI BX-80, in 2018 in a phased manner in various regional markets. The TH76 backhoe loader and the TL360Z wheeled loader were discontinued in 2018.

ORGANISATION AND CORPORATE STRUCTURE

Tata Hitachi is a subsidiary of Hitachi Construction Machinery (HCM) of Japan and focuses on manufacturing and sales of construction equipment and related products and services. HCM's shares are listed on Tokyo Stock Exchange.

The parent company, HCM, is a subsidiary of **Hitachi Ltd** of Japan, which manufactures and sells electric machinery, equipment and various other products. HCM Group, which consists of HCM, its 80 consolidated subsidiaries and 27 associates had 24,591 permanent employees as of 31 March 2019. The consolidated revenue of the group was 1,034 billion yen during the financial year ended March 2019.

The group's businesses are divided in two segments:

- **The Construction Machinery Business** focuses on manufacturing and sales of construction machinery such as hydraulic excavators and wheeled loaders, and their parts. The business employed 20,942 personnel as of 31 March 2019.
- **The Solution Business** primarily intends to provide development, production, distribution of parts and service solutions as part of the after-sales services for mining facilities and equipment that are not included in the Construction Machinery Business segment. The business employed 3,649 permanent employees as of 31 March 2019.

Table 2. Tata Hitachi: Shareholding structure as of 31 March 2019

Shareholder's Name	Number of Shares Held	% Holding
Hitachi Construction Machinery, Tokyo, Japan	68,589,714	60.0
Tata Motors Limited, Mumbai, India	45,428,572	39.7
Tata Motors Finance Limited, Mumbai, India	285,714	0.2
IVRCL Limited, Hyderabad, India	4,800	0.0
Total	114,308,800	100.0

Source: Ministry of Corporate Affairs

Hitachi Construction Machinery, Japan has a controlling share 60 per cent in Tata Hitachi, and 39.7 per cent of the shares are held by Tata Motors, India. Tata Motors Finance Limited, which is a subsidiary of Tata Motors, has a minor stake in the company, while IVRCL also holds a very small stake.

Tata Hitachi had 1,976 employees as of 31 January 2019.

FINANCIAL ANALYSIS

Table 3. Tata Hitachi: Financial highlights, fiscal years* 2014-2018 (Rs million)

	2014	2015	2016	2017	2018
Revenue from operations	18,438.6	24,656.1	34,179.6	39,202.7	43,369.7
Other income	299.7	117.5	294.9	277.6	291.9
Total income	18,738.3	24,773.6	34,474.5	39,480.3	43,661.6
Operating profit**	860.8	1,393.9	2,921.7	50,12.6	4,350.5
Profit/loss before tax	(1,191.8)	(3,612.8)	1,680.4	4,181.9	3,628.5
Net profit	(1,191.8)	(3,638.5)	1,785.6	2,881.4	2,358.6

*Fiscal Year starts on 1st April and ends on 31st March of the following year

** Calculated

Source: Company Information

Tata Hitachi's revenue grew significantly during 2014-2018. Its revenue from operations surged by 34 per cent in 2015 and 39 per cent in 2016. It further expanded 15 per cent in 2017 and 11 per cent in 2018. Other income declined 61 per cent in 2015 and 6 per cent in 2017, while it grew 151 per cent in 2016 and 5 per cent in 2018. The company's total income grew 32 per cent in 2015, 39 per cent in 2016, 15 per cent in 2017 and 11 per cent in 2018.

The company's operating profit (profit before depreciation and amortisation, finance cost, other non-operating income and exceptional items) rose strongly by 62 per cent in 2015, 110 per cent in 2016 and 72 per cent in 2017. However, it declined by 13 per cent due to higher expenses in 2018.

The company incurred a loss of Rs1,192 million in 2014, which deepened to Rs3,613 million in 2015. However, the company reported a profit before tax (PBT) of Rs1,680 million in 2016. Its PBT expanded well by 149 per cent to Rs4,182 million in 2017, but declined 13 per cent to 3,629 million in 2018.

Tata Hitachi registered a net loss of Rs1,192 million in 2014 and Rs3,639 million in 2015. However, it reported a net profit of Rs1,786 million in 2016. Net profit increased 61 per cent to Rs2,881 million in 2017, but declined 18 per cent to Rs2,359 million in 2018.

CORPORATE STRATEGY

Tata Hitachi's major strategies are based on HCM Group's policies and plans. The group has defined four management strategies:

- Expansion of the value chain:** The group aims to enhance the value chain in a long life cycle that starts with research, development and production, sale of new machinery, provision of rental and services to customers and handling of used machines at the time of renewal. It intends to improve customer satisfaction by offering more valuable services and solutions. The share of the value chain consisting of parts and service, solution businesses, rental and used machine sales was 35 per cent in 2016, which is expected to increase to 44 per cent in 2019 with the remainder being made up of new machinery.
- Enhance presence in wheeled loaders and dump trucks:** The hydraulic excavator is the group's flagship product, but the company aims to enhance its competitiveness in aspects of development and sales capabilities for wheeled loaders and dump trucks, with an intention to achieve growth of these as the second and third core products.

Specific product strategy of wheeled loaders is the development of models that meet exhaust emission regulations, increasing sales by promoting the enhancement of production efficiency and cost reduction, and strengthening the global sales and service structure. Tata Hitachi has been working on developing wheeled loaders with CEV BS-IV engine emission norms in India and has expanded its imported range in the domestic market.

For dump trucks, the group is concentrating on expanding sales of models for high-altitude and trolley use that enable low-fuel consumption and improvement of operating efficiency. It aims at full-scale commercial use of Autonomous Haulage System (AHS) and providing fleet management systems. Tata Hitachi earlier offered only one domestic model of rigid dump truck in the country, but now has a wide range, including imported Hitachi products.

- Strengthening of development of ICT/IoT solutions:** The HCM group is promoting the development of "Solution Linkage" utilising information and communication technology (ICT) and internet of things (IoT) to offer solutions to customers on safety, productivity and life-cycle costs including fuel, maintenance and repair expenses. It offers solutions that contribute to the efficiency of customers' entire construction process and the optimisation of site operations.

- **Development and provision of environmentally conscious products:** The group acknowledges that higher fuel efficiency contributes not only to a reduction in operating costs for customers, but also to mitigate climate change caused by global warming. Therefore, it will continue its focus on higher fuel efficiency and the development of low-carbon products, such as hybrid and electric-powered products through innovation.

Tata Hitachi focuses on the construction equipment business with its mission to offer reliable solutions to mining and infrastructure sectors. According to the company, the capabilities to provide reliable solutions begins with a comprehensive range of products supported by teams of skilled and dedicated sales and service personnel, complemented by a wide network of dealers. Its mission is to dominate the domestic market, and also to become a global manufacturing and development hub. The company's mission is to have motivated people, customer centric culture, superior technologies and strong partnerships that work safely with the environment and society.

In line with its group's strategy, the company will continue its focus to maintain its dominant position in hydraulic excavators in the country. It offers a very wide range of hydraulic excavators ranging from 2 to 800 tonnes. Tata Hitachi's product strategy divides the excavators into two markets, value and premium segments. The EX Super Plus series of excavators is positioned as the value segment, and are perceived to combine advanced technology and low running costs to enable them a high return of investment. This series comes with a telematics solution - InSite - that gives detailed data on the performance of the equipment at job sites. The Zaxis GI series of machines falls under the premium segment. The company claims that its hydraulic technology provides unbeatable performance, high fuel efficiency, high durability, great mobility and ease of operation. These machines are powered by ConSite that utilises ICT to deliver monthly reports to customers.

The other product portfolio of the company is wheeled equipment, comprising backhoe loaders, wheeled loaders and rigid dump trucks. The company aims at achieving double digit market share in wheeled equipment in the next two to three years. In order to improve its market share in the wheeled category, Tata Hitachi launched the new backhoe loader model, called the SHINARAI, last year and upgraded its TL340H model of wheeled loader. It has also expanded its wheeled loader and rigid dump truck ranges with imported Hitachi machines for enhanced focus on the mining segment.

The company follows the co-branding strategy in the country even after the acquisition of the majority stake by HCM. The domestic products are still co-branded as Tata Hitachi as the 'Tata' brand has a high value and connect with local customers across various sectors, while Hitachi is a well-established global brand.

The company also offers various service and parts support packages, such as full maintenance contracts and information technology enabled solutions in line with HCM's strategy, which is driven by three important guiding themes: right product and services at the right time, fix it right the first time, and deliver quality services. It also markets attachments.

The company's distribution strategy is to sell and service its products through a country-wide network of dealers supported by its own offices at strategic locations across the nation. Apart from the domestic market, the company also exports its products to the Middle East, some African countries, Nepal and Bangladesh.

In addition to conventional methods of marketing, the company has strengthened its communication in social media platforms such as Facebook, Instagram, YouTube, Twitter and LinkedIn, which now form an important part of its strategy.

MANUFACTURING FACILITIES

Table 4. Tata Hitachi: Manufacturing facilities, 2019

Facility Location	State	Products	Total Area (Hectares)	Covered Area (m ²)
Kharagpur	West Bengal	Hydraulic excavators, dump trucks and wheeled loaders	101	130,000
Dharwad	Karnataka	Backhoe loaders, mini excavators, and hydraulic excavators under 20 tonnes	46	54,135
Jamshedpur	Jharkhand	Not actively manufacturing	12	75,000

Source: Company Information

Tata Hitachi has three manufacturing facilities located in Jamshedpur, Dharwad and Kharagpur. The company's total annual production capacity for all machines, in all its plants, is around 10,000 units, which can be increased in line with market demand.

The **Kharagpur** plant, the biggest of the three facilities, is spread over 100 hectares with 13 hectares of covered area. The facility has a fabrication complex for hydraulic excavators, dump trucks and wheeled loaders with welding robots and machining centres, an integrated shot blasting and paint shop for frames and attachments, and a PT and ED paint shop for sheet metals. It has a conveyor line assembly for excavators. Dump trucks and wheeled machines are also assembled in a separate batch type assembly shop. It also houses a research and development centre.

The **Dharwad** plant, which was established in 1998, is located about 400 kilometres north of Bengaluru. The facility is spread over 46 hectares of which 54,135 m² is covered. The plant manufactures mini excavators, backhoe loaders, and hydraulic excavators under 20 tonnes. It has a separate conveyor line assembly for excavators and backhoe loaders. Key manufacturing processes includes the fabrication and machining of attachments, and the painting of sheet metal, attachments and frames.

The **Jamshedpur** facility is about 250 kilometres from Kolkata. The plant has been operational since 1961 and is spread over 12.1 hectares of which 75,000 m² is covered. The plant, which earlier manufactured large size excavators, crawler cranes and reach stackers, is not currently active. The company has plans to close this plant and move the resources to the Kharagpur facility by March 2020.

RESEARCH AND DEVELOPMENT

Table 5. Tata Hitachi: Research and development expenditure, fiscal years* 2014-2018

	2014	2015	2016	2017	2018
R&D Expenditure (Rs Million)	177.2	150.8	183.4	137.3	445.0
R&D Expenditure (% of Turnover)	1.0	0.6	0.5	0.4	1.0
Total Turnover (Rs Million)	18,438.6	24,656.1	34,179.6	39,202.7	43,369.7

*Fiscal Year starts on 1st April and ends on 31st March of the following year

Source: Ministry of Corporate Affairs

The company's expenses on research and development accounted for about 1 per cent or less of its turnover during 2014-2018.

In terms of absolute value, research and development expenditure declined 15 per cent in 2015 but increased 22 per cent in 2016. It declined 25 per cent in 2017 but increased robustly by 224 per cent in 2018.

The research and development centre at Kharagpur, which is supported by Hitachi Construction Machinery, conducts various tests and validation exercises to improve the life of components of various products.

MARKETING AND DISTRIBUTION

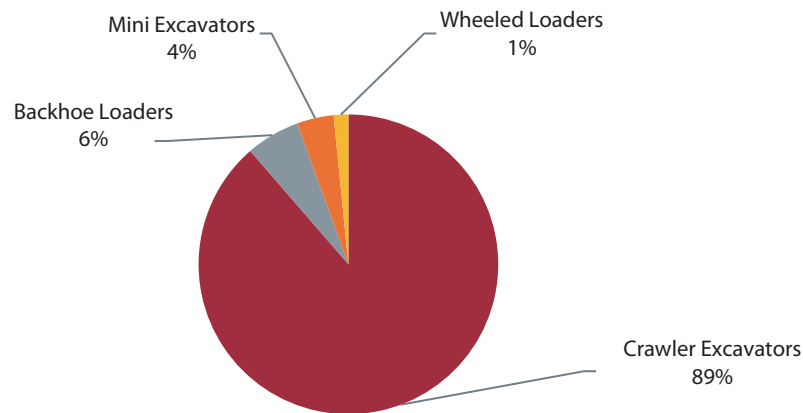
Tata Hitachi primarily focuses on the sales and support of construction equipment. The majority of the products offered by the company are manufactured locally, but some imported Hitachi machines are also promoted. Its current product portfolio covers a wide range of construction equipment, which includes backhoe loaders, crawler excavators, mini excavators, rigid dump trucks and wheeled loaders. It has discontinued road equipment, including compaction equipment and motor graders, crawler cranes and concrete mixers, all of which were offered earlier.

Table 6. India: Tata Hitachi sales of construction equipment by type, 2014-2018

Equipment	2014		2015		2016		2017		2018	
	Units	%	Units	%	Units	%	Units	%	Units	%
Crawler excavators	2,973	76	3,446	86	5,367	88	6,429	88	7,797	88
Backhoe loaders	386	10	152	4	286	5	457	6	511	6
Mini excavators	374	10	332	8	375	6	287	4	349	4
Wheeled loaders	121	3	66	2	75	1	74	1	139	2
Rigid dump trucks	20	1	9	-	3	-	11	-	12	-
Motor graders	-	-	2	-	3	-	4	-	5	-
Mobile cranes	6	-	4	-	2	-	2	-	2	-
Compaction equipment	10	-	16	-	7	-	1	-	-	-
Total	3,890	100	4,027	100	6,118	100	7,265	100	8,815	100

Source: Off-Highway Research

Chart 1. India: Tata Hitachi's sales of construction equipment by type, 2018



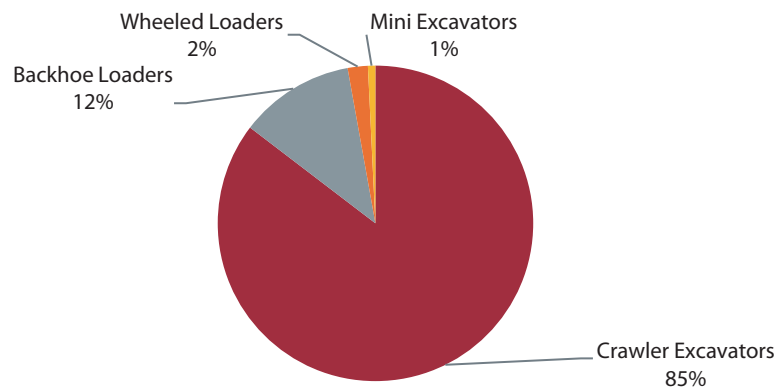
Source: Off-Highway Research

Tata Hitachi is the domestic market leader in crawler excavators, and is very dependent on that single product. They accounted for 77 per cent of total sales in 2014, which increased to 86-89 per cent during 2015-2018. It is also the leader in the relatively small mini excavator market, while sales of its other products remain low in spite of their respective market sizes.

Table 7. India: Tata Hitachi's exports of construction equipment by type, 2014-2018

Equipment	2014		2015		2016		2017		2018	
	Units	%	Units	%	Units	%	Units	%	Units	%
Crawler excavators	62	47	155	68	190	65	360	83	333	85
Backhoe loaders	48	36	39	17	80	27	66	15	46	12
Wheeled loaders	11	8	13	6	13	4	8	2	8	2
Mini excavators	1	1	-	-	1	-	-	-	3	1
Compaction equipment	10	8	20	9	9	3	-	-	-	-
Total	132	100	227	100	293	100	434	100	390	100

Source: Off-Highway Research

Chart 2. India: Tata Hitachi's exports of construction equipment by type, 2018

Source: Off-Highway Research

Tata Hitachi has been a consistent exporter of crawler excavators, and also exports a few backhoe loaders, mini excavators and wheeled loaders.

The company's support solutions include full maintenance contracts (FMCs), annual maintenance contracts (AMCs), annual service contracts (ASCs), extended warranty and maximising returns on investments of the customers by optimising equipment utilisation. It also offers information technology (IT) enabled solutions such as ConSite that utilises information communication technology (ICT) to deliver a monthly report on summary of operations to fleet owners along with detailed reports on individual equipment. 'Global e' is a remote fleet management system that allows easy access to on site machines providing real time operating information to the customer, which is helpful in increasing productivity and reducing downtime. Wenco offers a suite of mining productivity solutions including fleet management, asset health, collision avoidance, mining business analytics, and high-precision machine guidance.

Under REMAN, the company repairs major aggregates and offer facilities like unit exchange programme. NOR is an abbreviation of major overhauls undertaken on site, while it also promotes certified used equipment under the Value Plus brand. Tata Hitachi also markets attachments such as rock breakers, clamshells, orange peel grabs, quick couplers, shears and rotating crusher, all of which are used with

excavators. It markets the GH and Alicon series of rock breakers, and Daemo's clamshells, orange peel grabs, magnets, sheers and rotating crushers.

Table 8. Tata Hitachi: Office network, 2019

Ahmedabad	Durgapur	Jaipur	Mumbai	Rajkot
Aurangabad	Goa	Jammu	Nagpur	Ranchi (Area Office)
Bengaluru	Guwahati	Jamshedpur	Nellore	Salem
Bhubaneswar	Hubli	Kochi	New Delhi	Udaipur
Chandigarh	Hyderabad	Kolkata	Patna	Vijayawada
Chennai	Indore	Lucknow	Pune	Visakhapatnam
Dhanbad (Area Office)	Jabalpur	Madurai	Raipur	

Source: Company Information

Table 9. Tata Hitachi: Dealer network, 2019

Location	State	Location	State
Ahmedabad	Gujarat	Madurai	Tamil Nadu
Aurangabad	Maharashtra	Mangalore	Karnataka
Bengaluru	Karnataka	Mirzapur	Uttar Pradesh
Bhopal	Madhya Pradesh	Mumbai	Maharashtra
Bhubaneswar	Odisha	Nagpur	Maharashtra
Chennai	Tamil Nadu	Navi Mumbai	Maharashtra
Faridabad	Haryana	Nellore	Andhra Pradesh
Gulbarga	Karnataka	Panchkula	Haryana
Guwahati	Assam	Patna	Bihar
Hanamkonda	Telangana	Port Blair	Andaman and Nicobar
Hubli	Karnataka	Pune	Maharashtra
Hyderabad	Telangana	Raipur	Chhattisgarh
Imphal	Manipur	Rajkot	Gujarat
Indore	Madhya Pradesh	Salem	Tamil Nadu
Jaipur	Rajasthan	Silchar	Assam
Jammu	Jammu and Kashmir	Srinagar	Jammu and Kashmir
Jamshedpur	Jharkhand	Tiruchirappalli	Tamil Nadu
Jhansi	Uttar Pradesh	Udaipur	Rajasthan
Jodhpur	Rajasthan	Vijayawada	Andhra Pradesh
Kochi	Kerala	Vishakhapatnam	Andhra Pradesh
Kolkata	West Bengal	Warangal	Telangana
Kota	Rajasthan		

Source: Company Information

Tata Hitachi's corporate office is located in Bengaluru and has a central spare parts warehouse in Nagpur and other warehouses in Dharwad, Kharagpur and Guwahati. The company has operator training centres in Dharwad and Kharagpur.

The company also has 34 offices at the above locations mainly to support its network of dealers. It has 43 dealers covering the country with over 230 outlets, and one dealer each in Dhaka in Bangladesh, Thimphu in Bhutan and Kathmandu in Nepal.

EQUIPMENT ANALYSES

BACKHOE LOADERS

MODEL RANGE

Table 10. India: Tata Hitachi backhoe loaders available, 2019

Model	Type	HP	Engine Manufacturer	Operating Weight (Tonnes)	Product Source
SHINARAI BX-80	2WD	80	Cummins	7.8	India
TH86	2WD/4WD	85	Tata	7.5	India

Source: Company Information

The company currently offers two backhoe loaders models, the 80 horsepower SHINARAI BX-80 and the 85 horsepower TH86, both in the **80-89 horsepower** class.

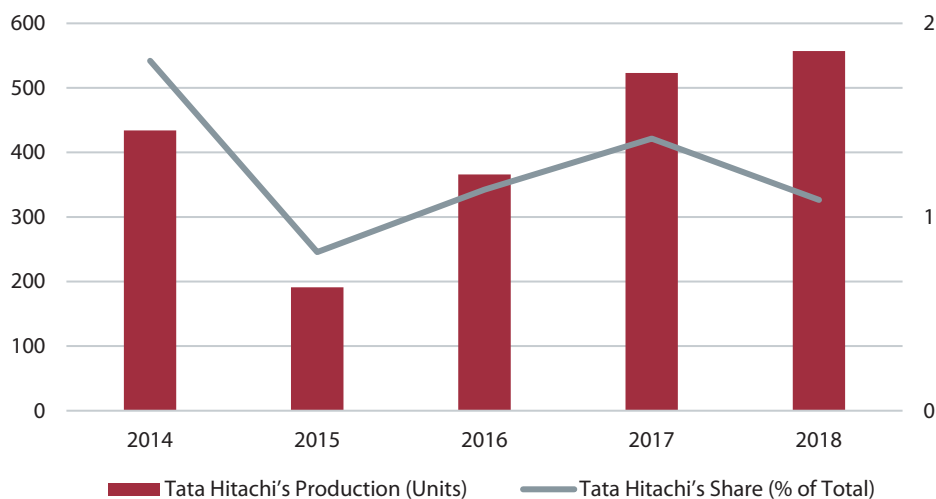
PRODUCTION

Table 11. India: Tata Hitachi's production of backhoe loaders, 2014-2018

	2014	2015	2016	2017	2018
Tata Hitachi's Production (Units)	434	191	366	523	557
Tata Hitachi's Share (% of Total)	2	1	1	1	1
Total Production (Units)	24,018	23,318	32,081	37,222	51,178

Source: Off-Highway Research

Chart 3. India: Tata Hitachi's production of backhoe loaders, 2014-2018



Source: Off-Highway Research

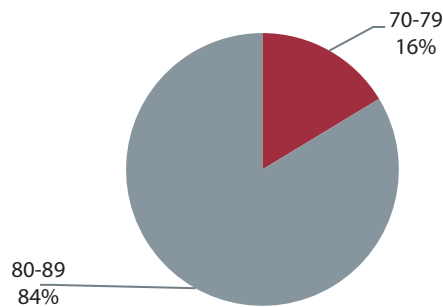
The company's production plunged sharply by 45 per cent in 2014 to 434 units and 56 per cent in 2015 to just 191 units. However, it recovered 92 per cent to 366 units in 2016, grew 43 per cent to 523 units in 2017 and 7 per cent to 557 units in 2018.

The company's share of total backhoe loader production fell from 2 per cent in 2014 to 1 per cent during 2015-2018.

Table 12. India: Tata Hitachi's production of backhoe loaders by horsepower category, 2014-2018

Horsepower	2014		2015		2016		2017		2018	
	Units	%	Units	%	Units	%	Units	%	Units	%
70-79	234	54	58	30	128	35	197	38	91	16
80-89	200	46	133	70	238	65	326	62	466	84
Total	434	100	191	100	366	100	523	100	557	100

Source: Off-Highway Research

Chart 4. India: Tata Hitachi's production of backhoe loaders by horsepower category, 2018

Source: Off-Highway Research

The **70-79 horsepower** category accounted for 54 per cent of Tata Hitachi's backhoe loader production in 2014, which declined to 30 per cent in 2015, grew to 35 per cent in 2016 and 38 per cent in 2017 before sliding to 16 per cent in 2018. On the other hand, its share of the **80-89 horsepower** class increased from 46 per cent 2014 to 70 per cent in 2015 but declined to 65 per cent in 2016 and 62 per cent in 2017 before increasing to 84 per cent in 2018. The company now only produces backhoe loaders in this segment.

Table 13. India: Tata Hitachi's share of production of backhoe loaders by horsepower category, 2014-2018

Horsepower	Description	2014	2015	2016	2017	2018
70-79	Tata Hitachi's Production (Units)	234	58	128	197	91
	Tata Hitachi's Share (% of Total)	1	-	1	1	-
	Total Production (Units)	18,463	18,549	25,247	27,089	40,387
80-89	Tata Hitachi's Production (Units)	200	133	238	326	466
	Tata Hitachi's Share (% of Total)	10	10	17	14	43
	Total Production (Units)	1,921	1,339	1,401	2,350	1,090

Source: Off-Highway Research

Tata Hitachi's share of production in the **70-79 horsepower** category remained at 0-1 per cent during 2014-2018. Its share of the **80-89 horsepower** class grew from 10 per cent during 2014-2015 to 17 per cent in 2016 and dipped to 14 per cent in 2017. However, the company's segment share advanced strongly to 43 per cent with the introduction of the new SHINARAI model.

COMPONENT SOURCING

Table 14. Tata Hitachi: Component sourcing for backhoe loaders, 2019

Axles	ZF, Carraro
Cabs	Sub-contracted
Engines	Tata, Cummins
Hydraulic Cylinders	Wipro
Hydraulic Pumps	Parker
Hydraulic Valves	Husco, Walvoil
Steelwork	In-house
Transmissions	ZF, Carraro

Source: Company Information

Tata Hitachi's TH86 model is powered by Tata engines, while its SHINRAI BX-80 uses Cummins as its power source. The sources for axles and transmissions are Carraro and ZF.

The company uses Wipro hydraulic cylinders for backhoe loaders, Parker pumps, and Husco and Walvoil hydraulic valves. Steelwork is done in-house, but cabs are sub-contracted to local vendors, which build according to the manufacturer's designs and specifications.

EXPORTS

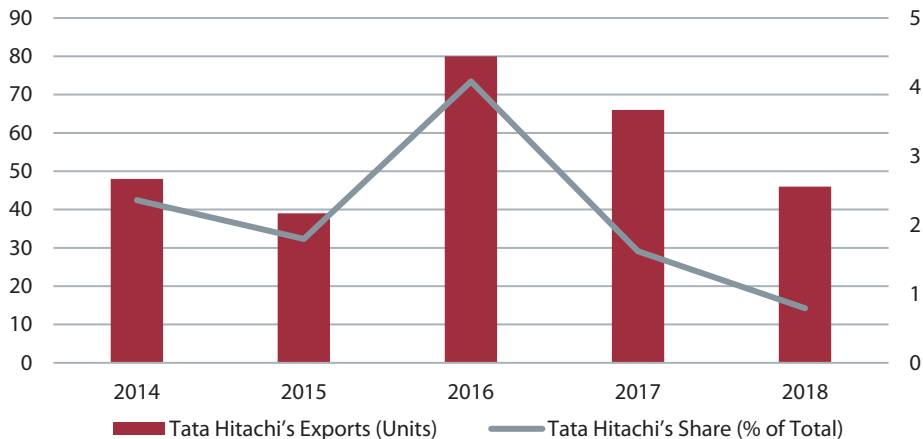
Tata Hitachi accounted for 4 per cent of exports in 2016. Its share of backhoe loader exports remained at 2 per cent in 2014, 2015 and 2017, which fell to 1 per cent in 2018.

Table 15. India: Tata Hitachi's exports of backhoe loaders, 2014-2018

	2014	2015	2016	2017	2018
TataHitachi'sExports(Units)	48	39	80	66	46
TataHitachi'sShare(%ofTotal)	2	2	4	2	1
TotalExports(Units)	2,035	2,171	1,960	4,080	5,800

Source: Off-Highway Research

Chart 5. India: Tata Hitachi's exports of backhoe loaders, 2014-2018



Source: Off-Highway Research

Its exports have varied in a narrow range of 39-80 units during the last five years.

SALES AND MARKET SHARES

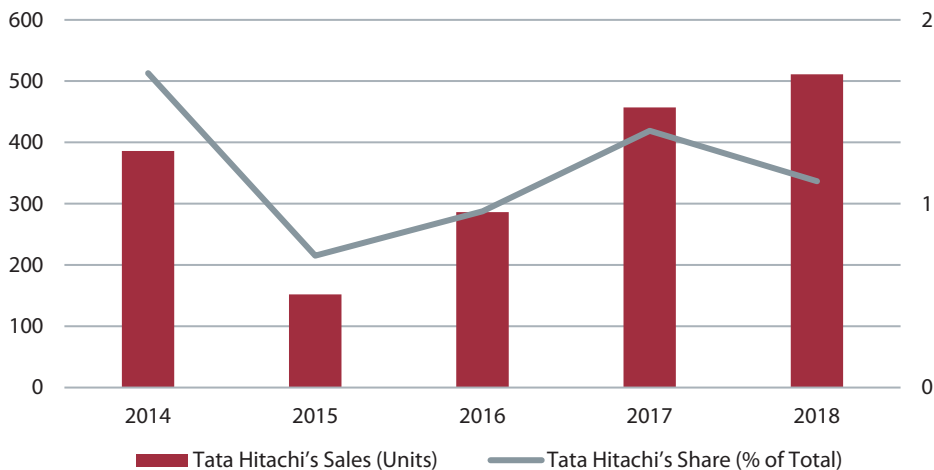
Tata Hitachi's market share declined from 2 per cent in 2014 to a mere 1 per cent during 2015-2018. The company's sales plunged 49 per cent to 386 units in 2014 and a further 61 per cent to a low of 152 units in 2015. Compared to the industry as a whole, it saw a much larger decline in 2014 and 2015 but witnessed an 88 per cent growth to 286 units in 2016, which was followed by a 60 per cent increase to 457 units in 2017 and a further 12 per cent to 511 units in 2018.

Table 16. India: Tata Hitachi's sales and market shares of backhoe loaders, 2014-2018

	2014	2015	2016	2017	2018
Tata Hitachi's Sales (Units)	386	152	286	457	511
Tata Hitachi's Share (% of Total)	2	1	1	1	1
Total Market (Units)	22,571	21,192	29,847	32,728	45,552

Source: Off-Highway Research

Chart 6. India: Tata Hitachi's sales and market shares of backhoe loaders, 2014-2018



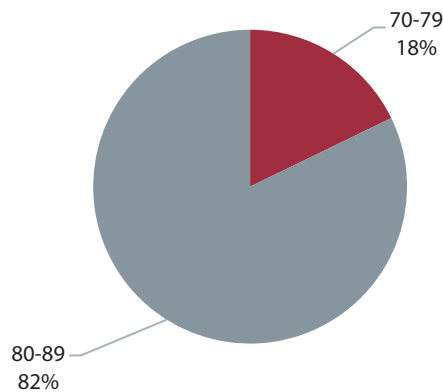
Source: Off-Highway Research

The **70-79 horsepower** category accounted for 61 per cent of the company's total backhoe loader sales in 2014, which increased to 62 per cent in 2015, but declined to 45 per cent in 2016, 43 per cent in 2017 and 18 per cent in 2018. The **80-89 horsepower** class accounted for 39 per cent in 2014 and 38 per cent in 2015, which increased to 55 per cent in 2016, 57 per cent in 2017 and 82 per cent in 2018.

Table 17. India: Tata Hitachi's sales of backhoe loaders by horsepower category, 2014-2018

Horsepower	2014		2015		2016		2017		2018	
	Units	%	Units	%	Units	%	Units	%	Units	%
70-79	234	61	94	62	128	45	197	43	91	18
80-89	152	39	58	38	158	55	260	57	420	82
Total	386	100	152	100	286	100	457	100	511	100

Source: Off-Highway Research

Chart 7. India: Tata Hitachi's sales of backhoe loaders by horsepower category, 2018

Source: Off-Highway Research

Table 18. India: Tata Hitachi's sales and market shares of backhoe loaders by horsepower category, 2014-2018

Horsepower	Description	2014	2015	2016	2017	2018
70-79	Tata Hitachi's Sales (Units)	234	94	128	197	91
	Tata Hitachi's Share (% of Total)	1	-	1	1	-
	Total Sales (Units)	19,008	18,573	24,825	27,944	40,095
80-89	Tata Hitachi's Sales (Units)	152	58	158	260	420
	Tata Hitachi's Share (% of Total)	12	8	13	59	56
	Total Sales (Units)	1,255	722	1,217	444	756

Source: Off-Highway Research

Tata Hitachi's market share of the **70-79 horsepower** segment remained at between 0-1 per cent during 2014-2018. However, its share of the **80-89 horsepower** category declined from 12 per cent in 2014 to 8 per cent in 2015, grew to 13 per cent in 2016 and 59 per cent in 2017 due to higher sales by the company and a fall in total category sales. The company's share dipped to 56 per cent in 2018.

CRAWLER EXCAVATORS

MODEL RANGE

Table 19. India: Tata Hitachi crawler excavators available, 2019

Manufacturer	Model	Engine		Operating Weight (Tonnes)	Product Source	
		HP	Manufacturer			
Tata Hitachi	EX70 Super Plus	54	Tata	7.0	India	
	ZAXIS80 GI	55	Mitsubishi	7.3-7.7	India	
	EX110 Super Plus	75	Tata	11.6	India	
	ZX140H	95	Mitsubishi	14.0	India	
	EX200LC Super Plus	131	Cummins	20.0	India	
	EX210LC Super Plus	131	Cummins	20.6	India	
	ZX 220LC	168	Isuzu	20.9-21.7	India	
	ZX220LC-M	161	Mitsubishi	20.9-21.7	India	
	ZX 370 LCH	247	Isuzu	35.4-35.9	India	
	ZX 400 MTH	247	Isuzu	37.1-37.6	India	
	ZX470H	316	Isuzu	47.1-47.5	India	
	ZX650H	395	Isuzu	58.3-60.5	India	
	EX1200V	721	Cummins	111.0	India	
	Hitachi	ZAXIS870-5G	483	Isuzu	80.8-84.2	Japan
		EX1900-6	1,039	Cummins	191.0-192.0	Japan
EX2600-6		1,434	Cummins	252.0-254.0	Japan	
EX3600-6		1,944	Cummins	359.0-362.0	Japan	
EX5600-6		2x1,434	Cummins	533.0-537.0	Japan	
EX8000-6		2x1,940	Cummins	837.0	Japan	

Source: Company Information

The company offers a wide range of crawler excavators ranging from 7 to 837 tonnes operating weight. The company has a comprehensive range of excavators for the construction (7-40 tonnes), mining (45-120 tonnes) and heavy mining (190-840 tonnes) sectors.

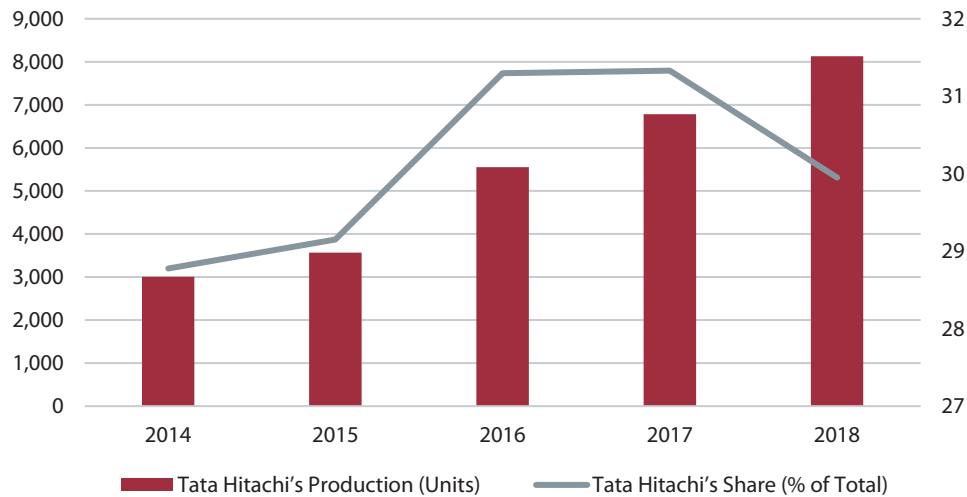
PRODUCTION

The company's production grew 19 per cent in 2015, 56 per cent in 2016, 22 per cent in 2017 and a further 20 per cent in 2018 to peak at 8,128 units. It accounted for 29 per cent of total production in 2014 and 2015, and 31 per cent in 2016 and 2017, which declined to 30 per cent in 2018.

Table 20. India: Tata Hitachi's production of crawler excavators, 2014-2018

	2014	2015	2016	2017	2018
Tata Hitachi's Production (Units)	3,005	3,568	5,553	6,784	8,128
Tata Hitachi's Share (% of Total)	29	29	31	31	30
Total Production (Units)	10,442	12,240	17,743	21,653	27,139

Source: Off-Highway Research

Chart 8. India: Tata Hitachi's production of crawler excavators, 2014-2018

Source: Off-Highway Research

Tata Hitachi is represented in all categories of crawler excavators except for the **60.1-80.0 tonne** class. The share of the **6.0-9.0 tonne** category of the company's total production declined from 16 per cent in 2014 to 14 per cent in 2015, 12 per cent in 2016 and 10 per cent in 2017 and 2018. However, production of this class increased 7 per cent in 2015, 30 per cent in 2016, 5 per cent in 2017 and 20 per cent in 2018.

The **9.1-12.0 tonne** category accounted for 13-14 per cent of its total production in 2014-2016, which declined to 10 per cent in 2017 and 8 per cent in 2018. Production of the segment grew 17 per cent in 2015 and 43 per cent in 2016 but fell 7 per cent in 2017. Its production increased 3 per cent in 2018.

The **12.1-18.0 tonne** category's production accounted for 12 per cent in 2014, which declined to 7-9 per cent during 2015-2018. Its production declined 11 per cent in 2015, but grew 52 per cent in 2016, 1 per cent in 2017 and 16 per cent in 2018.

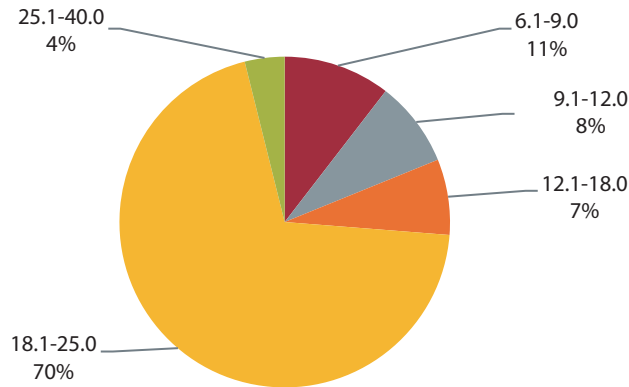
The **18.1-25.0 tonne** category accounted for 48 per cent of its production in 2014, which increased to 54 per cent in 2015, 60 per cent in 2016, 66 per cent in 2017 and 69 per cent in 2018. Its production increased significantly by 34 per cent in 2015, 72 per cent in 2016, 35 per cent in 2017 and 24 per cent in 2018.

The **25.0-40.0 tonne** category's share of the company's total production was 7 per cent in 2014, which declined to 4-5 per cent during 2015-2018. Its production declined 19 per cent in 2015, but expanded 41 per cent in 2016, 13 per cent in 2017 and 8 per cent in 2018.

Table 21. India: Tata Hitachi's production of crawler excavators by operating weight class, 2014-2018

Operating Weight (Tonnes)	2014		2015		2016		2017		2018	
	Units	%	Units	%	Units	%	Units	%	Units	%
6.1-9.0	476	16	508	14	661	12	693	10	835	10
9.1-12.0	417	14	489	14	698	13	650	10	671	8
12.1-18.0	374	12	332	9	504	9	511	8	591	7
18.1-25.0	1,450	48	1,944	54	3,337	60	4,494	66	5,579	69
25.1-40.0	223	7	181	5	255	5	289	4	311	4
40.1-60.0	78	3	95	3	80	1	128	2	121	1
60.1-80.0	-	-	-	-	-	-	-	-	-	-
Over 80	17	1	19	1	18	-	19	-	20	-
Total	3,035	100	3,568	100	5,553	100	6,784	100	8,128	100

Source: Off-Highway Research

Chart 9. India: Tata Hitachi's production of crawler excavators by operating weight class, 2018

Source: Off-Highway Research

The higher weight categories have much smaller shares of production, a reflection of the country's market structure. The **40.1-60.0 tonne** category accounted for 3 per cent of the company's production in 2014 and 2015, and declined to 1-2 per cent in 2016-2018. Its production increased by 22 per cent in 2015 but declined 16 per cent in 2016. After growing 60 per cent in 2017, it declined 5 per cent in 2018. The production in the **over 80 tonne** category accounted for 1 per cent or less during the last five years.

Tata Hitachi's production share in the **6.1-9.0 tonne** category has remained stable at 33-34 per cent during 2014-2018. Its share of the **9.1-12.0 tonne** segment also remained stable at 84-88 per cent during the last five years. However, the company's share of the **12.1-18.0 tonne** class steadily declined from 25 per cent in 2014 to 17 per cent in 2018.

Table 22. India: Tata Hitachi's share of production of crawler excavators by operating weight class, 2014-2018

Tonnes	Description	2014	2015	2016	2017	2018
6.1-9.0	Tata Hitachi's Production (Units)	476	508	661	693	835
	Tata Hitachi's Share (% of Total)	34	34	33	33	34
	Total Production (Units)	1,380	1,482	1,999	2,081	2,461
9.1-12.0	Tata Hitachi's Production (Units)	417	489	698	650	671
	Tata Hitachi's Share (% of Total)	84	84	87	88	86
	Total Production (Units)	497	583	798	742	778
12.1-18.0	Tata Hitachi's Production (Units)	374	332	504	511	591
	Tata Hitachi's Share (% of Total)	25	21	19	18	17
	Total Production (Units)	1,480	1,559	2,617	2,879	3,425
18.1-25.0	Tata Hitachi's Production (Units)	1,450	1,944	3,337	4,494	5,579
	Tata Hitachi's Share (% of Total)	23	25	30	31	30
	Total Production (Units)	6,295	7,773	11,292	14,510	18,761
25.1-40.0	Tata Hitachi's Production (Units)	223	181	255	289	311
	Tata Hitachi's Share (% of Total)	37	31	29	24	21
	Total Production (Units)	601	577	868	1,220	1,449
40.1-60.0	Tata Hitachi's Production (Units)	78	95	80	128	121
	Tata Hitachi's Share (% of Total)	48	42	57	64	56
	Total Production (Units)	161	225	140	199	217
Over 80	Tata Hitachi's Production (Units)	17	19	18	19	20
	Tata Hitachi's Share (% of Total)	74	51	64	86	43
	Total Production (Units)	23	37	28	22	46

Source: Off-Highway Research

In the most popular **18.1-25.0 tonne** category, Tata Hitachi's production share grew from 23 per cent in 2014 to 25 per cent in 2015, 30 per cent in 2016 and 31 per cent in 2017 before dipping marginally to 30 per cent in 2018. In the **25.1-40.0 tonne** segment, the company's production share declined steadily from 37 per cent in 2014 to 21 per cent in 2018.

In the **40.1-60.0 tonne** class, Tata Hitachi's share of production declined from 48 per cent in 2014 to 42 per cent in 2015 but grew to 57 per cent in 2016 and 64 per cent in 2017 before dipping to 56 per cent in 2018. The company did not produce any machines in the **60.1-80.0 tonne** segment, while its production share in the **over 80 tonne** category was 74 per cent in 2014, which dipped to 51 per cent in 2015 but grew to 64 per cent in 2016 and 86 per cent in 2017. However, its share declined to 43 per cent in 2018.

COMPONENT SOURCING

Tata Hitachi has a strong local content in its hydraulic excavators. Almost all structural items are produced in-house, while engines are sourced from Tata, Cummins, Isuzu and Mitsubishi. The hydraulic cylinders are sourced locally as well as imported, while hydraulics are from Hitachi, Kawasaki and Kayaba. The company sources undercarriages from Berco, ITM, INI and Hyundai steel. The cabs used in the different models have been mostly outsourced, whereas the steelwork is done by local suppliers as well as in-house.

Table 23. Tata Hitachi: Component sourcing for crawler excavators, 2019

Cabs	Local suppliers
Diesel Engine	Cummins, Tata, Isuzu, Mitsubishi
Hydraulic Cylinders	Wipro, Hitachi, Dongyang
Hydraulics	Hitachi, Kawasaki, Kayaba
Steelwork	In-house, Local suppliers
Undercarriages	Berco, ITM, INI, Hyundai Steel

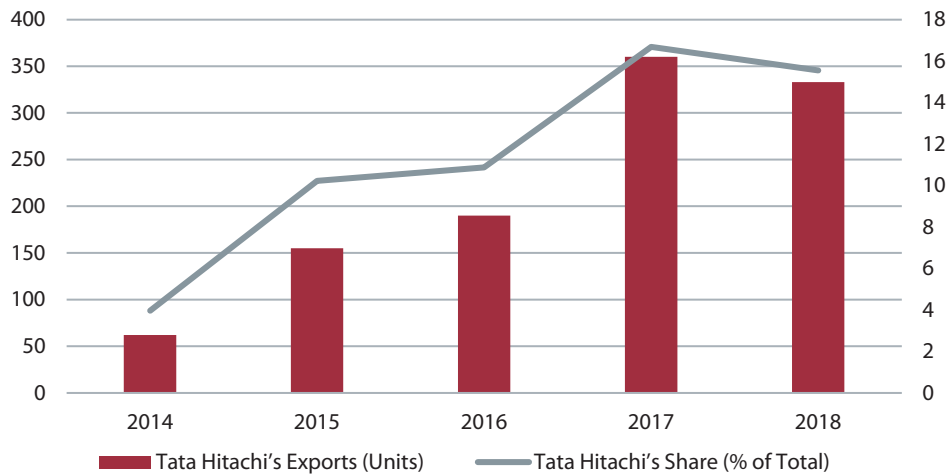
Source: Company Information

EXPORTS

Table 24. India: Tata Hitachi's exports of crawler excavators, 2014-2018

	2014	2015	2016	2017	2018
TataHitachi'sExports(Units)	62	155	190	360	333
TataHitachi'sShare(%ofTotal)	4	10	11	17	16
TotalExports(Units)	1,563	1,516	1,748	2,158	2,142

Source: Off-Highway Research

Chart 10. India: Tata Hitachi's exports of crawler excavators, 2014-2018

Source: Off-Highway Research

Tata Hitachi's share of total excavator exports from the country increased from 4 per cent during 2014 to 10 per cent in 2015, 11 per cent in 2016 and 17 per cent in 2017 before marginally declining to 16 per cent in 2018. Its exports of crawler excavators increased by 150 per cent in 2015, 23 per cent in 2016 and 89 per cent in 2017 but declined 8 per cent in 2018.

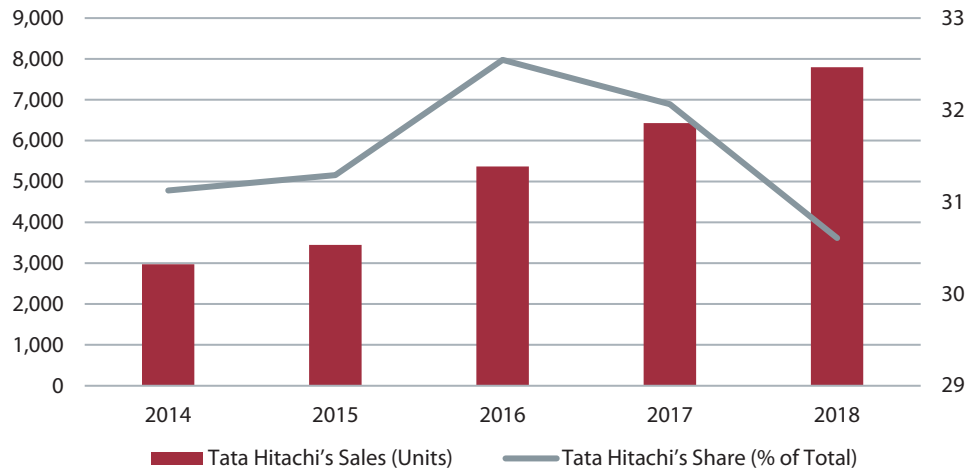
SALES AND MARKET SHARES

Tata Hitachi has been the traditional market leader in the crawler excavator market. It registered robust growth during 2015-2018 with sales rising 16 per cent in 2015, 56 per cent in 2016, 20 per cent in 2017 and 21 per cent in 2018. It accounted for 31-33 per cent of the market during 2014-2018.

Table 25. India: Tata Hitachi's sales and market shares of crawler excavators, 2014-2018

	2014	2015	2016	2017	2018
Tata Hitachi's Sales (Units)	2,973	3,446	5,367	6,429	7,797
Tata Hitachi's Share (% of Total)	31	31	33	32	31
Total Market (Units)	9,552	11,013	16,491	20,051	25,474

Source: Off-Highway Research

Chart 11. India: Tata Hitachi's sales and market shares of crawler excavators, 2014-2018

Source: Off-Highway Research

The **9.1-12.0 tonne** category accounted for 13-14 per cent of its total production in 2014-2016, which declined to 10 per cent in 2017 and 9 per cent in 2018. Sales of the segment grew 17 per cent in 2015 and 42 per cent in 2016 but fell 7 per cent in 2017. Its sales increased 3 per cent in 2018.

The **12.1-18.0 tonne** category's sales accounted for 12 per cent in 2014, which declined to 10 per cent in 2015 and remained 7-9 per cent during 2016-2018. Its sales declined 11 per cent in 2015, but grew 46 per cent in 2016, 2 per cent in 2017 and 17 per cent in 2018.

The **18.1-25.0 tonne** category accounted for 48 per cent of its sales in 2014, which increased to 52 per cent in 2015, 59 per cent in 2016, 65 per cent in 2017 and 68 per cent in 2018. Its sales increased significantly by 27 per cent in 2015, 77 per cent in 2016, 31 per cent in 2017 and 27 per cent in 2018.

The **25.0-40.0 tonne** category's share in the company's total sales was 7 per cent in 2014, which declined to 4-5 per cent during 2015-2018. Its production declined 12 per cent in 2015, but expanded 38 per cent in 2016, 16 per cent in 2017 and 8 per cent in 2018.

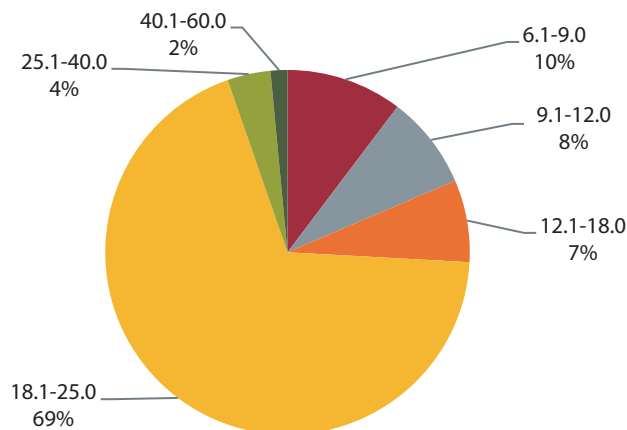
The **40.1-60.0 tonne** category accounted for 3 per cent of the company's sales in 2014 and 2015, which declined to 1-2 per cent during 2016-2018. Its sales increased 53 per cent in 2015 but declined 32 per cent in 2016. After growing 60 per cent in 2017, it declined 6 per cent in 2018. Sales in the **over 80 tonne** category accounted for 1 per cent or less.

Table 26. India: Tata Hitachi sales of crawler excavators by operating weight class, 2014-2018

Tonnes	2014		2015		2016		2017		2018	
	Units	%	Units	%	Units	%	Units	%	Units	%
6.1-9.0	476	16	507	15	658	12	692	11	825	11
9.1-12.0	417	14	489	14	696	13	650	10	667	9
12.1-18.0	371	12	329	10	481	9	491	8	573	7
18.1-25.0	1,416	48	1,798	52	3,177	59	4,163	65	5,287	68
25.1-40.0	199	7	176	5	242	5	281	4	303	4
40.1-60.0	77	3	118	3	80	1	128	2	120	2
60.1-80.0	-	-	-	-	-	-	-	-	-	-
Over 80	17	1	29	1	33	1	24	-	22	-
Total	2,973	100	3,446	100	5,367	100	6,429	100	7,797	100

Source: Off-Highway Research

Chart 12. India: Tata Hitachi sales of crawler excavators by operating weight class, 2018



Source: Off-Highway Research

Tata Hitachi's market share in the **6.1-9.0 tonne** category remained stable at 33-35 per cent during 2014-2018, while its share of the **9.1-12.0 tonne** segment has also remained stable at 81-87 per cent during the last five years. However, the company's share of the **12.1-18.0 tonne** class steadily declined from 24 per cent in 2014 to 17 per cent in 2018.

In the most popular **18.1-25.0 tonne** category, Tata Hitachi's market share grew from 28 per cent in 2014 to 29 per cent in 2015 and 32 per cent in 2016 and 2017 before dipping marginally to 31 per cent in 2018. In the **25.1-40.0 tonne** segment, the company's market share increased from 31 per cent in 2014 to 32 per cent in 2015 but

declined to 29 per cent in 2016 and 25 per cent in 2017. It accounted for a 26 per cent segment share in 2018.

Table 27. India: Tata Hitachi sales and market shares of crawler excavators by operating weight class, 2014-2018

Tonnes	Description	2014	2015	2016	2017	2018
6.1-9.0	Tata Hitachi's Sales (Units)	476	507	658	692	825
	Tata Hitachi's Share (% of Total)	35	35	33	33	34
	Total Sales (Units)	1,346	1,452	1,965	2,086	2,414
9.1-12.0	Tata Hitachi's Sales (Units)	417	489	696	650	667
	Tata Hitachi's Share (% of Total)	81	85	86	87	86
	Total Sales (Units)	512	573	806	743	777
12.1-18.0	Tata Hitachi's Sales (Units)	371	329	481	491	573
	Tata Hitachi's Share (% of Total)	24	21	19	18	17
	Total Sales (Units)	1,574	1,587	2,483	2,661	3,334
18.1-25.0	Tata Hitachi's Sales (Units)	1,416	1,798	3,177	4,163	5,287
	Tata Hitachi's Share (% of Total)	28	29	32	32	31
	Total Sales (Units)	5,088	6,274	9,963	12,953	17,312
25.1-40.0	Tata Hitachi's Sales (Units)	199	176	242	281	303
	Tata Hitachi's Share (% of Total)	31	32	29	25	26
	Total Sales (Units)	646	549	822	1,114	1,144
40.1-60.0	Tata Hitachi's Sales (Units)	77	118	80	128	120
	Tata Hitachi's Share (% of Total)	22	24	21	28	29
	Total Sales (Units)	344	486	380	454	413
Over 80	Tata Hitachi's Sales (Units)	17	29	33	24	22
	Tata Hitachi's Share (% of Total)	61	43	62	59	36
	Total Sales (Units)	28	67	53	41	61

Source: Off-Highway Research

In the **40.1-60.0 tonne** class, Tata Hitachi's market share grew from 22 per cent in 2014 to 24 per cent in 2015 but dipped to 21 per cent in 2016. However, its share grew to 28 per cent in 2017 and 29 per cent in 2018. The company has not sold any machines in the **60.1-80.0 tonne** segment in the last five years. Its market share in the **over 80 tonne** category was 61 per cent in 2014, which dipped to 43 per cent in 2015, grew to 62 per cent in 2016 before dropping to 59 per cent in 2017 and 36 per cent in 2018.

MINI EXCAVATORS

MODEL RANGE

Table 28. India: Tata Hitachi mini excavators available, 2019

Manufacturer	Model	Engine		Operating Weight (Tonnes)	Product Source
		HP	Manufacturer		
Tata Hitachi	TMX20	28	Simpson	2.3	India
	Zaxis 33U-5A	28	Yanmar	3.3	India
Hitachi	Zaxis 20U-5A	18	Yanmar	2.3	Japan

Source: Company Information

Tata Hitachi promotes 3 mini excavators in the 2.3-3.3 tonne range, 2 of which are produced locally.

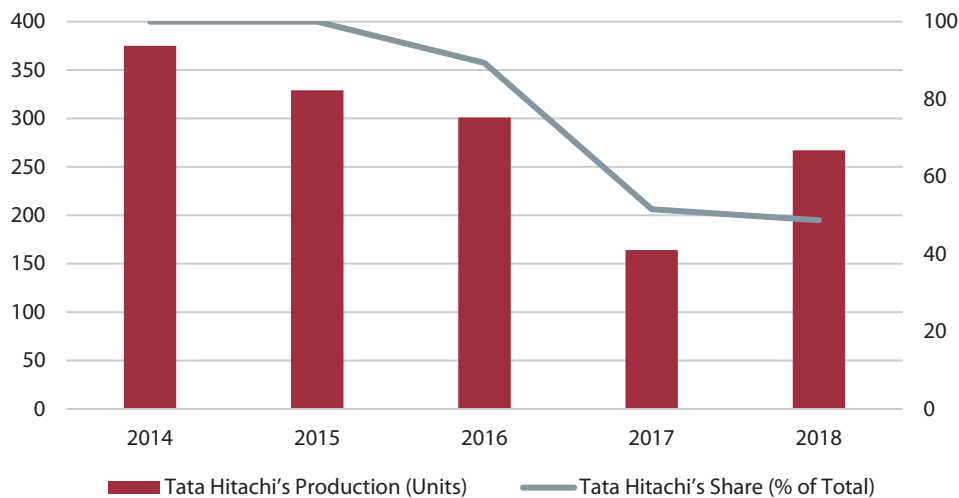
PRODUCTION

Table 29. India: Tata Hitachi's production of mini excavators, 2014-2018

	2014	2015	2016	2017	2018
Tata Hitachi's Production (Units)	375	329	301	164	267
Tata Hitachi's Share (% of Total)	100	100	89	52	49
Total Production (Units)	375	329	337	318	548

Source: Off-Highway Research

Chart 13. India: Tata Hitachi's production of mini excavators, 2014-2018



Source: Off-Highway Research

Tata Hitachi's production dropped 12 per cent in 2015, 9 per cent in 2016 and 46 per cent in 2017. However, in 2018, strong growth of 63 per cent was recorded due to a rise in demand and the start of local manufacturing of the Zaxis 33U-5A model. It was the only domestic producer of mini excavators until 2015 and accounted for 89 per cent of total production in 2016, which declined to 52 per cent in 2017 and 48 per cent in 2018.

Table 30. India: Tata Hitachi's production of mini excavators by operating weight class, 2014-2018

Operating Weight (Tonnes)	2014		2015		2016		2017		2018	
	Units	%	Units	%	Units	%	Units	%	Units	%
1.0-2.5	343	91	287	90	283	94	155	95	128	48
2.6-4.0	-	-	-	-	-	-	-	-	138	52
4.1-6.0	32	9	32	10	18	6	9	5	1	-
Total	375	100	319	100	301	100	164	100	267	100

Source: Off-Highway Research

90-95 per cent of company's production fell in **1.0-2.5 tonne** category during 2014-2017, which declined to 48 per cent due to the introduction of the local model in the higher weight category. Production in this class declined successively by 16 per cent in 2015, 1 per cent in 2016, 45 per cent in 2017 and 17 per cent in 2018.

The **2.6-4.0 tonne** class accounted for 52 per cent of the total production in 2018. The **4.1-6.0 tonne** category accounted for 9 per cent of production in 2014, which increased to 10 per cent in 2015. Its share further declined to 6 per cent in 2016 and 5 per cent in 2017. The company withdrew from this category in 2017.

Table 31. India: Tata Hitachi's share of production of mini excavators by operating weight class, 2014-2018

Tonnes	Description	2014	2015	2016	2017	2018
1.0-2.5	Tata Hitachi's Production (Units)	343	287	283	155	128
	Tata Hitachi's Share (% of Total)	100	100	97	97	94
	Total Production (Units)	343	287	291	159	136
2.6-4.0	Tata Hitachi's Production (Units)	-	-	-	-	138
	Tata Hitachi's Share (% of Total)	-	-	-	-	34
	Total Production (Units)	-	-	28	150	411
4.1-6.0	Tata Hitachi's Production (Units)	32	32	18	9	1
	Tata Hitachi's Share (% of Total)	100	100	100	100	100
	Total Production (Units)	32	32	18	9	1

Source: Off-Highway Research

Tata Hitachi was the only mini excavator manufacturer in the **1.0-2.5 tonne** category until 2015, but its share of production dipped to 97 per cent in 2016 and 2017, and to 94 per cent in 2018. The company entered the **2.6-4.0 tonne** segment in 2018 and accounted for 34 per cent share of production in the year. It was the only manufacturer in the **4.1-6.0 tonne** segment during 2014-2018 with a 100 per cent production share.

COMPONENT SOURCING

Currently, Tata Hitachi manufactures domestically the TMX20 model, while its Zaxis 33U-5A model is imported with some additions and modifications that are completed in the Indian factory. The TMX20 is powered by a Simpson engine, while hydraulic components are sourced from Dowty and Danfoss. The company uses Wipro cylinders, undercarriages are outsourced, and canopies are supplied by a

local vendor. All steelwork is done in-house. The Zaxis 33U-5A has a Yanmar engine and all its major components are imported from Japan.

Table 32. Tata Hitachi: Component sourcing for mini excavators, 2019

Canopies	Local supplier, Imported
Diesel Engine	Simpson, Yanmar
Hydraulics	Dowty, Danfoss, Imported
Hydraulic Cylinders	Wipro, Imported
Steelwork	In-house, Imported
Undercarriages	Outsourced, Imported

Source: Company Information

EXPORTS

Tata Hitachi exported 1 mini excavator in 2014 and 2016, but there were no exports in 2015 and 2017. It exported three units in 2018.

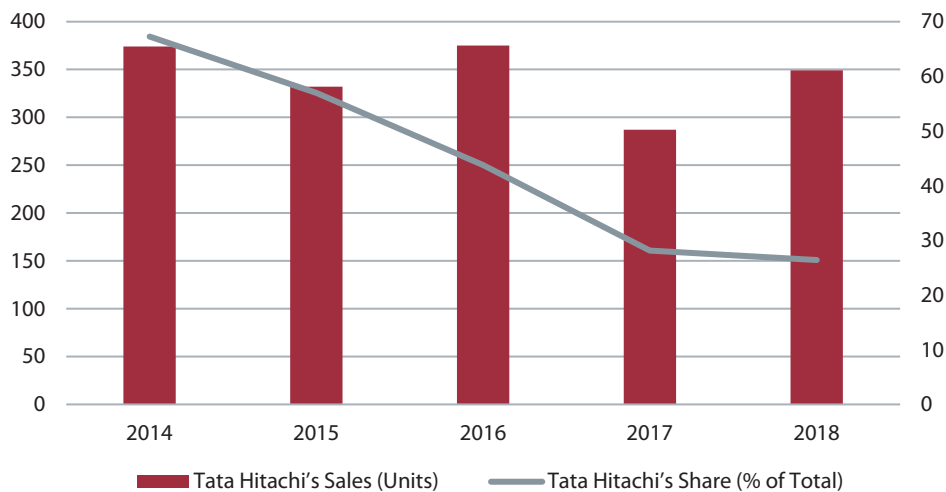
SALES AND MARKET SHARES

Table 33. India: Tata Hitachi's sales and market shares of mini excavators, 2014-2018

	2014	2015	2016	2017	2018
Tata Hitachi's Sales (Units)	374	332	375	287	349
Tata Hitachi's Share (% of Total)	67	57	44	28	26
Total Market (Units)	556	583	857	1,021	1,322

Source: Off-Highway Research

Chart 14. India: Tata Hitachi's sales and market shares of mini excavators, 2014-2018



Source: Off-Highway Research

Traditionally, the company has dominated the mini excavator market with a share ranging between 81 to 93 per cent until 2012, which declined to 74 per cent in 2013,

67 per cent in 2014, 57 per cent in 2015 and 44 per cent in 2016. The downward trend then continued, and the company's share dropped to 28 per cent in 2017 and 26 per cent in 2018.

Tata Hitachi's mini excavator sales declined 11 per cent in 2015 but increased 13 per cent in 2016. It fell sharply by 23 per cent in 2017 but grew 22 per cent in 2018.

Table 34. India: Tata Hitachi's sales of mini excavators by operating weight class, 2014-2018

Tonnes	2014		2015		2016		2017		2018	
	Units	%	Units	%	Units	%	Units	%	Units	%
1.0-2.5	342	91	297	89	282	75	162	56	180	52
2.6-4.0	-	-	3	1	75	20	116	40	168	48
4.1-6.0	32	9	32	10	18	5	9	3	1	-
Total	374	100	332	100	375	100	287	100	349	100

Source: Off-Highway Research

The **1.0-2.5 tonne** category accounted for 91 per cent in 2014, which declined to 89 per cent in 2015, 75 per cent in 2016, 56 per cent in 2017 and 52 per cent in 2018. Sales of this class declined 13 per cent in 2015, 5 per cent in 2016 and 43 per cent in 2017, however, it increased 11 per cent in 2018.

The **2.6-4.0 tonne** class accounted for 1 per cent of the total sales in 2015, which increased to 20 per cent in 2016, 40 per cent in 2017 and 48 per cent in 2018. Its sales increased 55 per cent in 2017 and 45 per cent in 2018.

The **4.1-6.0 tonne** category accounted for 9 per cent of sales in 2014, which increased to 10 per cent in 2015. Its share further declined to 5 per cent in 2016 and 3 per cent in 2017. The company sold only 1 unit in 2018.

Table 35. India: Tata Hitachi sales and market shares of mini excavators by operating weight class, 2014-2018

Tonnes	Description	2014	2015	2016	2017	2018
1.0-2.5	Tata Hitachi's Sales (Units)	342	297	282	162	180
	Tata Hitachi's Share (% of Total)	84	74	64	54	48
	Total Sales (Units)	407	404	438	300	377
2.6-4.0	Tata Hitachi's Sales (Units)	-	3	75	116	168
	Tata Hitachi's Share (% of Total)	-	2	19	17	18
	Total Sales (Units)	117	147	401	672	912
4.1-6.0	Tata Hitachi's Sales (Units)	32	32	18	9	1
	Tata Hitachi's Share (% of Total)	100	100	100	18	3
	Total Sales (Units)	32	32	18	49	33

Source: Off-Highway Research

Tata Hitachi's market share in the **1.0-2.5 tonne** category steadily declined from 84 per cent in 2014 to 48 per cent in 2018. The company entered the **2.6-4.0 tonne** segment in 2015 with a 2 per cent share, which grew to 19 per cent in 2016. It accounted for a 17 per cent share of the segment in 2017 and 18 per cent in 2018. It

was the only supplier in the **4.1-6.0 tonne** segment during 2014-2016 with a 100 per cent share, which dipped to 18 per cent in 2017 and a mere 3 per cent in 2018 when it withdrew from the category.

RIGID DUMP TRUCKS

MODEL RANGE

Table 36. India: Tata Hitachi rigid dump trucks available, 2019

Manufacturer	Model	Payload (Tonnes)	Engine		Product Source
			HP	Manufacturer	
Tata Hitachi	EH600	32	380	Cummins	India
Hitachi	EH3500AC-3	181	1,874	Cummins	Japan
	EH4000AC-3	221	2,370	Cummins	Japan
	EH5000AC-3	296	2,640	Cummins	Japan

Source: Company Information

The company has traditionally offered only the EH600 model, but it recently started the promotion of imported machines. Its current range covers the 32-296 tonne payload category.

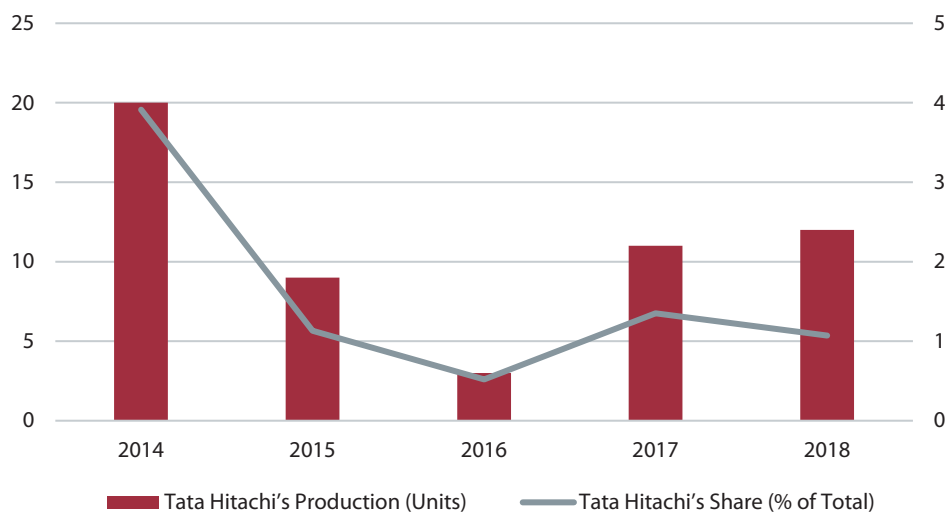
PRODUCTION

Table 37. India: Tata Hitachi's production of rigid dump trucks, 2014-2018

	2014	2015	2016	2017	2018
Tata Hitachi's Production (Units)	20	9	3	11	12
Tata Hitachi's Share (% of Total)	4	1	1	1	1
Total Production (Units)	511	796	576	815	1,120

Source: Off-Highway Research

Chart 15. India: Tata Hitachi's production of rigid dump trucks, 2014-2018



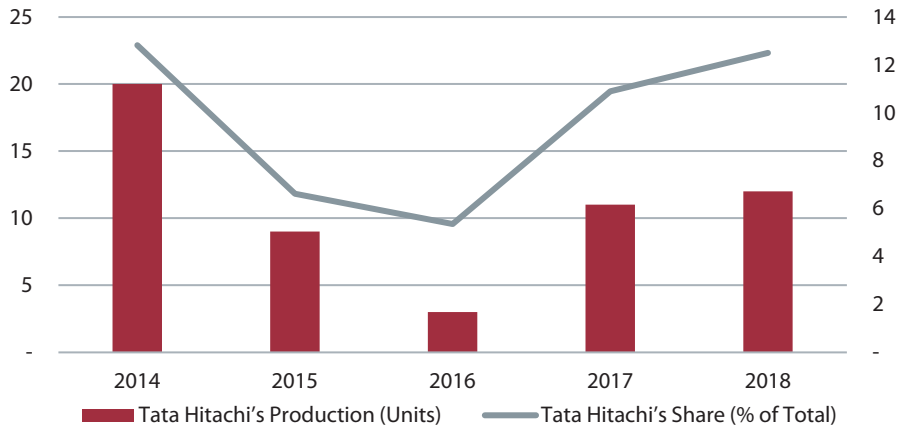
Source: Off-Highway Research

Tata Hitachi accounted for 4 per cent of total country production of dump trucks in 2014, which fell to 1 per cent during 2015-2018. It only produced machines in the 31-40 tonne payload class during 2014-2018.

Table 38. India: Tata Hitachi's share of production of rigid dump trucks by payload capacity, 2014-2018

Tonnes	Description	2014	2015	2016	2017	2018
31-40	Tata Hitachi's Production (Units)	20	9	3	11	12
	Tata Hitachi's Share (% of Total)	13	7	5	11	13
Total Production (Units)		156	136	56	101	96

Source: Off-Highway Research

Chart 16. India: Tata Hitachi production share of rigid dump trucks by payload capacity, 2014-2018 (Tonnes)

Source: Off-Highway Research

Tata Hitachi's production share of the **31-40 tonne** class of rigid dump trucks dipped from 13 per cent in 2014 to a low of 5 per cent in 2016, but recovered to 13 per cent in 2018.

COMPONENT SOURCING

Table 39. Tata Hitachi: Component Sourcing for Rigid Dump Trucks, 2019

Axles	In-house
Cabs	In-house
Chassis	In-house
Diesel Engines	Cummins
Hydraulics	Hitachi
Steelwork	In-house
Transmissions	Allison
Tyres	Various

Source: Company Information

The company uses a number of in-house components on its single dump truck model, which is powered by a Cummins engine and uses Hitachi hydraulics and Allison transmissions.

EXPORTS

Tata Hitachi usually does not export rigid dump trucks.

SALES AND MARKET SHARES

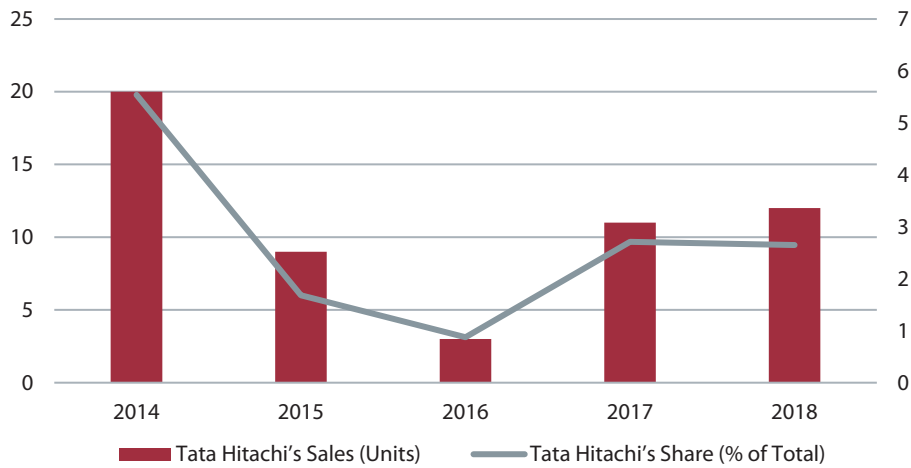
Tata Hitachi accounted for 6 per cent of the total dump truck market in 2014, which declined to 2 per cent in 2015 and 1 per cent in 2016. However, its share increased to 3 per cent in 2017 and 2018.

Table 40. India: Tata Hitachi's sales and market shares of rigid dump trucks, 2014-2018

	2014	2015	2016	2017	2018
Tata Hitachi's Sales (Units)	20	9	3	11	12
Tata Hitachi's Share (% of Total)	6	2	1	3	3
Total Market (Units)	361	535	343	406	453

Source: Off-Highway Research

Chart 17. India: Tata Hitachi's sales and market shares of rigid dump trucks, 2014-2018



Source: Off-Highway Research

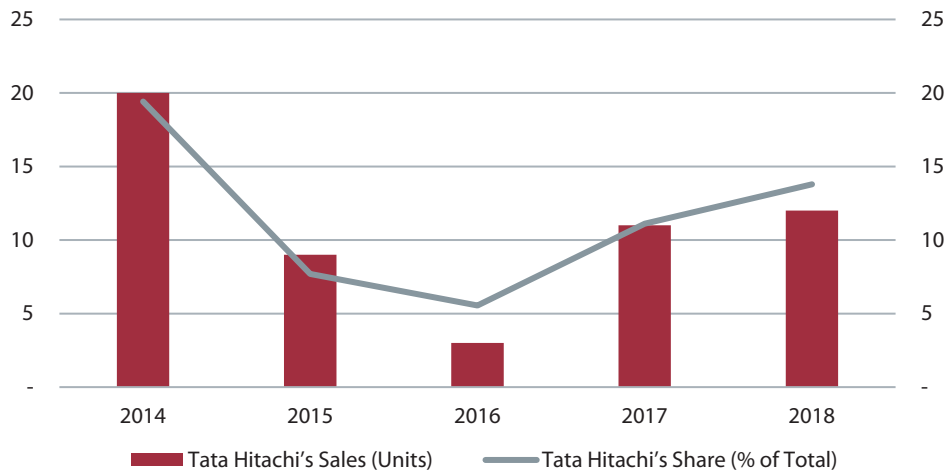
Tata Hitachi's market share in the 31-40 tonne payload capacity rigid dump trucks dipped from 19 per cent in 2014 to a low of 6 per cent in 2016 but recovered to 14 per cent in 2018.

Table 41. India: Tata Hitachi's sales and market shares of rigid dump trucks by payload capacity, 2014-2018

Tonnes	Description	2014	2015	2016	2017	2018
31-40	Tata Hitachi's Sales (Units)	20	9	3	11	12
	Tata Hitachi's Share (% of Total)	19	8	6	11	14
	Total Sales (Units)	103	117	54	99	87

Source: Off-Highway Research

Chart 18. India: Tata Hitachi's sales and market shares of rigid dump trucks by payload capacity, 2014-2018 (Tonnes)



Source: Off-Highway Research

WHEELED LOADERS

MODEL RANGE

Table 42. India: Tata Hitachi wheeled loaders available, 2019

Manufacturer	Model	Engine		Weight (Tonnes)	Bucket (m ³)	Product Source
		HP	Manufacturer			
Tata Hitachi	TL340H	99	Cummins	10.7-10.8	1.5-2.7	India
Hitachi	ZW220	220	Isuzu	17.0-17.6	2.7-4.5	Japan
	ZW310	316	Cummins	22.4-22.9	3.4-4.5	Japan
	ZW370	359	Cummins	30.4-31.1	4.3-7.5	Japan
	ZW550	483	Cummins	45.1-46.0	6.0-10.0	Japan

Source: Company Information

The company currently offers only one locally produced wheeled loader model, the TL340H, but offers a wide range of imported machines from 220-480 horsepower. With this range the company represents construction as well as mining. It discontinued its domestically manufactured TL360Z model 129 horsepower wheeled loader in 2018.

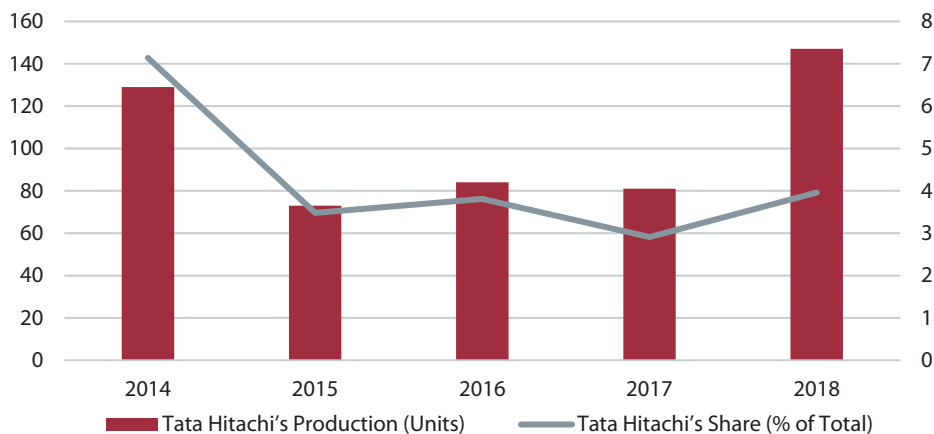
PRODUCTION

Table 43. India: Tata Hitachi's production of wheeled loaders, 2014-2018

	2014	2015	2016	2017	2018
Tata Hitachi's Production (Units)	129	73	84	81	147
Tata Hitachi's Share (% of Total)	7	3	4	3	4
Total Production (Units)	1,807	2,097	2,206	2,781	3,714

Source: Off-Highway Research

Chart 19. India: Tata Hitachi's production of wheeled loaders, 2014-2018



Source: Off-Highway Research

The company's wheeled loader production dropped 43 per cent in 2015, rose 15 per cent in 2016 but declined 4 per cent in 2017. However, it recovered sharply by 81 per cent in 2018.

Tata Hitachi has a small share of the country's total wheeled loader production. It accounted for 7 per cent of the total in 2014, which declined and remained at 3-4 per cent during 2015-2018.

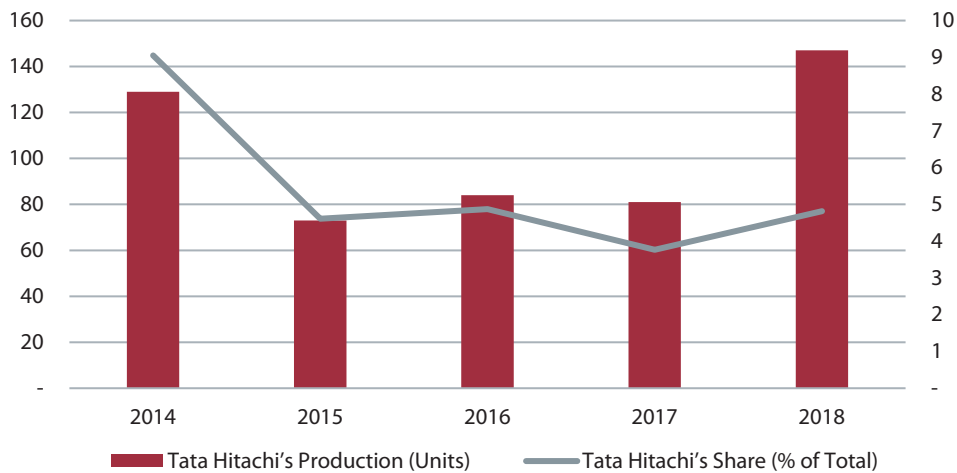
The company produces wheeled loaders only in the **81-150 horsepower** category.

Table 44. India: Tata Hitachi's share of production of wheeled loaders by horsepower category, 2014-2018

Horsepower	Description	2014	2015	2016	2017	2018
81-150	Tata Hitachi's Production (Units)	129	73	84	81	147
	Tata Hitachi's Share (% of Total)	9	5	5	4	5
	Total Production (Units)	1,425	1,584	1,724	2,149	3,054

Source: Off-Highway Research

Chart 20. India: Tata Hitachi production share of wheeled loaders by horsepower category, 2014-2018 (Horsepower)



Source: Off-Highway Research

Tata Hitachi's production share of the **81-150 horsepower** category of wheeled loaders dipped from 9 per cent in 2014 to a low of 4 per cent in 2017, but recovered marginally to 5 per cent in 2018.

COMPONENT SOURCING

Wheeled loaders produced in the country by the company are powered with Cummins engines. It has a hydrostatic drive, which enables the transfer of power to axles through hydraulic motors. It has Rexroth pumps and motors, Wipro cylinders and Husco valves. Axles are sourced from Dana, while chassis and steelwork are made in-house.

Table 45. Tata Hitachi: Component sourcing for wheeled loaders, 2019

Axles	Dana
Buckets	In-house
Chassis and Steelwork	In-house
Diesel Engines	Cummins
Hydraulic Cylinders	Wipro
Hydraulic Pumps	Rexroth
Hydraulic Motors	Rexroth
Hydraulic Valves	Husco

Source: Company Information

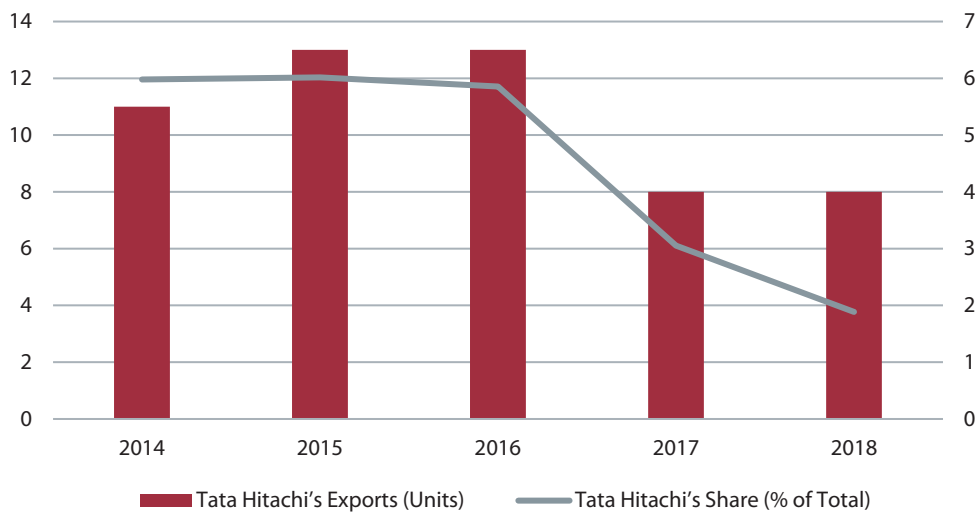
EXPORTS

Tata Hitachi exports a few wheeled loaders every year. Its share of the country's wheeled exports declined from 6 per cent during 2014-2016 to 3 per cent in 2017 and 2 per cent in 2018.

Table 46. India: Tata Hitachi's exports of wheeled loaders, 2014-2018

	2014	2015	2016	2017	2018
Tata Hitachi's Exports (Units)	11	13	13	8	8
Tata Hitachi's Share (% of Total)	6	6	6	3	2
Total Exports (Units)	184	216	222	262	424

Source: Off-Highway Research

Chart 21. India: Tata Hitachi's exports of wheeled loaders, 2014-2018

Source: Off-Highway Research

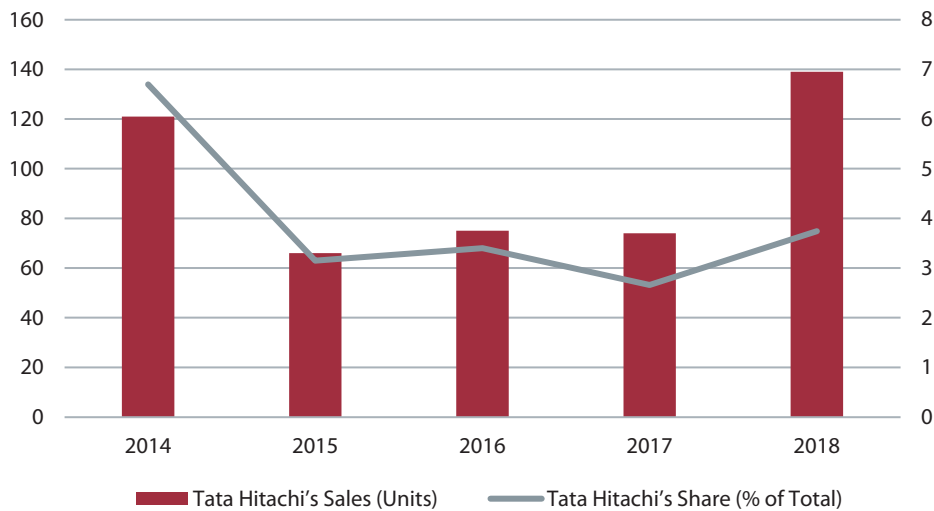
SALES AND MARKET SHARES

Table 47. India: Tata Hitachi's sales and market shares of wheeled loaders, 2014-2018

	2014	2015	2016	2017	2018
Tata Hitachi's Sales (Units)	121	66	75	74	139
Tata Hitachi's Share (% of Total)	7	3	3	3	4
Total Market (Units)	1,807	2,097	2,206	2,781	3,714

Source: Off-Highway Research

Chart 22. India: Tata Hitachi's sales and market shares of wheeled loaders, 2014-2018



Source: Off-Highway Research

Table 48. India: Tata Hitachi's sales of wheeled loaders by horsepower category, 2014-2018

Tonnes	2014		2015		2016		2017		2018	
	Units	%	Units	%	Units	%	Units	%	Units	%
81-150	118	98	60	91	71	95	73	99	139	100
201-250	3	2	6	9	4	5	1	1	-	-
Total	121	100	66	100	75	100	74	100	139	100

Source: Off-Highway Research

Tata Hitachi's market share declined from 7 per cent in 2014 to 3-4 per cent during 2015-2018. Sales of wheeled loaders declined 45 per cent in 2015 but grew 14 per cent in 2016. After dropping 1 per cent in 2017, sales surged 88 per cent in 2018.

The majority of the company's wheeled loader sales fall in the 81-150 horsepower range, which accounted for 91-99 per cent during 2014-2017 and 100 per cent in 2018. Tata Hitachi also sold a few 201-250 horsepower imported Hitachi machines during 2014-2017.

Tata Hitachi's market share in the **81-150 horsepower** category of wheeled loaders dipped from 8 per cent in 2014 to a low of 3 per cent in 2017, but recovered

marginally to 5 per cent in 2018. The company accounted for 1-2 per cent share of the **201-250 horsepower** class during 2014-2016, but sold only 1 unit in 2017 and had no sales at all in 2018.

Table 49. India: Tata Hitachi's sales and market shares of wheeled loaders by horsepower category, 2014-2018

Horsepower	Description	2014	2015	2016	2017	2018
81-150	Tata Hitachi's Sales (Units)	118	60	71	73	139
	Tata Hitachi's Share (% of Total)	8	4	4	3	5
	Total Sales (Units)	1,398	1,646	1,732	2,214	2,886
201-250	Tata Hitachi's Sales (Units)	3	6	4	1	0
	Tata Hitachi's Share (% of Total)	1	2	1	0	0
	Total Sales (Units)	233	297	334	360	323

Source: Off-Highway Research

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