Mishra Dhatu Nigam Limited

Issue Snapshot:

Issue Open: Mar 21 – Mar 23, 2018

Price Band: Rs 87 – 90 (A discount of Rs 3 per eq sh offered to retail and employees.)

Issue Size: 48,708,400 Equity Shares (Entirely Offer for sale - including Employee reservation of 1,873,400 eq sh)

Offer Size: Rs 423.76cr – 438.37cr

QIB	Upto	23,417,500 eq sh
Non Institutional	atleast	7,025,250 eq sh
Retail	atleast	16,392,250 eq sh
Employee	Upto	1,873,400 eq sh

Face Value: Rs 10

Book value: Rs 39.15 (Sept 30, 2017)

Bid size: - 150 equity shares and in multiples thereof

100% Book built Issue

Capital Structure:

Pre Issue Equity:	Rs 187.34 cr
Post issue Equity:	Rs 187.34 cr

Listing: BSE & NSE

Book Running Lead Manager: SBI Capital Markets Limited, IDBI Capital Markets & Securities Limited

Registrar to issue: Alankit Assignments Limited

Shareholding Pattern

Shareholding Pattern	Pre issue %	Post issue %
Promoter and Promoter Group	100.00	74.00
Public & Others	0.00	26.00
Total	**100.0**	**100.0**

Source for this Note: RHP

Background & Operations:

Mishra Dhatu Nigam Limited (MDNL) is one of the leading manufacturers of special steels, Superalloys and only manufacturer of titanium alloys in India. These are high value products which cater to niche end user segments such as defence, space and power. It has emerged as a 'National Centre for Excellence' in advanced metallurgical production of special metals and Superalloys in India. It has the technological ability to manufacture a wide range of advanced metals and alloys under one roof. With the growth of its business and operations, MDNL has achieved the status of a Mini Ratna, Category-I company in 2009.

MDNL is one of the few metallurgical plants of its kind in the world, designed to manufacture a wide range of special metals and alloys using integrated and highly flexible manufacturing systems. It manufactures unique combinations of metal and alloys. These special alloys has superior mechanical properties and better workability which are essential for special applications in aerospace, power generation, nuclear, defence and other general engineering industries. Its products are key ingredients for strategic sectors in India, which typically cannot be imported from other countries due to its national security related concerns.

MDNL manufactures special steels like martensitic steel, ultra high strength steel, austenitic steel and precipitation hardening steel. It manufactures three varieties of Superalloys – nickel base, iron base and cobalt base and also manufactures varieties of titanium alloys. Most of the orders executed by the Company are in the nature of an import substitute. Presently, it conduct its operations at its manufacturing facility in Hyderabad and is in the process of setting up two new manufacturing facilities in Rohtak and Nellore.

With the constant developments made over the years in various operational areas, by utilizing in-house research and development capabilities, MDNL indigenized various critical technologies, alloys and products which reduced dependence on imports of these critical materials. It has been handling challenging developmental tasks, taking a lead position in indigenisation of critical technologies and products to render support to several programmes of national importance.

MDNL's Promoter is the President of India acting through the MoD. The President of India, along with its nominees, currently holds 100% of the pre-Offer paid-up Equity Share capital of MDNL. Assuming the sale of all Offered Shares, after this Offer, the Promoter shall hold 74 % of the post Offer paid-up Equity Share capital of MDNL.

Objects of Issue:

The objects of the Offer are: (i) to carry out the disinvestment of 48,708,400 Equity Shares by the Selling Shareholder constituting 26% of MDNL's pre-Offer paid up Equity Share capital; and (ii) to achieve the benefits of listing the Equity Shares on the Stock Exchanges. MDNL will not receive any proceeds from the Offer and all proceeds shall go to the Selling Shareholder.

Competitive strengths

Most advanced and unique facilities: MDNL is the only facility in India to carry out vacuum based melting and refining through world class vacuum melting furnace such as vacuum induction melting, vacuum arc remelting, vacuum degassing/ vacuum oxygen decarburisation, electro slag remelting and electron- beam melting. It enables the Company to venture new markets with innovative and advanced products. It has successfully produced Hafnium metal having vital application in the space sector for the first time in the country using state of the art electron beam melting furnace. Also, it has manufactured large nickel superalloy based casting through air induction melting route. Thus the wide spectrum of advanced melting facilities enables MDNL with the flexibility to provide its customers with high quality products which meet their stringent quality requirements.

Capability to manufacture wide range of advanced products: MDNL is a manufacturer of special steels and stainless steels, Superalloys (nickel base, iron base and cobalt base), commercially pure titanium and titanium alloys, soft magnetic alloys, controlled expansion alloys, heat resistance alloys, special purpose alloys, refractory metals and other alloys in different shapes, properties and sizes. It has process capabilities across the product manufacturing value chain, including melting, forging, rolling, wire drawing, investment casting, machining and quality testing. MDNL is a modern and integrated metallurgical plant for manufacturing a wide spectrum of critical alloys in variety of forms such as ingots, forged bars, rings hot rolled sheets and bars, cold rolled sheets, strips and foils, wires, castings, fasteners and tubes using state of the art production facilities for defence, space, aeronautics, power and thermal power, electronics, tele-communications and engineering industries and other sectors in India. In addition, it also use high quality/pure form of raw materials to manufacture alloys. This helps to ensure high quality of manufactured products and control its production costs. MDNL is in a unique position to leverage both economies of scale and scope as it is capable of processing different alloys. Some of the alloys that it manufacture has properties higher than international standards to meet specific requirements of its customers. Its wide range of products and ability to meet the specific customer needs enables to successfully service core strategic sectors such as defence, nuclear/ power and aerospace.

Strong long term customer relationships: MDNL has a strong and an established relationship with its customers. It has partnered with many of its key customers in the product development process, enabling its products to meet the exact specifications provided by the customers and to ensure repeat orders. Its relationships with major customers, especially in core strategic sectors, has existed for more than three decades. MDNL undertakes an in house survey for customer satisfaction. Going forward, there is likely to be an increase in demand for special metals and alloys on account of government initiatives such as Make in India that will boost defence production and heavy equipment manufacturing in India, which will indirectly lead to an increase in demand of its products. MDNL is committed to enhancement of customer satisfaction by continually improving the effectiveness of quality management system to drive organisational performance. completing its customer's projects in a timely manner whilst upholding the highest standards of quality, is the most effective manner in which it can develop and maintain strong relationship with its customers. MDNL intends to strive to exceed client expectations during every stage of the project life cycle. The trust of its customers is manifested through customer funded capital investments at MDNL. As on September 30, 2017, customer funded assets constitute Rs 660 million out of the total gross block of the company of Rs 3,653.94 million.

Research and development based technology development: MDNL's business requires to keep abreast with the latest developments in related fields of science and technology. To be at par with the global technological progress, it place strong emphasis on technology of products, technology of process and technology of equipment. Its in-house research and development team works towards improvement of product quality and processes innovation. It places strong emphasis on research and development to enhance its product range and improving its manufacturing processes. It has an in-house research and development team comprising of 14 officers who has in-depth knowledge of the design and engineering of special metals and alloys. Its in-house research and development team works towards improvement of product quality and processes innovation for meeting the expected demands at acceptable costs. It has in-house metallurgical laboratories to cater to the testing required for its products. Given the strategic and sensitive nature of its customers' operations, it is vital for MDNL to ensure delivery of high quality products to its customers. Being a manufacturer of advanced metals and alloys, it undertake extensive quality control tests of its products as well as of the raw materials to ensure only products of desired quality are supplied to them.

Highly Qualified and Experienced Management and Management Systems*:* MDNL is led by a management team and staff with employees who has significant experience. Through their commitment and experience, its management team has grown business in India. It has a strong metallurgical team of key employees having the ability to utilise the metallurgical knowledge. It require the application of high levels of technology at key stages of its design, engineering and manufacturing processes. It has therefore been focussed on the recruitment, training and retention of a highly skilled employee base. As of January 31, 2018, MDNL had 852 employees. Its enterprise resource planning and IT enabled systems (procurement, human resources and standalone IT enabled systems) has helped to develop and adopt new technologies, maintain high productivity and ensure path dependent learning.

Business strategy:

Growth and modernisation*:* MDNL seeks growth (through both greenfield and brownfield) and is based on the development of technology for customer and product. Some of its new projects planned in the next three years include: (a) proposal for construction of spring manufacturing plant for manufacture and supply of helical compression springs for supply to the Railways; and (b) development of aero quality carbon fibers. It also aims for geographical expansion of the Company and to operate from multiple locations. MDNL has signed a memorandum of understanding for setting up a joint venture with NALCO for production of high end value aluminium alloys products at Nellore. The manufacturing unit in Rohtak will be set up by the Company itself for manufacturing of armour products. It is also in the process of upgrading and modernizing its existing manufacturing equipments and facilities and seeks to enter into the new markets of oil and gas, mining, power, railways and chemical and fertilizers. It is also making efforts to enter into export market which will enable to achieve higher targets.

Increased focus on research and development: Innovation in MDNL's production processes coupled with enhanced efficiency and utilisation of resources is the key to reduce production costs. It intends to leverage its design, engineering and manufacturing capabilities to increase focus on advanced technology products. MDNL has entered into collaborations with Indian and international research institutions and organisations to gain access to the required know-how for developing certain key advanced technology products. It will continue to pursue newer collaborations which allow to add to its product portfolio. It also intends to focus on new process based technologies such as closed–die forgings, investment castings, isothermal forging and using special alloys to further improve existing products and add new products to its product portfolio. The Company aims for forward and backward integration by manufacturing components/ value added products. In terms of forward integration, it manufacture special electrodes from the wires manufactured by MDNL, as well as special fasteners from the materials manufactured in- house in the Company's manufacturing unit. With respect to backward integration, the Company has undertaken projects such as powder production, metal alloys powders and recovery of metals from scrap.

Strengthen human capital: MDNL's human capital contributes significantly to its business operations and that its employees and workers are its invaluable asset essential for its success. It rely upon them to operate modern equipment, undertake various complex tasks at its manufacturing facilities and uphold industry-leading quality standards whilst catering to its customers' orders in a timely manner. As MDNL build its human resource systems and processes, it intend to continue to focus on improving health, safety and environment for its employees and provide various programs and benefits for their wellbeing and skill enhancement. MDNL intends to develop entrepreneurship skills and further strengthen its workforce through more comprehensive training programs, creating a core of skilled workers for its future growth by providing them with a conducive, safer and healthier working environment.

Industry:

Global overview of high value speciality steel, superalloy and titanium alloy Products

Market Overview for High Value Speciality Steel

High value speciality steels are premium alloy steel grades that are used across major industries such as automotive, industrial components, aerospace, defence, oil & gas etc., mainly as functional components that are subjected to high temperature, stress and corrosive environment. As per World's Steel Association, the global finished steel consumption is estimated to be 1,515 million tonnes, of which commercial high value speciality steel products account to around 5% in 2016. High value speciality steel grades are broadly classified as Nickel alloy, armor grade steel and other speciality stainless steel grades.

Market Overview for Superalloys

Superalloys are speciality products that have superior resistance towards corrosion and oxidation at high temperature (around 600oC) with extended lifespan in higher stress conditions. Frost & Sullivan observed the global demand for superalloy products to be around 425,000 MT, with major consumption in countries such as US, Germany, France, Italy, UK, Russia and Spain.

Market Overview for Titanium Alloys

Titanium metal is known for its high strength to low weight ratio, making it an ideal material for aircrafts manufacturing, including fighter aircrafts. Other key end user segments where titanium finds application are bio medical implants, and exhaust systems in high end automobiles. Frost & Sullivan observed global production of titanium to be around 200,000 MT in 2016, with China and USA leading in global production. Titanium alloys occupying a healthy 13% of total aerospace raw material demand through the year 2020 globally, will fuel the demand growth for titanium alloy products during the next five years.

The United States is the largest supplier of high value speciality Steel, superalloy and titanium alloy products in the global market. The US has high defence budgets and large internal demand for aerospace and defence products. Majority of the global suppliers of high value speciality steel, superalloy and titanium alloy are based in the US due to large end users being based out of the country. These suppliers also have strong export orders. Other key countries for the supply of selected products are UK, Japan, Italy, Germany, France, Russia and China.

Global Military Spending

According to the Stockholm International Peace Research Institute ("SIPRI"), global military spending in 2016 was USD 1.69 trillion, an increase of 0.4% over 2015. The US, China, Russia, Saudi Arabia, India, France, UK, Japan, Germany and South Korea accounted for 73% of the global military spending. With the highest annual military expenditure in the world, the US's military spending grew by 1.7% from 592 billion in 2015 to USD 611 billion in 2016. China's military expenditure has registered a growth of 5.4% in 2016 to USD 215 billion. Russia increased its spending by 5.9% in 2016 to USD 69.2 billion.

Global demand for defence and military equipment has been increasing in the Middle East, Eastern Europe, North Korea, and the East and South China Seas. This is in turn has resulted in increased global spending in defence as countries like the United Arab Emirates, Saudi Arabia, South Korea, Japan, India, and China have increased procurement of next generation military equipment.

World military spending in 2016 accounted for 2.2% of global GDP. From data published by SIPRI and the World Bank, military spending in Asia, Oceania, Central Europe, Eastern Europe, Western Europe and North America posted sizeable increases, whereas, spending decreased in Africa, Central America and the Caribbean, and South America. Military spending as a share of GDP was highest in the Middle East, with an average of 6.0% of GDP in 2016, while the lowest was in the America, with an average of 1.3% of GDP. Spending in Africa accounted 2.0%, while in Asia and Oceania, military expenditure accounted 1.8% of the GDP in 2016 and in Europe accounted 1.6% of the GDP. India's military expenditure accounted for around 1.74% of its GDP, and globally ranked 5th in terms of military spending.

Overview of Key End User Segments: Global

Carbon steel, alloy, and speciality steel components used by defence contractors are critical to a country's military strength. Domestic and imported steel materials are found in virtually every military platform – missiles, jet aircrafts, submarines, helicopters or munitions. Globally defence, aerospace, oil and gas, and power are key end use segments for high value speciality steel, Superalloys and titanium alloy products. The growth of aerospace and defence sector remain supported by increasing global defence expenditures amid the rising global tensions and security threats, instability in the Middle East, as well as higher budget allocation for US Department of Defence. Furthermore, the aerospace and defence market continue to be sustained by growth in travel demand, driven by global demographics and wealth creation in Asia and the Middle East.

Commercial Aerospace

Driven by strong demand for next generation aircraft and growing passenger traffic, particularly in the Asia Pacific and the Middle East regions, global aircraft production levels posted a robust growth in 2016. Total aircrafts delivered in 2016 reached 41,030 units, compared to 39,620 units 2015. Asia Pacific accounted for 39% of new deliveries 2016, followed by North America and Europe that accounted for 21% and 18% respectively.

China's Commercial Aircraft Corporation of China ("COMAC"), the new entrant in the commercial aircraft market has completed its first public flight test of their C919 jets in May 2017 and bagged order worth 570 new aircrafts to be delivered by 2020. With Superalloys, titanium alloys, aluminium alloys and composites being a major component, growth in aircraft carrier production will significantly boost demand for specialty materials. At the end of 2016, about 23,480 commercial aircraft jets were in service, indicating that existing fleets are reaching retirement age every year. Catering to replacement demand requires an increasing number of new airplanes. While this varies year to year due to cyclical conditions, average long-term replacement is generally about 3% of the existing fleet per year – implying that roughly 18,000 retirements are expected over the 2017-2036 period.

Oil & Gas

According to the BP Statistical Review of World Energy 2017, global oil and gas sector investments was reported to be USD 649 billion in 2016, accounting for nearly 1% of global GDP. New investments planned in the upstream, midstream and downstream hydrocarbon sectors are expected to drive demand for Superalloys, duplex steel, flat steel and tubular steel products. By 2020, about USD 13 billion investment is expected in North America to focus on expanding existing sites, as opposed to new refineries. China is expected to add 160 million tonnes of refinery capacity by 2020, while India is expected to add 50 million tonnes of refinery capacity by 2020. According to the Arab Petroleum Investments Corporation ("APICORP"), planned investments in the Middle East and North African hydrocarbon sector are estimated to the tune of USD 415 billion for 2017-2021. The oil sector is expected to account for the highest share of investments at USD 195 billion. Gas and petrochemical sectors will represent USD 159 billion and USD 61 billion respectively.

Power

According to the International Energy Agency ("IEA"), global electricity investment reached USD 718 billion in 2016. Investment of USD 297 billion in new renewables-based power capacity continued to account for the highest share of electricity spending, with 50% higher capacity additions and 35% higher output expected from this capacity additions. Global spending on electricity networks and storage was USD 277 billion in 2016, with 30% of increase been driven by China's spending on its distribution system. India and Southeast Asia accounted for 15%, where the grid is expanding briskly to accommodate growing demand. In the US (17%) and Europe (13%), a growing share was attributed to the replacement of ageing transmission and distribution assets. This is expected to drive the requirement of invar/Superalloy in the transmission line segment.

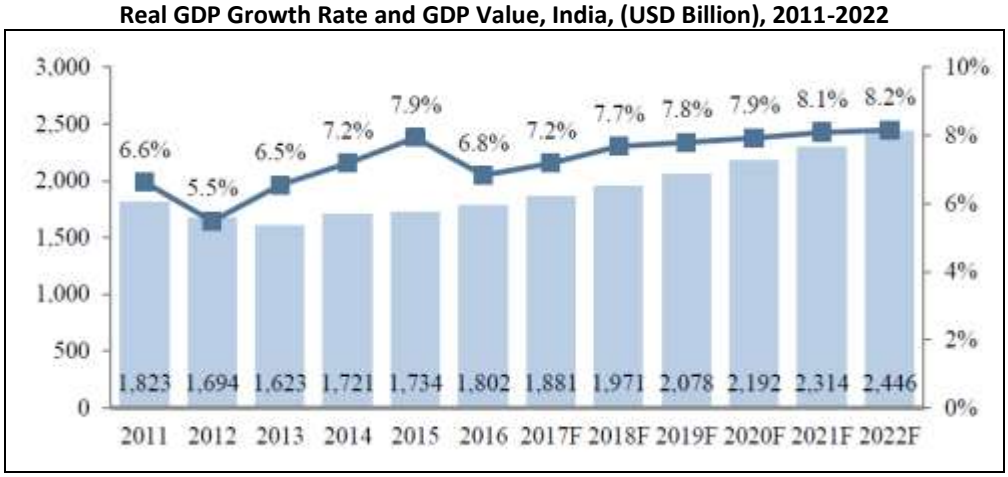
India: Brief Macroeconomic Overview

Gross Domestic Product ("GDP") Growth

Over the past decade, India has been amongst the most robust economies growing at an average of 7.3% annually during 2010-2016. According to the IMF, its economy is deemed stable, and it has the highest growth among G20 economies mainly due to improved monetary and fiscal policies, and lower oil prices. The country has managed to maintain strong macroeconomic fundamentals, moderate inflation

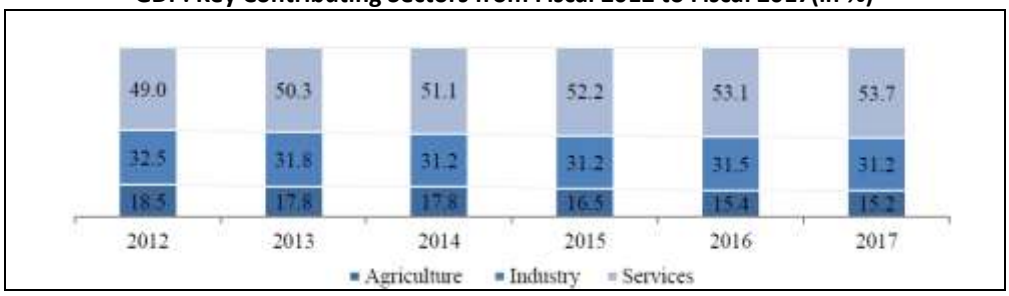
levels, and positive fiscal and monetary policies. Buoyed by a positive investment climate, government impetus, and a weak commodity cycle, India became the fastest growing large economy in 2015. According to the World Bank, India grew at 7.6%, overtaking China that grew at 6.7%. India's growth slowed to an extent in 2016, largely driven by the demonetization drive that withdrew 86% of the cash circulation to be replaced with new currency notes. However, this slowdown is viewed as temporary, with the economy expected to bounce back significantly in the medium term. The Goods and Services Tax (the "GST") that was implemented in July 2017 is the biggest tax reform in India. Inflation is expected to reduce and tax avoidance is expected to become difficult. Hence, India's GDP will be benefitted and extra resources will be aimed to uplift the weaker sections of the society. The country may face temporary challenges from strengthening of US dollar and an increasing trade deficit as the global commodity prices normalize. This could also lead to an increase in inflation which may drive down consumption. However, the IMF forecasts India's real GDP growth at between 6.8% and 8.2% from CY2016 to CY2022, mainly due to the revival of global trade, and positive policy actions.

Real GDP Growth Rate and GDP Value, India, (USD Billion), 2011-2022



The service and the industry sector are the largest and second largest contributor to the Indian economy. According to the World Steel Association, India was the third-largest producer of steel (96 million tonnes) and second-largest producer of stainless steel globally (3.32 million tonnes) from 2016 to 2017. The industrial sector, which comprises of mining, manufacturing, electricity and construction, has been fluctuating in terms of GDP share from 32.5% in 2012 to 31.2% in 2017 due to the global slowdown in the recent years.

GDP: Key Contributing Sectors from Fiscal 2012 to Fiscal 2017(in %)



Overview of the Defence Sector

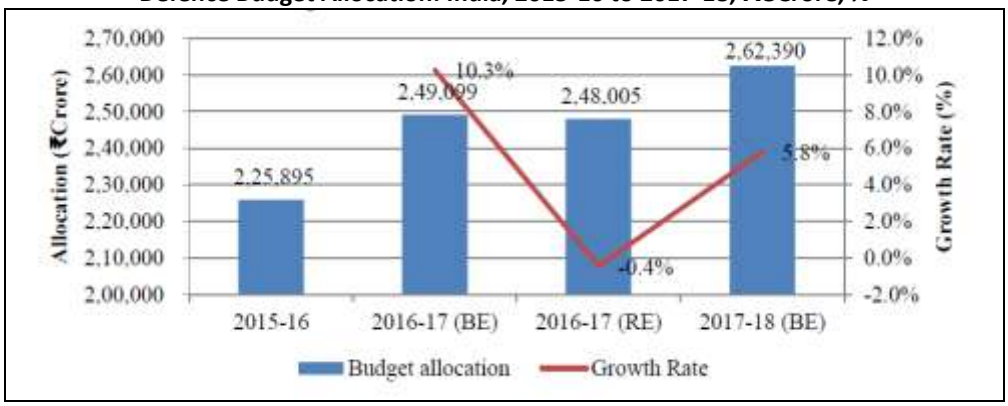
India's defence industry continues to strive to become a cutting edge, technology-savvy, self-sufficient, and world-leading industry. According to data published by the Department of Industrial Policy and Planning, India's defence industry had attracted Rs 130,000 million in Foreign Direct Investment ("FDI") in Fiscal 2015. The proposed 100% FDI with full technology transfer aims at addressing the need of capital investment and improved technology transfer. Ordnance factories ("OF") and Defence Public Sector Undertakings ("DPSUs") are engaged in the manufacturing of weapon systems for the armed forces. The private sector has been mainly involved in supplying raw material, semi-finished products, and components to DPSUs, OF, army base workshops, air force base repair depots, and navy dockyards.

Some key features of the Indian defence industry include:

- Fourth largest armed forces worldwide, in the 2017 Military Ranking by the Global Firepower list
- One of the largest arms importer, accounting for 12.8% of global arms imports (between 2012 and 2016)
- Ranks fifth in the global military budget (2016)

The industry however, suffers from several legacy issues. Almost half of India's military equipment is approaching obsolescence. Additionally, India overwhelmingly relies on imports for its defence equipment. Almost 70% of its defence requirements are imported. India's military seems reluctant to procure weapons from Indian firms, citing low or no track record in defence manufacturing. Additionally, Indian firms have refused bidding for government tenders worth approximately Rs 975,000 million since 2013, quoting unrealistic quality demands, opaque processes, and slow decision making. By 2027 the government plans to achieve approximately 70% indigenization in defence purchase, and the government has taken steps by budgeting Rs 915,800 million for defence capital expenditure in Fiscal 2018, which is 25% of the nation's overall defence budget. To take this to the next level, India expects to export defence equipment worth Rs 128,000 million by 2019 to countries such as Vietnam, Mauritius and the UAE. Between 2015 and 2020, the defence cumulative spending is estimated to be Rs 22,931,500 million, of which new armaments spending is estimated to be Rs 8,630,500 million. Procurement of new equipment from domestic sources is estimated to increase between 2015 and 2030 from 44% to 55%. By Fiscal 2025-2030, the defence spending is estimated to hit Rs 41,934,700 million.

Defence Budget Allocation: India, 2015-16 to 2017-18, RsCrore, %



New procurement policies would likely result in indigenous development and increased production in the long term. The Indian defence establishment will move from off-the-shelf purchases to co-development and partnership. Critical equipment shortfall in certain sectors would mandate high-value, off-the-shelf purchases in the short and medium terms to maintain the combat readiness of the Indian Armed Forces.

Contribution of the Defence Sector to the Indian Economy

There is a positive direct link between the defence budget growth and economic growth. Defence spending has macroeconomic implications, since security threats have an adverse impact on trade and business. Gross Capital Formation ("GCF"), (investment, at current prices) estimate for Fiscal 2016 was 30.4% of GDP, the lowest since Fiscal 2012. However, India stood well above the global average of 24.2% in 2015, which is a healthy sign. The way forward is to boost investments through increased private-public partnerships.

Defence allocation is likely to remain constant for the next three to four years, in order for the government to focus on offsetting the economic impact of demonetization. The MoD currently need an increase of roughly 10% to deal with inflation and the vast sums required to modernize India's aging military hardware. The chart below illustrates defence spending as a percentage of GDP. The defence budget, which currently accounts to 1.56% of GDP (as compared to 1.65% in Fiscal 2017) could be increased to accommodate continuous R&D with international manufacturers, and replacement of obsolete machinery.

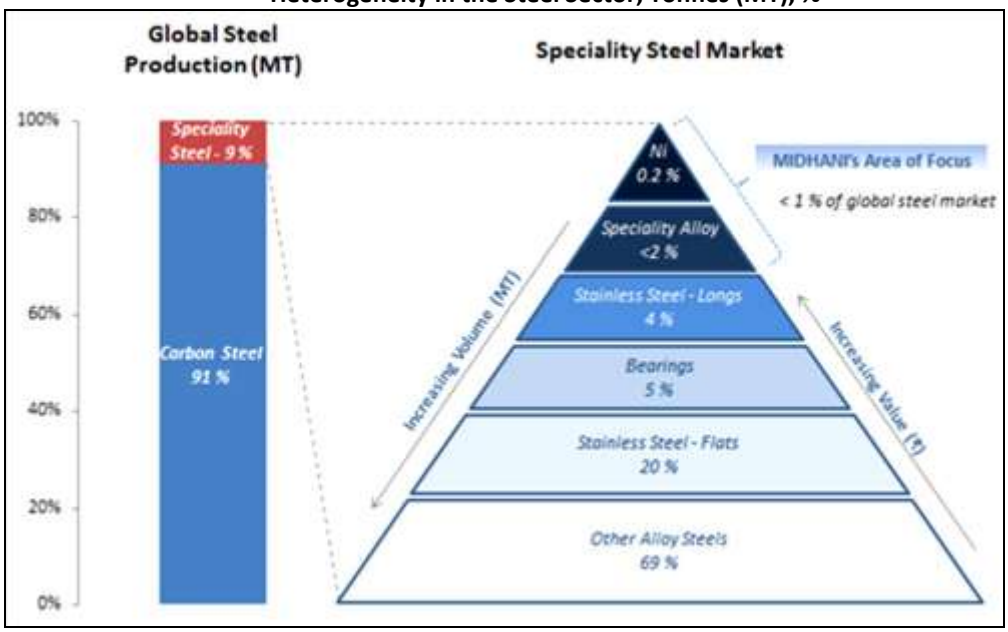
Speciality material – high value speciality Steel, Superalloys and titanium alloy products – are a vital segment to the defence industry, and is found on almost every application platform. For instance, fighter jets use high performance specialty steels and Superalloys. Light armoured vehicles use significant tonnage of steel plate per vehicle. Steel plates are also used by the navy in the fleets of bodies and propulsion systems. The control cables found in the defence industry are produced from steel wire rope. A subsequent increase in the defence budget will have a direct positive impact on the demand of speciality material in India. Given the cost advantage and highly skilled engineering talent base, India could harness its potential to produce superior material indigenously and also increase its presence in the global supply chain. The market growth for high value speciality steel, Superalloy and titanium alloy products is largely dependent on new project investment and expansion plans of the defence, air force, navy, space segments. The Army's plans involve indigenization of key components and spares of tanks and other weapons systems. This is in synchronization with the aim of the MoD to reduce import bill and promote domestic production of military equipment. The Indian Air Force ("IAF") has outlined its 10-year modernization plan (2016-2026) that identifies services and technologies which it requires, and aims to share this information with the private sector. About 15% of the projected acquisitions of Rs 30 lakh million are likely to be sourced from local manufacturers. Also, half of the Indian fighters are due to retire between 2015 and 2024. A government to government ("G2G") contract for off-the-shelf purchases of 36 aircrafts is currently under negotiation. The

remaining 90 fighters will be developed under Make in India. In its expansion plans, ISRO has announced various projects that will increase demand for specialty materials. For instance, Chandrayaan 2, GSLV MK-III, SAARC Satellite, GSAT-9, and Aditya L1 are some of ISRO's upcoming space missions. Emphasis is laid on the indigenous design, development, and manufacture of cutting-edge weapons and missiles.

Market segmentation: high value speciality steel, superalloy and titanium alloy Products in india

Speciality steel accounts for 9% of global steel production. The speciality steel market is accounted by niche alloys such as Ni (0.2% of total market demand for speciality steel), speciality alloy (<2%), stainless steel – longs (4%), bearings (5%), stainless steel – flats (20%), and other alloy steel (69%). They are being used across all major end user applications that require reduced weight, high strength and toughness and high corrosion and oxidation resistance. Despite high cost when compared to conventional steel and alloy grades, the select products are preferred for high end applications where efficiency and precision is of prime importance. High value speciality steel, Superalloys and titanium alloy products account for less than one % of the global steel market. These products are essentially low volume-high value products. In India, these products are mainly supplied by Mishra Dhatu Nigam Limited ("MIDHANI") headquartered in Hyderabad. MIDHANI has emerged as a 'National Centre for Excellence' in advanced metallurgical production of special metals and Superalloys in India. MIDHANI is a GoI Enterprise, and is one of the few metallurgical plants of its kind in the world specialized in manufacturing wide range of special purpose steel and superalloy products mainly catering to aerospace, defence, atomics, space, energy and other industries that require high precision. MIDHANI is a key supplier, and its products are mainly used in high end engineering applications that require precision and high efficiency to withstand stress, temperature and corrosive atmosphere. With constant developments made over the years in various operational areas, and by utilizing in-house research and development capabilities, MIDHANI has indigenized various critical technologies, alloys and products. This reduced dependence on imports of various critical materials. MIDHANI has been handling challenging developmental tasks, taking a lead position in indigenization of critical technologies and products to render support to several programmes of national importance.

Heterogeneity in the Steel Sector, Tonnes (MT), %



High Value Speciality Steel

High value speciality steel products are high strength – low alloy steel grades that exhibit better mechanical properties in critical applications where the stress, temperature and corrosion are high. The carbon content in these grades ranges between 0.05% to 0.25% which helps to retain formability and weldability of the metal. The other key alloying elements are manganese, chromium, nickel, copper, niobium and molybdenum. These alloying elements are intended to alter the microstructure of carbon steel mainly to improve mechanical and metallurgical properties. These grades are generally priced high when compared to other conventional alloy grades as they are mainly preferred for special purpose applications.

Key Requisites for Aerospace and Defence Material Procurement

Aerospace and defence component manufacturing focuses on high strength to weight ratio for achieving efficiency, with emphasis on precision. Margin for error remains non-existent due to low tolerance levels in the aerospace and defence industry. High levels of precision lead to longer machining time for components, eventually leading to increased scrap rates. In addition, orders remain in small volumes, due

to which productivity throughput and profitability have to be carefully assessed. Therefore, the material and component design remain critical to ensure lightweighting, precision manufacturing, low scrap rates, high productivity, throughput, and fuel efficiency. Most of the materials currently used in aerospace and defence manufacturing are not completely new but are alloys of traditional metals, such as aluminium, titanium, and nickel, for which tooling and testing methodologies are well established in Indian market.

Key Market Drivers for High Value Speciality Steel, Superalloys and Titanium Alloy Products

Aerospace:

- The Indian aviation sector is likely to see investments of around USD 15 billion during 2016-2020 of which USD 10 billion is expected to come from the private sector. This investment includes addition of 300 business jets, 300 small aircraft and 250 helicopters to the existing fleet of Indian carriers, which in turn will fuel the demand for high value speciality steel, Superalloys and titanium alloys.
- India is rapidly building capabilities to emerge as a preferred destination for Indian maintenance, repair and overhaul ("MRO") for aviation. India's current MRO market size is estimated to be around USD 750 million. The market is expected to grow at 7% CAGR to reach over USD 1.5 billion by 2020.
- The Indian space program spearheaded by the ISRO is engaged in developments of its future space science missions like Chandrayaan-2 and Aditya-L1, amongst expanding many of its current projects.

Defence:

- With the increase in asymmetric warfare, the requirement and allocation for Defence in the Union Budget 2016-17 is approximate USD 34.53 billion. With more than 31.1% of its total defence budget on capital acquisitions, this will increase the demand for armored grade steel and other speciality steel for defence equipment.
- India is expected to emerge as the third-biggest country in terms of defence-related expenditure from its current (eighth) position by 2020, especially through indigenously designed, developed and manufactured ("IDDM") 'Make in India' initiative to encourage domestic manufacturers to produce high value speciality steel and superalloy grades and supply them to defence and aerospace.
- Indian defence sector acquiring newer technologies in missiles, ammunition, warships and other military equipment like unmanned aerial vehicles ("UAVs") will boost the demand for select product type and grades during the next four years.

Other Major End User Segments

- As per Automotive Mission Plan 2016-2026 ("AMP"), Indian auto component industries could attain an impressive USD 200 billion in revenue by 2026, with exports of USD 80 billion. Contribution of auto component Industry in India's GDP will account to as much as 5-7% by 2026.
- Oil & gas (includes petrochemical & refinery): contributes over 6% of the overall demand for speciality steel and superalloy products for process equipment, process pipe and piping systems, and boilers. As per the 12th Five Year Plan, oil production would increase to 844 MTOE by 2021-22, with an investment of around USD 43.69 billion across the value chain that will help the demand for select products to grow at around 5% for oil and gas sector.
- The Indian auto component industry is expected to achieve USD 200 billion in revenue by 2026, with exports of USD 80 billion. Contribution of auto component industry in India's GDP will account to as much as 5% to 7% by 2026.
- As India grows its stance as an industrial and knowledge economy, energy demand will grow to 1,509 MTOE in 2030, double the current demand. India will need to import nearly 1/3rd of its demand in 2030. India will also turn to renewable sources, and its generation could become a formalized part of the grid which will fuel the demand for high value speciality steel, Superalloys and titanium alloy products.
- The chemical industry is an integral component of the Indian economy and has the potential to grow at 9% per annum to reach USD 214 billion by 2019. The pulp and paper industry is growing at a healthy rate of around 6.8% during 2014-16 and is expected to continue at the same rate fueling the demand for PH grade stainless steel products.

Key Growth Restraints for High Value Speciality Steel, Superalloys and Titanium Alloy Products

- Production occurs on order basis in small batches; manufacturers carry risks relating to cancelled orders due to unexpected failures occurring with end users.
- Continuous technological upgradation and intermittent domestic demand for the select products makes production planning, inventory management and lead time extremely challenging.

Market Size Estimates and Forecasts for Speciality Steel in India

From Frost & Sullivan analysis, the overall demand for select high value steel grades in India was observed to be around 80,000 MT in 2016. According to Frost & Sullivan, high strength Nickel alloy accounted for a demand of around 50,000 MT as it is mainly preferred in automotive and auto component manufacturing sectors. The demand for high value speciality steel is expected to witness a positive growth rate of around 4.2% during 2016-2021 mainly due to growth in auto and auto component manufacturing segments in India. From Frost & Sullivan analysis, the demand contribution of other speciality steel grades such as stainless steel and armor grade steel was observed to be around

18,000 MT and 12,000 MT during 2016. Market for armor grade steel is anticipated to grow at a healthy rate of around 4.5% owing to new Make in India policy and proposed defence investments. Precipitation hardened stainless steel grade ("PH stainless steel") will drive the market growth for speciality stainless steel grades as it finds application in major end user segments such as gas turbine power plants, process piping application in chemical industries and oil and gas sectors. The demand for speciality stainless steel grades is expected to grow at around 3.5% during the next five years.

Market Size Estimates and Forecasts for Superalloy Products in India

Supported by growth in key end user segments such as aerospace, defence and industrial component sectors, Frost & Sullivan observed the demand for superalloy products in India to be around 2,500 MT. Nickel based alloy products accounted for the main demand during the year 2016. Other major grades of Superalloys such as iron and cobalt based Superalloys were observed to have a minimum demand of around 250 MT and 225 MT respectively. The demand for Superalloys is expected to grow at around 9.1% to reach 3,000MT during 2016-2021, owing to the planned investments in aerospace and defence sectors.

Market Size Estimates and Forecasts for Titanium Alloy Products in India

In India, the demand for titanium is mainly dependent on overseas markets to source titanium sponge due to inadequate availability of high quality material. Frost & Sullivan observed that the demand for titanium alloy products was around 1,000 MT in 2016, mainly catering to aerospace and defence sectors in India. The key customers for titanium alloy grades are ISRO, HAL and DRDO who prefers to procure on project basis, only from authorized vendors. Major end-users such as ISRO, HAL prefers to procure both from domestic and imported material (mainly from USA and Europe) based on both quality and availability of the material. From Frost & Sullivan, the demand for titanium alloys is expected to grow at around 5.1% to reach 1,300 MT in 2021, owing to the investments in aerospace, defence and nuclear power plants.

Market Split by Key End Use Segments

Aerospace and defence sectors were the primary consumers of high value speciality steel, Superalloys and titanium alloy products in India during 2016. Aerospace includes aircrafts and space crafts fabricated in India by HAL, NAL and ISRO. The select products find application both in structural applications such as air frames, ducts, housings etc., and also for manufacturing functional components such as components in transmission & breaking systems, exhaust valves, turbine rotors, fasteners and other engine components. The demand contribution in the aerospace segment is estimated to be around 50% of the overall demand for the Special metals and alloys. Defence sector is the second largest end user segment for high value alloy steel, Superalloy and titanium alloy products in India. All the major procurement for defence for domestic manufacturing is done through OF located across the country. The responsibility of procuring raw material such as steel and other alloys is done by OF only through approved vendors. The select materials find application in armoring, marine components, electronic housings and other defence systems. The demand contribution of Defence sector for the specified product categories is estimated to be around 22% during 2016.

Industrial turbines are gas turbines that are used across end user segments such as energy, chemical and pharmaceutical industries. The turbine blades exhaust systems and other functional components use speciality steel, Superalloy and titanium alloy as the raw material. The demand contribution for industrial turbines was around 11% followed by components used in oil & gas and other processing industries contributing around 9% of the total during 2016. Other end user segments include electric and electronic industry, surgical equipment and other bio medical implants, bi-metallic engine valves for diesel and other automotive applications.

Indian Market Outlook

The demand for high value speciality steel, Superalloys and titanium alloy is estimated to be around 83,500 MT with speciality steel having the maximum contribution of around 96% followed by Superalloys with 3% demand contribution and titanium accounting for 1% during 2016. The market for special metals and alloys is mainly driven by growth in aerospace and defence sectors that are expected to grow at a CAGR of around 8% during 2016-2021. The categories requirement for special metals and alloys are expected to witness a cumulative demand growth of around 9% owing to major investments proposed in aerospace, defence and other industrial manufacturing sectors during 2016-2021.

Key concerns

Currently MDNL supplies to strategic sectors. A decline or reprioritization on the focus on strategic sectors or change in policies relating to the strategic sectors in the future will have a material adverse impact on the business: MDNL operates in strategic sectors such as defence and space. Its primary customers, defence and space accounted for 71.56% and 22.43%, respectively of its total revenue from operations in Fiscal 2017. Although it is one of the few metallurgical plants of its kind in the world having capabilities to manufacture a wide range of special metals and alloys using integrated and highly flexible manufacturing systems for its customers for over 30 years, and majorly has current orders from these customers, there is no guarantee that its customers will continue to place orders at the same levels as they have in the past or if at all in the future. Further, if MDNL's major customers cease to have business dealings with it or materially reduce the level

or frequency of their orders from it and it is unable to secure new orders from other sources to replace such a loss or reduction, its business, financial condition, results of operations and prospects may be adversely affected.

As a result of national securities concerns, certain information in relation to the business and operations is classified as 'secret and confidential': MDNL operates in strategic sectors such as defence, power and space and is engaged in manufacturing special steels, Superalloys and titanium alloys. As MDNL's operations are closely linked to the Indian defence sector, a large part of the operations of its Company are classified as secret and confidential. As a result of national security related concerns, the Indian Defence Services and MDNL has determined that certain material documents and information are secret and confidential such as agreements it executed with its suppliers, customers, vendors and technical collaborators, details about the market including details of the competition, installed capacity, export capacities and export obligations, segment wise reporting, past trends and future prospects, major suppliers and customers and strategic partners. Due to the confidential nature of such documents and information, MDNL has been restricted from disclosing such information to the BRLMs and other intermediaries and advisors involved in the Offer. As a result, the BRLMs and other intermediaries and advisors involved in the Offer has had limited access to such documents and information and accordingly, has not been able to independently verify certain disclosures made herein. In such instances, the BRLMs and other intermediaries and advisors has relied solely on the information and confirmations given to them by its management.

MDNL is exposed to the risk of increase in the price of its raw materials and dependence on suppliers for supply of the raw materials: The primary raw materials used by MDNL for manufacturing its products are: (a) nickel metal to various specifications; (b) cobalt metal to various specifications; (c) various master alloys; (d) pure iron; (e) titanium sponge of various grades; (f) chromium metal to various specifications; (g) mild steel scrap/stainless steel scrap; (h) high carbon/low carbon ferro chrome; (i) aluminium metal in various forms; (j) manganese metals; and (k) different ferroalloys. There is limited availability and supply of raw materials such as nickel and cobalt which are used by MDNL for manufacturing products. Shortage in supply of the raw materials it use in its business may result in an increase in the price of the products. Further, it is significantly dependent on its key suppliers and sub-contractors to provide MDNL with critical components and raw materials, parts and assemblies that it needs to manufacture its products. Certain of these suppliers may experience financial or other difficulties such as force majeure events, take over or acquisition of company by another company, changes in laws, rules, regulations, economic conditions of the suppliers and labour problems which may result in delays to its production schedules or increase in manufacturing cost. Further NMDCL is exposed to the price volatility of some critical imported raw materials such as nickel, cobalt and tungsten from a number of countries. In view of the fluctuation in the value of the Rupee against the foreign currencies in which it pay for such imports, it face a degree of foreign exchange risk. The company do not hedge against currency rate fluctuations in respect of its purchase contracts, given the duration of its purchase contracts. This exposes it to exchange rate movements which may have a material effect on its operating results in a given period. Thus, it cannot be assured that it will not suffer any loss because of the fluctuation of the value of the Rupee, which may have a material adverse effect on its cash flows, revenue and financial condition.

Business operation is based out of single manufacturing unit in Telangana: Currently, MDNL's manufacturing facility is based out of its plant in Hyderabad, Telangana. Accordingly, it rely exclusively on its facility located in Telangana to earn revenues and pay its operating expenses. Any significant interruption to, or loss or shutdown of, operations at any of its facilities would adversely affect the business. Its operations may be subject to unexpected interruptions, including from natural and man-made disasters. MDNL's facilities and operation could be adversely affected, among other factors, by breakdown or failure of equipment, difficulties or delays in obtaining spare parts and equipment, power supply or processes, performance below expected levels of output or efficiency, obsolescence, labour disputes, natural disasters, raw material shortages, fire, explosion and other unexpected industrial accident and the need to comply with the directives of relevant government authorities. Any disruption of its existing supply of basic infrastructure services such as power or water, its failure to obtain such additional supplies as required by the company or an increase in the cost of such supplies may result in additional costs to MDNL. Any or all of these occurrences could materially and adversely affect its business, results of operations, financial condition and future prospects.

Business is dependent on certain principal customers and the loss of, or a significant reduction in purchases by, such customers could adversely affect the business: MDNL's products are key ingredients for strategic sectors in India. A majority of its revenue is derived from its top five customers. Sales to its top five customers contributed 64.75%, 70.29% and 65.80% of its revenues from operations during Fiscals 2017, 2016 and 2015 respectively. Since it is largely dependent on certain key customers for a significant portion of its sales, the loss of any one of its key customers or a significant reduction in demand from such customers could have a material adverse effect on the business, financial condition, results of operations and future prospects. Additionally, the loss of any key customer may significantly affect MDNL's revenue and it may have difficulty securing comparable levels of business from other customers or may not be able to secure new customers in a timely manner or at all to offset any loss of revenue from the loss of any of its key customers or even its top five customers. The occurrence of any of the above may have an adverse impact on its business, financial condition, results of operations and future prospects.

The GoI has significant influence over MDNL's actions which may restrict its ability to manage business: The President of India, acting through the MoD, may issue directives with respect to the conduct of MDNL's business or its affairs for as long as it remain a government owned company, as defined under the Companies Act. Further, under its Articles of Association, the President of India, acting through the MoD, may from time to time issue directions as it may consider necessary in regard to the exercise and performance of the functions of MDNL in matters involving national security or substantial public interest, such influence on the company will continue to remain after the Offer. The GoI could, by exercising its powers of control, defer or initiate a change of control of the Company or a change in its capital structure, delay or defer a merger or consolidation. In particular, given the importance of the defence industry to the Indian economy, the GoI could require MDNL to take actions designed to serve the public interest and not necessarily to maximise its profits. This could adversely affect the business and results of operations.

Business is dependent on the delivery of an adequate and uninterrupted supply of infrastructure utilities at a reasonable cost: Alloy production operations are energy intensive and MDNL consume large amounts of energy in its operations. To reduce the cost of power, the company has invested in gas based power plant known as Andhra Pradesh Gas Power Corporation Limited and in process of installing 4MW solar power plant and has applied for open access systems for starting the power trading to reduce the overall cost. To ensure the reliable supply, it has a dedicated high power electricity line from Telangana State Transmission Company for its manufacturing facilities. It has installed 132/11 KV power transformers and 132 KV switch yard for its manufacturing unit. MDNL is also installing a second transmission line for high reliability. To optimise the cost of manpower, it is judiciously using outsourcing and regular manpower engaged by it. MDNL draw municipal water from Hyderabad Metro Water Supply and Sewage Board. The municipal water is stored in ground reservoir. While its infrastructure facilities will be sufficient to meet majority of its existing and future requirements, there can be no assurance that it will have an adequate, uninterrupted and cost effective supply of these facilities, the lack of which could disrupt its operations, thereby adversely affecting business, financial condition and results of operations.

MDNL's growth rate, the number of orders MDNL has received in the past and its current order book may not be indicative of its future growth rate or the number of orders it will receive in the future: As of January 31, 2018, MDNL's order book consisted of Rs 5,170 million comprising of Rs 2,830 million for defence, Rs 1,680 for space and Rs 660 million for other sectors. It cannot be assured that it will be able to deliver all of its existing orders on schedule and that the order book will materialize into its revenue. Going forward, its order book may be affected by delays of the contracts as well as the long gestation period in concluding contracts, if any. Therefore, it cannot ber assured that it will be able to deliver all of its existing orders on schedule and successfully turn them into its revenue. It also cannot be assured that it will be able to maintain is past growth rate or secure the same number of orders it has received in the past. MDNL's past growth rate or secured orders should not be relied upon as indicators of its future growth rate or orders it will receive in the future. To the extent the company experience any significant decrease in demand for its products, increase in competition or increase in prices of raw materials, equipment and components, its business, financial condition and results of operations may be materially and adversely affected.

MDNL is subject to labour laws and its workmen are unionized under two trade unions. Labour disputes could lead to loss in production and increased costs: India has labour legislation that protects the interests of workers, including legislation that sets forth detailed procedures for discharge of employees and dispute resolution and imposes financial obligations on employers upon employee layoffs. As a result of stringent labour regulations, it is difficult for MDNL to maintain flexible human resource policies, discharge employees or downsize, which may adversely affect its business, financial condition and results of operations. Some of its workforce is represented by two labour unions. Additional labour unrest could result due to the operative labour union within its workforce. MDNL cannot predict how stable its union relationships will be or whether it will be able to successfully negotiate collective bargaining agreements without impacting its financial condition. In addition, the presence of unions may limit its flexibility in dealing with its workforce. Work stoppages could negatively impact its ability to manufacture products on a timely basis, which could negatively impact its results of operations and financial condition.

The manufacturing processes for products are complex and hazardous: The manufacturing processes for MDNL's products are highly complex, require technically advanced and costly equipments and involve risks, including breakdown, failure or substandard performance of equipment, improper installation or operation of equipment, environmental hazards and industrial accidents. In addition, defects in or malfunctioning of its products could cause severe damage to property and death or serious injury to its customers' personnel, which could expose MDNL to litigation and damages. However, as a special steel and critical alloys production company, its operations are inherently hazardous and it has experienced one major industrial accident, in the past five years. The occurrence of any of these events, or similar events, could delay production, increase production costs and result in death or injury to persons, damage to property and liability for it, some or all of which may not be covered by insurance, as well as substantially harm the company's reputation. Any disruption in its operations due to any of these events or otherwise could result in litigation against MDNL, damage to its reputation, which would adversely affect its business, financial condition and results of operations.

MDNL do not own some of its brands and may be exposed to misappropriation and infringement claims by third parties, either of which may have a material adverse effect on the business and reputation: MDNL operates its business under the name and brand of MIDHANI. Its

logo has been registered in the name of the Company as a word mark and label under class 6 and 35. It has been issued the trademark registration certificate on May 18, 2017 in respect of advertising, business, administration, office, functions, demonstration of goods, dissemination of advertising matter publicity services, promotional services, all being in relation to special metals and alloys. MDNL has been issued the trademark registration certificate on May 26, 2017 in respect of common metals and their alloys, design, development and equipment made out of special metals and alloy sheets. It also use the brands MDN, SUPERNI, SUPERFER, SUPERCO and TITAN which are not registered. Consequently, an infringement of such intellectual property rights may undermine its marketing efforts and result in harm to the growth of its business. Its failure to protect intellectual property rights may also undermine its marketing efforts and result in harm to the growth of its business.

Operating and financial performance may be adversely affected by lack of or delays in the award of long-term contracts or cancellation/modification of existing contracts: The long-term sustainability of MDNL's economic and financial performance depends on its ability to perform existing contracts and to enter into new contracts. Given the nature of its customers, (e.g. the Indian Defence Services and other public administration and entities which operates in highly regulated environment) as well as the complexity and the cutting-edge technological content of the contracts, its existing contracts may be affected by disputes with customers, which may put in danger the regular performance of the obligations arising thereunder. Furthermore, no assurances can be given that MDNL will enter into new contracts to permit it to carry on its business or that any new contract entered will be on terms and conditions similar to those of its current contracts. Any failure to secure or any delay in securing a consistent number of contracts or any interruption, suspension or termination of existing contracts may cause an insufficient workload that would adversely affect its operating and financial position.

It cannot assured that MDNL will be able to compete successfully against competitors: The key competitive factors affecting MDNL's business includes private players in industry in India and abroad, product quality, changes in manufacturing technology, the skill and productivity of its workforce, cash operating costs, pricing power with large buyers, access to outside funds, the degree of regulation and access to low cost raw materials. The proposed 100% foreign direct investment in defence services with full technology transfer aims to address the need for capital investment and improved technology transfer. In the event 100% foreign direct investment in defence services with full technology transfer is permitted, its business would be adversely and materially affected on account of increased competition. Moreover, its competitors outside India may be able to source cheaper raw materials given that indigenous ancillary industries are virtually non-existent in India and therefore is required to import a substantial portion of its major raw materials and other equipment. Further, due to recent liberalization policies, private companies has been allowed to manufacture Superalloys. This may lead to increased competition and there can be no assurance that it will be able to compete successfully against its competitors as well as new entrants in its industry in the future or companies that are not directly in competition with MNDL now will not compete with it in the future. Accordingly, its business, financial condition, results of operations and prospects would be adversely and materially affected if it is unable to maintain competitive advantage and compete successfully against competitors and any new entrants to its industry in the future.

MDNL is subject to compulsory expropriation by the GoI of any critical technology developed by it which may have an adverse effect on business, financial condition and results of operations*:* The GoI as a controlling shareholder may issue directives with respect to the conduct of MDNL's business or its affairs for as long as it remain a government owned company. Further, under the Articles of Association of the Company, the President of India, acting through the MoD, may from time to time issue such direction as he may consider necessary in regard to the exercise and performance of the functions of the Company in matters involving national security or substantial public interest, and in like manner may vary and annul any such directions and its Board shall duly comply with and give immediate effect to the directions so issued. In light of the above, the GoI may issue directives for compulsory expropriation of any critical technology developed by the Company which may be deemed necessary due to reasons of national security or substantial public interest. Any such action in respect of any of the technology in which MNDL is investing or may invest in the future may adversely affect its business, financial condition or results of operations.

Manufacturing processes depend on critical alloy making equipments; any interruption in production capability may require to make significant and unanticipated capital expenditures: MNDL's manufacturing processes depends on critical alloy making equipments for melting, remelting and forging. Continuing technological changes in the market for its products could make its products less competitive or obsolete, either generally or for particular applications. Its future success will depend upon its ability to develop and introduce a variety of new capabilities and enhancements to existing product offerings, as well as introduce a variety of new product offerings, to address the changing needs of the strategic sectors in which it offers its products. To be at par with the global technological progress, MDNL place strong emphasis on technology of products, technology of process and technology of equipments. Its future success will depend in part on its ability to respond to technological advances and emerging industry standards and practices on a cost-effective and timely basis. Changes in technology and high fuel costs may make newer plants or equipment more competitive than it or may require it to make additional capital expenditures to upgrade its facilities. Thus, any interruption in MDNL;s production capability may require to make significant and unanticipated capital expenditures to effect repairs, which could have a negative effect on its profitability and cash flows. A sustained disruption to its business operations could also result in a loss of customers. Any or all of these occurrences could materially and adversely

affect its business, results of operations, financial condition and future prospects. If MDNL is unable, for technical, financial or other reasons, to adapt in a timely manner to changing market conditions, customer requirements or technological changes, its business and results of operations could be adversely affected.

MDNL incurs and expects to continue to incur research, design and development costs, which may not lead to satisfactory returns or to successful new products in line with changing market demand: The business environment in many of MDNL's principal operating segments requires extensive research, design and development expenses to keep pace with rapid technological and market changes in the strategic sectors. A major portion of its business is to cater to the upgrading of technology. Its future growth depends on adapting existing products to new requirements and introducing new products that achieve acceptance of its customers. To this extent, the company incur substantial research, design and development costs. It expects to continue to spend significant funds on research, design and development in the future. Its future growth depends on penetrating new international markets as well as remaining as a key supplier to strategic sectors, adapting existing products to new applications, and introducing new products that achieve market acceptance. MDNL plans to incur substantial research, design and development costs as part of its efforts to design, develop and commercialise new products and enhance existing products. Since it account for research, design and development of its own as an operating expense, these expenditures may adversely affect its earnings in the future. In any case, its research, design and development programmes may not guarantee and produce successful results, and its new products may not achieve market acceptance, create additional revenue or become profitable, which could materially harm its business, results of operations and financial condition.

Future growth and expansion is limited by production capacities and the locations at which MDNL operates*:* MDNL are a low volume and high value manufacturer of products. Currently, it is a single location company. It seeks growth (through both greenfield and brownfield) expansion and is based on the development of technology for customer and product. At present, MDNL intends to start two new manufacturing units based in Rohtak and Nellore. It has signed a memorandum of understanding for setting up a joint venture with NALCO on aluminium alloys of aluminium alloy plant at Nellore for production of high end value products. The manufacturing unit in Rohtak will be set up by the Company itself for manufacturing of armour products. It is also in the process of upgrading and modernizing its existing manufacturing equipments and facilities. In the event of any delay in setting up the manufacturing facilities, it cannot be assured that it will be able to manage the future expansion of its facilities effectively. Any failure on its part to do so will have a material adverse effect on its business, financial condition, results of operations and prospects.

MDNL has capital expenditure and working capital requirements and may require additional financing to meet those requirements, which could have an adverse effect on results of operations and financial condition*:* MDNL's business is capital intensive as it has expanded and upgraded its existing production facilities. The actual amount and timing of its future capital requirements may differ from estimates as a result of, among other factors, unforeseen delays or cost overruns, unanticipated expenses, regulatory changes, economic conditions, engineering design changes, technological changes and additional market developments. MDNL's sources of additional financing, where required to meet its capital expenditure plans, may include the incurrence of debt or the issue of equity or debt securities or a combination of both. If it decide to raise additional funds through the incurrence of debt, its interest and debt repayment obligations will increase, and could have a significant effect on its profitability and cash flows and may be subject to additional covenants, which could limit MDNL's ability to access cash flows from operations. Further, its working capital requirements may increase if the payment terms in its agreements include reduced advance payments or longer payment schedules. These factors may result, or has resulted, in increase in the amount of its receivables and short-term borrowings. Continued increase in working capital requirements may have an adverse effect on financial condition and results of operations.

Security breaches in classified government systems could adversely affect the business*:* Many of the programs MDNL support and systems it develop, manufacture and maintain involve managing and protecting information involved in intelligence, national security and other classified government functions. While it has programs designed to comply with relevant security laws, regulations and restrictions, a security breach in one of these systems could cause serious harm to its business, damage reputation and prevent the company from being eligible for further work on critical classified systems for the Indian Defence Services. This could materially affect its business.

Product liability and other customer claims could adversely affect the business, results of operations and reputation: MDNL's operations expose to potential liabilities for personal injury or death as a result of the failure or malfunction of manufacturing equipment or other products that has been designed, manufactured or serviced by it. While its product liability insurance is adequate to protect from product liability claims, while testing and until it deliver the products to its customer base, however, it may not be adequate to cover any third party claims brought against MDNL. Any such liability not covered by insurance or for which third party indemnification is not available could require to dedicate a substantial portion of its cash flows to make payments on such liability, which could have a material adverse effect on its business, financial condition and results of operations.

Business is expected to become more diversified and historical results of operations may not be indicative of future performance: As part of MDNL's growth strategy, it seeks to enter into the new markets of oil and gas, mining, power, railways and chemical and fertilizers. It is also making efforts to enter into export market which enables to achieve higher revenue. It intends to diversify its product offerings to include carbon fiber, tungsten powders and armours which find use in strategic sectors. As it do not have sufficient experience in manufacturing these new products and since its contracts typically provide for liquidated damages for late delivery, it may encounter greater risks of cost overruns and delays in delivery on these. These products are often more complex in design and more difficult to manufacture. MDNL may be unable to spread the cost of design and research and development among similar products or has a profit margin comparable to that from other products that it manufacture. Development costs of these new products may be excessive and may adversely affect its business, financial condition and results of operations

MDNL is subject to government regulation and if it fails to obtain, maintain or renew its statutory and regulatory licenses, permits and approvals required for its business, its results of operations and cash flows may be adversely affected: MDNL's operations are subject to government regulation and it is required to obtain and maintain a number of statutory and regulatory permits and approvals under central, state and local government rules in India, generally for carrying out its business and for its manufacturing facility. While it has obtained required approvals for its operations, certain approvals for which it has submitted applications are currently pending. In addition, MDNL has, and may need to in the future, apply for certain additional approvals, including the renewal of approvals which may expire from time to time. If there is any failure by MDNL to comply with the applicable regulations or if the regulations governing its business are amended, it may incur increased costs, be subject to penalties, have its approvals and permits revoked or suffer a disruption in its operations, any of which could adversely affect the business.

MDNL designs, manufactures products that incorporate advanced technologies. Many of its contracts contain performance obligations that require innovative design capabilities, are technologically complex: MDNL design, develop and manufacture technologically advanced and innovative products applied by its customers in a variety of environments. Problems and delays in development or delivery as a result of issues with respect to design, technology, licensing and patent rights, labour, learning curve assumptions or materials and components could prevent it from achieving contractual requirements. It seeks to achieve growth through the design, development, production, sale and support of innovative products that incorporate advanced technologies. The product requirements of MDNL's customers changes and evolve regularly, and it invest substantial amounts in research and development efforts to pursue advancements in a wide range of technologies and products. If its products ramp-up efforts are delayed or if the suppliers cannot deliver on time or perform to its standards, it may not meet its customers' production schedules, which could result in material additional costs, including penalties that could be assessed under existing contractual provisions. Any development efforts divert resources from other potential investments in businesses, and these efforts may not lead to the development of new technologies or products on a timely basis or meet the needs of its customers as fully as competitive offerings. In addition, the markets for MDNL's products or products that incorporate its technologies may not develop or grow as it anticipate. MDNL or its customers, suppliers or subcontractors may encounter difficulties in developing and producing new products, and may not realize the degree or timing of benefits initially anticipated or may otherwise suffer significant adverse financial consequences. Due to the design complexity of its products, it may in the future experience delays in completing the development and introduction of new products.

Disruptions in supply and transport could affect the business adversely and materially: The production of MDNL's products is dependent on a steady supply of various inputs. These imported raw materials are transported to its plants by sea, air and land, and its products are transported to its customers by land. Transport of its inputs and finished products is subject to various bottlenecks and other hazards beyond control, including poor road and other transport infrastructure, accidents, adverse weather conditions, strikes and civil unrest. An increase in the price of transportation or interruptions in transportation of its inputs or finished products could have a material adverse effect on its business, financial condition and results of operations.

MDNL may be affected by competition law in India and any adverse application or interpretation of the Competition Act could in turn adversely affect the business: The Competition Act was enacted for the purpose of preventing practices that have or are likely to have an adverse effect on competition in India and has mandated the CCI to separate such practices. Under the Competition Act, any arrangement, understanding or action, whether formal or informal, which causes or is likely to cause an appreciable adverse effect on competition is void and attracts substantial penalties. MDNL is not currently party to any outstanding proceedings, nor has it received notice in relation to non-compliance with the Competition Act or the agreements entered into by it. However, if it is affected, directly or indirectly, by the application of interpretation of any provision of the Competition Act, or any enforcement proceedings initiated by the CCI, or any adverse publicity that may be generated due to scrutiny or prosecution by the CCI or if any prohibition or substantial penalties are levied under the Competition Act, it would adversely affect the business, financial condition, results of operations and prospects.

Consolidated Profit & Loss Rs in million

Particulars	H1FY18	FY17	FY16	FY15
Revenue from Operations	2080.6	8097.1	7614.5	6557.0
Other Income	126.0	233.8	290.0	226.9
Total Income	2206.6	8330.9	7904.5	6783.9
Total Expenditure	1628.3	6244.0	6103.5	5208.1
Cost of material consumed	442.2	1938.3	2449.1	2119.6
Excise Duty	43.7	364.3	449.5	83.3
Changes in Inventories of Finished Goods, Work-in-Progress and Stock-in-Trade	-303.9	776.4	379.7	73.3
Employee benefits expense	492.1	1092.9	907.4	988.5
Other Expenses	954.2	2072.2	1918.0	1943.5
PBIDT	**578.3**	**2086.9**	**1801.0**	**1575.8**
Interest	15.2	46.8	41.9	70.4
PBDT	**563.2**	**2040.2**	**1759.1**	**1505.3**
Depreciation	93.7	176.6	140.7	97.9
PBT	**469.5**	**1863.5**	**1618.5**	**1407.5**
Tax (incl. DT & FBT)	**196.5**	**600.4**	**424.8**	**371.2**
Tax	157.0	622.5	367.4	308.0
MAT credit entitlement	0.0	0.0	-21.7	-20.0
Deferred Tax	39.5	-22.1	79.0	83.2
Adj. Profit	**273.0**	**1263.1**	**1193.7**	**1036.2**
EPS (Rs.)	1.46	6.7	6.4	5.5
Equity	1873.4	1873.4	1873.4	1873.4
Face Value	10.0	10.0	10.0	10.0
OPM (%)	21.7	22.9	19.8	20.6
PATM (%)	13.1	15.6	15.7	15.8

Consolidated Balance Sheet: Rs in million

Particulars	H1FY18	FY17	FY16	FY15
ASSETS				
Non-current Assets				
Property, Plant and Equipment	3236.5	3264.4	2614.6	2423.4
Capital Work-in-Progress	542.4	62.1	66.9	94.4
Intangible Assets	6.6	9.4	14.9	19.4
Financial Assets				
Investments	*21.0*	*21.0*	*21.0*	*21.0*
Loans	*0.0*	*0.0*	*0.1*	*0.1*
Non-current tax assets (Net)	390.1	293.4	637.1	534.1
Other Non-current Assets	157.1	93.7	16.6	33.1
Total Non - current Assets	**4353.7**	**3744.0**	**3371.3**	**3125.5**
Current Assets				
Inventories	2508.0	2060.4	2885.5	4230.2
Financial Assets				
Trade Receivables	*2222.6*	*2885.3*	*2090.5*	*2200.8*
Cash and Cash Equivalents	*2605.3*	*2079.3*	*1958.6*	*894.0*
Other financial assets	*135.0*	*116.8*	*122.1*	*136.0*
Other Current Assets	474.36	124.6	780.5	1044.2
Total Current Assets	**7945.2**	**7266.4**	**7837.2**	**8505.1**
Total Assets	**12298.9**	**11010.4**	**11208.5**	**11630.6**
EQUITY AND LIABILITIES				
Equity				

Equity Share Capital	1873.4	1873.4	1873.4	1873.4
Other Equity	5460.9	5170.0	4323.3	3527.2
Total Equity	**7334.3**	**7043.4**	**6196.7**	**5400.6**
Non-current Liabilities				
Financial Liabilities				
Borrowings	*8.3*	*12*	*90.15*	*133.4*
Other financial liabilities	*468.8*	*173*	*164.55*	*142.22*
Provisions	7.6	7.6	6.6	5.7
Deferred tax liabilities (Net)	243.9	204.4	226.5	127.4
Other Non-current Liabilities	1108.7	1089.1	1474.8	1294.0
Total Non-current Liabilities	**1837.2**	**1486.8**	**1962.6**	**1702.7**
Current Liabilities				
Financial Liabilities				
Borrowings	*647.0*	*125.5*	*0.0*	*414.8*
Trade Payables	*904.4*	*660.3*	*529.5*	*951.7*
Other Financial Liabilities	*578.4*	*576.4*	*472.5*	*767.7*
Other Current Liabilities	754.1	830.9	1442.4	1931.5
Provisions	243.4	287.03	604.87	461.66
Current Tax Liabilities (Net)				
Total Current Liabilities	**3127.3**	**2480.1**	**3049.2**	**4527.4**
Total Equity and Liabilities	**12298.9**	**11010.4**	**11208.5**	**11630.6**

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