1 YEAR OF ACHIEVEMENTS

Marching ahead on the road of

MAKE IN INDIA

सत्यमेव जयते

Department of Heavy Industry
Ministry of Heavy Industries & Public Enterprises
Government of India

VISION

A globally competitive, growth oriented and profitable heavy industry.

MISSION

To facilitate Automotive Industry so as to emerge as the destination of choice in the world for design and manufacture of Automobiles and Auto components with output reaching a level of US $145 billion, accounting for more than 10% of GDP and providing additional employment to 25 million by 2016; to help Heavy Electrical and Capital Goods Industry to achieve high growth; to transform BHEL into a high growth globally competitive company; and to provide support to other CPSEs in order to improve their overall performance.

ACHIEVEMENTS MADE IN THE LAST ONE YEAR

Turbine Assembly: A typical capital goods product

Scheme on Enhancement of Global Competitiveness of Indian Capital Goods Sector

(Scheme notified on 5.11.2014)

Government Grant: ₹ 581.22 crore

OBJECTIVE:-

Intended to boost the Indian economy, as this scheme upon implementation would attempt to make the Indian Capital Goods Sector globally competitive by addressing the issues of technological depth creation besides creating common industrial facility centres.

COMPONENTS OF THE SCHEME

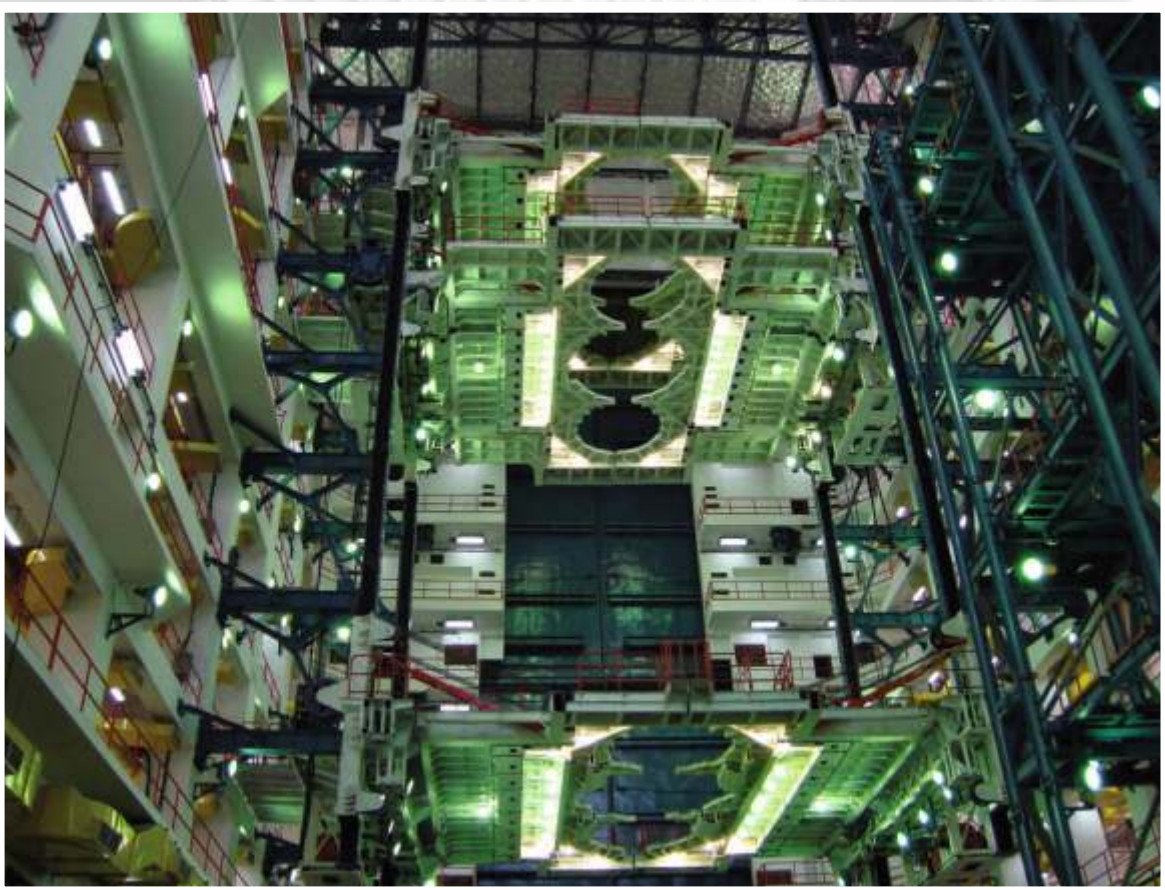
i) Advanced Centres of Excellence for R & D and Technology Development with National Centres of Excellence in Education and Technology such as various Indian Institutes of Technology and Central Manufacturing Technology Institute (CMTI), Bangalore.

ii) Integrated Industrial Infrastructure Facilities.

iii) a) Common Engineering Facility Centres.

b) Test & Certification Centre.

iv) Technology Acquisition Fund Programme.



Set up of a typical Capital Goods Sector Industry

SCOPE OF THE SCHEME

The Scheme envisages financial assistance to new and existing institutions for setting up and strengthening the technology development and common manufacturing / services infrastructure. Besides that, creation of a testing & certification centre for earth moving & construction equipment is envisaged. There is built in scope of acquiring technology that can't be developed indigenously.

Detailed notification has been posted on the website of Department of Heavy Industry at URL:http://dhi.nic.in

Since launch of the scheme, ten proposals were received out of which two were approved namely, CMTI-TMMA for development of high speed shuttle-less looms and Common Facility Centre at Chakan, Pune by TAGMA.

Indigenous first automatic electric car developed by Mahindra

FAME - INDIA

OBJECTIVE

As part of the National Electric Mobility Mission Plan, 2020, DHI has notified a scheme namely FAME–India (Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India) for implementation with effect from 1st April 2015.

The scheme aims to encourage progressive induction of reliable, affordable and efficient electric and hybrid vehicles (xEV) in the country that meet consumer performance and price expectations. The overall scheme is proposed to be implemented over a period of 6 years till 2020 wherein it is intended to support the xEV market development and its manufacturing ecosystem to achieve self-sustenance at the end of the stipulated year.

COMPONENTS OF THE SCHEME

It has 4 focus areas namely technology development, demand creation, pilot project, and charging infrastructure. The market creation is proposed through demand incentives by incentivizing all vehicles segments with greater focus on public transportation, vehicle fleets etc.

Fleet of Hybrid & Electric Cars

Under this scheme, demand incentives shall be available to buyers in the form of upfront-reduced purchase price. All types of vehicles like 2 wheelers, 3 wheelers, 4 wheelers, Light Commercial Vehicles, Buses and also retro fitment vehicles are covered under this scheme.

SCOPE OF THE SCHEME

The purpose of the scheme is to encourage market creation, domestic technology development and manufacturing of full range of cleaner electric vehicle technologies that include mild hybrid, full hybrid(HEVs), Plug in Hybrids (PHEVs) and Pure Electric Vehicles (PEVs) thereby leading to creation of a strong, globally competitive, viable & self-sustaining electric vehicle industry and its eco system in India thereby helping India to emerge as a leader in the xEV Two Wheeler and Four Wheeler market in the world by 2020.

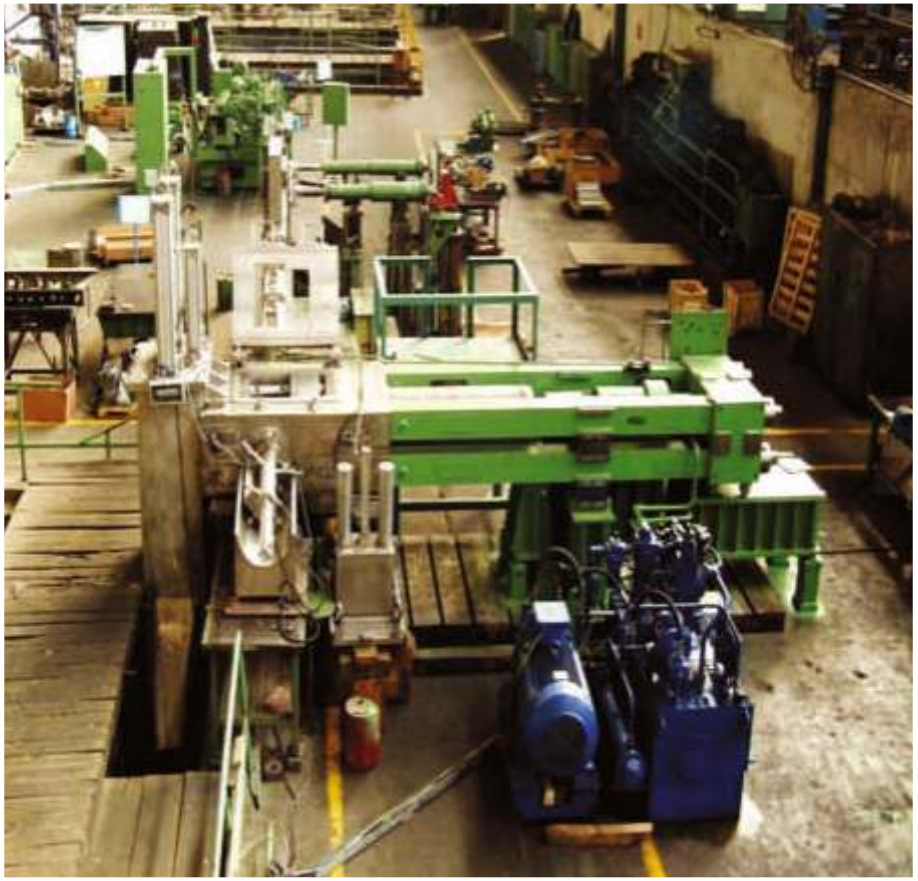
This scheme is one of the green initiatives of the government to improve the environment and aims for a cumulative fuel saving of about 9500 million litres equivalent resulting in reduction of pollution and greenhouse gas emission of 2 million tonnes from targeted market penetration of 6-7 million vehicles per year by 2020. This mission will be one of the biggest contributors in reducing pollution from road transport sector in near future.

REVIVAL OF CPSEs UNDERWAY

NPPC Plant at Tuli, Nagaland

NAGALAND PULP & PAPER COMPANY LIMITED (NPPC)

The company is being revived with cash assistance to the tune of ₹ 465.88 crore, which includes infusion of fresh fund of ₹ 202.38 crore as equity by the GoI, term loan of ₹156.50 crore from commercial banks against Government guarantee and infusion of ₹ 107 crore as grant-in-aid in lieu of CAPEX subsidy besides non cash assistance in form of regularization of inter se diversion of fund of ₹ 5460 lakh infused for revival of NPPC during 2007 as per the actual utilization and increasing the authorized capital of NPPC from ₹ 150 crore to ₹ 300 crore.



HMT Hyderabad Plant Shop Floor

HMT MACHINE TOOLS LTD.

The company is being revived with cash assistance to the tune of ₹ 136.04 crore that includes cash assistance of ₹ 75 crore as non-plan loan towards working capital; non-plan loan of ₹ 61.04 crore at 7% interest per annum spread over a period of two years towards additional impact of implementation of 1997 pay scale and implementation of 1997 pay revision from the date of approval with one time relaxation of the DPE guidelines.

Besides this, non-cash assistance of ₹ 38.58 crore by way of waiver of interest on GOI loan, enhancement of the age of retirement from 58 to 60 years to the extent of 10% of the employees retiring in any year in relaxation of DPE guidelines. Extension of time for a period of 5 years for the utilization of the unspent balance available with the company under technology acquisition and up-gradation fund sanctioned during the earlier revival plan and extension of time for a period of 3 years for utilization of unspent balance of ₹ 2.63 crore for training and retraining.

NEPA Mill interior of shop floor

NEPA Limited

The company is being revived with cash assistance to the tune of ₹ 362.18 crore that includes infusion of ₹ 234.18 crore including ₹ 157.00 crore in the form of fresh equity by the GoI, ₹ 17.18 crore as non-plan loan towards cash loss and 7% non-cumulative preference share of ₹60 crore for implementing VRS. The balance amount of ₹ 128 crore would be raised by the Company from Banks/Financial Institutions.

Besides this, non-cash assistance in form of waiver of normal interest/penal interest amounting to ₹ 355.20 crore on Government of India (GoI) loan, waiver of statutory dues to central Govt. authorities of ₹13.38 crore, conversion of GoI loan of ₹ 231.01 crore into equity and reduction of equity share capital to the tune of ₹ 266.36 crore from increased equity share capital of ₹ 338.87 crore (as a result of conversion of GoI loan of ₹ 231.01 crore into equity). The GoI has also approved sanction of 1997 pay scales to the employees and enhancement of the superannuation age of employees from existing 58 years to 60 years.

SIL Linear Assembly Line

SCOOTERS INDIA LTD (SIL), LUCKNOW

The company is being revived with infusion of fund of ₹ 70.38 crore as equity by the GoI for capital expenditure and cash assistance of ₹ 20 crore as interest free plan loan by the GoI for working capital besides non-cash assistance such as conversion of GoI loan of ₹ 85.21 crore into equity, waiver of interest accrued and due of ₹ 22.17 crore as on 31st March, 2012 and waiver of interest accrued and not due of ₹ 4.20 crore as on 31st March, 2012, enhancement of superannuation age from 58 years to 60 years in relaxation of DPE Guidelines and Implementation of 2007 pay revision as per DPE Guidelines.

HMT Hyderabad plant shop floor

HMT LIMITED

The Company is being revived with cash assistance to the tune of ₹ 425 crore by way of issue of 8% redeemable preference share capital that includes cash assistance of ₹ 200 crore towards plant modernization & capacity augmentation; ₹ 53 crore as working capital; ₹ 30 crore for tractor technology up-gradation and ₹142 crore for discharge of liabilities. In addition, grant of GoI Bridge Loan at 7% interest p.a. towards additional impact on account of 1997 pay revision for 24 months. Besides, non-cash assistance of ₹ 635.56 crore that includes conversion of GOI loans of ₹ 429.92 crore into equity and waiver of GOI loan/guarantee fee of ₹ 205.64 crore as on 31-03-2012 (cut-off date) and interest beyond 31-03-2012 to be frozen.

High efficiency turbine assembly

NOVEL INITIATIVES

Advanced Ultra Super Critical (Adv-USC) Technology for Thermal Power Plants

In pursuit of the “Make In India” drive launched by the Hon'ble Prime Minister, Department of Heavy Industry and BHEL has proposed the Development of Advanced Ultra Super Critical (Adv-USC) Technology for Thermal Power Plants which will increase fuel efficiency up to 45-46% and achieve a reduction in coal consumption and CO_2 emission by 11% as compared to the Super-critical Thermal Power Plants. This AUSC technology is in the R&D stage in the European Union, USA, Japan and China and with this two and half year project, at an estimated cost of ₹ 1,554 crores, India will emerge as one of the primary developers of this technology. The R&D Project has been approved by the Expenditure Finance Committee and is currently under process of obtaining approval of Cabinet Committee on Economic Affairs (CCEA).

Solar PV panels assembly

DEVELOPMENT OF INDIGENOUS CAPABILITY FOR SOLAR PV

Department of Heavy Industry has submitted a proposal for grant of 40% capital subsidy under National Clean Energy Fund (NCEF) for setting up of **480 MW** Integrated Solar PV manufacturing facility by BHEL at Bhandara, Maharashtra at an estimated cost of ₹ 2730.56 Crore. The proposal entails a subsidy of ₹1092.22 Crore under NCEF, to be disbursed in 36 months.

- Inter Ministerial Group (IMG) has approved the proposal for the financial support of 40% i.e., ₹1092.22 Crore out of the total cost of the project.
- The proposed manufacturing facility will provide employment for about 1100 personnel and will also help in development of local industries.
- The Integrated Solar Photovoltaic Manufacturing facility is unique as it caters to complete value chain starting from Wafers to Modules using Poly-silicon as input material. This is the first of its kind being set up in the country.
- The PV modules manufactured in this facility will be used in setting up Solar Power plants, which will help in reducing Green House Gas Emissions.
- The proposal is under process for obtaining approval of CCEA.

BHARAT HEAVY ELECTRICALS LIMITED (BHEL)

ORDER BOOKING

- BHEL secured orders worth ₹ 30,794 crore during 2014-15, an increase of 10% over last year. Orders in Power sector at ₹ 24,873 crore witnessed a 22% jump.
- BHEL bagged Country's first ever 800 MW EPC order from Gujarat State Electricity Corporation Ltd.(GSECL), Wanakbori, EPC order for Country's first '9FB Advanced Class Gas Turbine' from KPCL for Yelahanka CCPP (370 MW), 2nd largest single order worth ₹ 7,688 Crore for 2x660 MW Ennore SEZ from Tamilnadu Generation and Distribution Corporation (TANGEDCO).
- BHEL signed a MoU with the newly formed Telangana State for 6,000 MW Power projects and received two significant EPC orders from TSGENCO Telangana for 1x800 MW Kothagudem & 4x270 MW Manuguru. The orders secured are with challenging Project schedules of 24 months for 270 MW and 36 months for 800 MW so as to create new benchmarks in Project execution.
- Expanding its offerings, BHEL has secured 89% of its total orders in Power Sector on EPC basis thereby retaining its market leadership position during 2014-15 with72% market share.

A typical Pelton Wheel

COMMISSIONING

- Improved focus on project execution enabled the company record commissioning / synchronization of 11,941 MW of power plants in domestic and international markets in 20114-15.
  - In Power Sector Utility segment, BHEL achieved 8,230 MW of Capacity Addition against the target of 6,914 MW set by Ministry of Power – Exceeded the target by 19%.
  - A major milestone of the year was the commissioning of four power plants in overseas markets in Rwanda, Sudan, Ethiopia and Oman

FINANCIALS

- BHEL recorded a turnover of ₹ 30,806 Crore (prov.) and a Net Profit of ₹ 1,314 Crore (prov.)

Coal handling plant at Thermal Power Station

R & D

- BHEL ranks among the highest R&D spenders in the country in the engineering and manufacturing segment, spent 3.26% of turnover on R&D in 2014-15 as compared to 2.78% in 2013-14. Increased R&D efforts have led to filing of highest ever 450 patents/ copyrights during 2014-15. BHEL has indigenously designed and developed a breakthrough Fuel Flexible Boiler design capable of firing both imported & indigenous coals (in wide range of combinations).

AWARDS & ACCOLADES

- BHEL won the Dalal Street Investment Journal (DSIJ) Award 2014 for the Most Efficient Maharatna PSU on 23rd March, 2015.

Handling over cheque of ₹ 20 crore to Secretary Expenditure, GoI

HIGH DIGNITARIES AT BHEL PROJECTS

- Dedication to Nation of 2X600 MW Shree Singaji TPS by Hon'ble Prime Minister of India on 05.03.15.
- BHEL supplied 28 MW Nyaborongo-1 Hydro Electric Power Plant in Rwanda was inaugurated by the President of Rwanda 05-03-15.
- Foundation stone laying by Hon'ble Chief Minister of Telangana for upcoming unit at 1X600 MW Singareni on 03.03.15.
- Foundation stone laying by Hon'ble Chief Minister of Telangana for 4X270 MW Bhadradri TPS on 28.03.15.
- Inauguration of first unit of 2 X 500 MW Anpara TPS by Hon'ble Chief Minister of Uttar Pradesh on 31.03.15.

SWACHH BHARAT ABHIYAAN

- Under Swachh Bharat Abhiyaan, BHEL contributed ₹ 20 Crore to "Swachh Bharat Kosh" for construction of toilets in schools.

स्वच्छ भारत
एक कदम स्वच्छता की ओर

ANDREW YULE & COMPANY LIMITED (AYCL)

A typical tea garden of AYCL

Company launched Internet selling of its packet teas as a part of e-commerce.

Quality of tea gardens have seen further improvement and five out of total fifteen gardens in the Group featured in the top twenty of total North eastern gardens numbering more than 1000.

Yield per hectare in Yule plantations increased during 2014, when all India production / yields were lower as compared to 2013.

Gardens have successfully completed various environmental certifications for producing clean and healthy produce viz. ETP and FSSL, Rainforest Alliance etc. during the year.

During the year Company made a break through in export of value added tea / specialty teas to Ukranian market and launched Ice Tea in Georgia.

During the year Yule teas were introduced in the PMO's Office.

BRIDGE & ROOF CO. (I) LTD.

Basic oxygen furnance for SAIL constructed by B&R Co. Ltd.

Achievement during the year 2014-15 :

- B&R has recorded the highest ever Turnover of ₹1417.69 Crores (Unaudited Provisional) during the financial year 2014-15.
- The Company secured Orders of ₹ 1704.59 Crores during this year.
- Out of these orders secured, the Company has been awarded work on Depository Basis from Govt. of Odisha of ₹ 208 Crores and for construction of Polytechnic and Industrial Training Institute from the Govt. of West Bengal of ₹ 120 Crores.
- B&R has been awarded 'Best Vendor Award – 2014 (Civil)' by Bharat Heavy Electricals Ltd. / Power Sector Eastern Region.

ENGINEERING PROJECTS INDIA LIMITED (EPIL)

Borders fencing work underway at Oman

1. **Project Completed/inaugurated**
   - Expansion of Workshop, Mechanical Lab, Electrical Lab, etc. at National Institute of Technology Agartala (NITA), Agartala valuing ₹51.78 crore.
   - Construction of Tezpur Medical College and 500 bedded hospital at Tezpur, Assam valuing ₹ 191.28 crore.
   - Construction of Mini Secretariat Building at Siliguri which was inaugurated by Hon'ble Chief Minister of West Bengal.
   - Following projects in north eastern states for Central Agricultural University, Imphal valuing ₹ 62.61 Crores
     - Planning, Design & Construction of College of Agricultural Engineering & Post Harvest Technology, Ranipool, Sikkim.
     - Construction of Multi-Disciplinary Laboratory, various types of Quarters including site development works at Andro Research Farm, Andro, Imphal.
     - Construction of College of Post Graduate Studies at Barapani, Shillong.
   - Construction of HIG and MIG-II Houses under SFS at Deverakonda, Nalgonda, AP valuing ₹17.53 crores.

Prestigious Project Execution (Overseas)

- EPI is already executing a prestigious 'Engineers 3 Project' in Oman and has submitted its offer for Phase II & IV of this project also (total value ₹ 2500 crores approx) which is under negotiation.

HEAVY ENGINEERING CORPORATION

Dragline machine developed by the HEC

- One Dragline (Named “Abhimanyu”) supplied & commissioned at Northern Coalfield Ltd, which has been dedicated to the nation in May, 2014. It is a huge earthmoving equipment weighing about 2000 tons and HEC is the only Indian manufacturer to make dragline of bucket capacity 24 m3 and boom length of 96 metres. HEC got order from NCL against global competition and carrying out the project under **Make in India** concept.
- Executing order for manufacture & supply of special forging for Reactor Pressure Vessel (RPV) to be used in prestigious project of Ministry of Defence, the project being monitored by BARC and HEC is the only indigenous manufacturer who could develop these nuclear pressure vessel in the country.Out of seven special forging required, four have been made successfully during the year and the complete set will be done this year.

Directing gear being developed in house

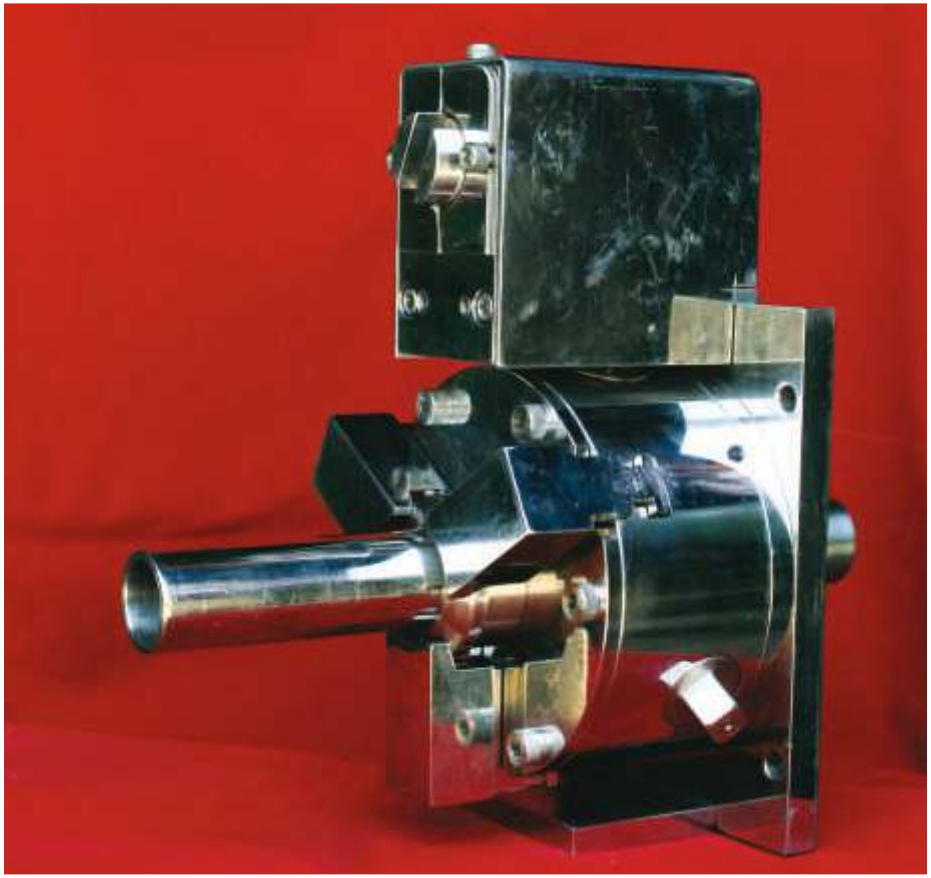
HINDUSTAN MACHINE TOOLS (HMT) LIMITED

HMT Designed and Developed indigenously DIRECTING GEARu4.5 as a MAKE-IN-INDIA Initiatives:

HMT designed and developed indigenously for Indian Navy through a collaborative effort between Naval Physical & Oceanographic Laboratory (NPOL -DRDO and Bharath Electronics (BE).

Sonar equipment is designed to serve as a long range underwater surveillance warning system against the threat of submarines and smaller submersibles. The Sea Shield is installed along critical coastlines, maritime borders and at harbor entrances. Its combined active and passive sonar arrays provide a real-time situational picture of the underwater protected area.

This equipment is being manufactured by DSIT, Israel and Thales Under Water Systems, France and presently is restricted items for defence production.



Flange connector developed for BARC by the HMT

Salient features are:

- Design to support & train up to 4.5 T arrays
- Can control DG from the main sonar control panel and sonar console.
- Servo controlled digital positioning system
- Analysed with FEA designed for shock loads upto 50g
- Adoptable to Indian and foreign ships
- Compact design compared to existing DG's
- Improved accuracy on the existing DG upto a degree of rotation.

HMT supplied so for 2 DG equipments for Indian Navy out of six ordered and being installed on-board ships by Indian Navy.Now HMT has taken up the enhanced capability of DG sets that can control up to 6T array which is under manufacturing.

As a part of Make in India program, HMT designed and developed indigenously "flange connectors dia. 140 and dia. 85" required for BHABHA ATOMIC RESEARCH CENTRE, Mumbai. This equipment is used in Nuclear Power generation.

HMT (INTERNATIONAL) LIMITED

HMT (International) Limited has bagged two high-value orders for Machine Tools from HEISCO, Kuwait, valued around ₹ 17 Crore. Only a few manufacture such machines world-wide. These high-value high precision heavy-duty machines weigh around 280 tons (two machines). The machines incorporate the latest CNC systems and Drives.

HMT(I) has bagged orders valued ₹ 82 Crore during the year 2014-15 for establishing state-of-the art Vocation Training Centers in different countries. Out of this, three orders have been initiated for supply of Technical & Vocation Education Training (TVET) equipment and providing training services to VTCs in Yatta and Hebron in Palestine, upgradation of modernization of Turkmen India Industrial Training Center, Ashgabat, Turkmenistan (TIITC), and upgradation and modernization of Rajiv Gandhi School of Product & Art, Ulaanbaatar, Mongolia (II Phase).

Further, HMT (I) has orders for setting up of (a) Indo-Tajik Industrial Training Center at Tajik Technical University, Dushanbe, Tajikistan, (b) setting up of Vocation Training Centers in Belize and Jamaica, (c) setting up of Vocation Training Centers at Bangladesh and at Eritrea, Field studies have been completed to proceed further for implementation.

Shri Ajay Bisaria, Joint Secretary (Eurasia), MEA, exchanging Agreement on Upgradation and Modernisation of Turkmen-India Industrial Training Centre, Ashgabat, Turkmenistan.

Kinematic and compliance, NATRAX, INDORE

National Automotive Testing and R&D Infrastructure Project (NATRiP)

Started in 2005, NATRiP aims to provide World-Class Auto Testing and Homologation Facility - needed for India to become a global manufacturing hub. However, due to time and cost overruns, the project had come to a virtual standstill.

Under the initiative of the present Government, a number of contractual and design issues were resolved that led to completion of following projects:

- NIAMT, Silchar
- Track at VRDE, Ahmednagar
- Safety Lab at ARAI, Pune
- Powertrain Lab at NATRAX, Indore
- Vehicle Dynamics Lab at NATRAX

TECHNOLOGY COLLABORATION INITIATIVES BY CPSEs

Department of Heavy Industry participated in Hannover Messe 2015-an international exhibition of repute in Hannover, Germany from 13th to 17th April, 2015. India was a partner country in Hannover Messe 2015. The theme of Indian participation was "Make in India". The Indian Heavy Engineering pavilion showcased the latest technologies of India. The Indian Heavy Engineering Pavilion had representations from the Departmental CPSEs like BHEL, HMT, HEC, BBJ and AYCL.

During the Hannover Messe, MoUs were signed by DHI CPSEs namely HMT(MT)Ltd, REIL, IL Kota and HEC with the following foreign Companies as given below:

S.No	CPSE	With	Technology
1	HMT (M.T) Ltd	FT Machines Germany	Manufactute or Flow foaming machines
2	REIL	Milacron Electronic Ltd. Bulgaria	Manufacture of milk analysers
3	IL Kota	Kauer Engineering Germany	Manufacture of specified control values
4	HEC	Kirow Adelt GmBh, Germany	Manufacture of 2,5 to 160 ton railway cranes
5	BHEL	INTMA, Russia	To set-up a gas based power project in Kazakhstan
6	BHEL	Steel Mont, UK	Thermal power modernization project in Ukraine

COLLABORATIONS UNDER FINALIZATION:

With Heavy Engineering Corporation (HEC) Ranchi:

- Protocol with CNIITMASH (eminent Russian Design Institute) for manufacture of steel plant machinery; nuclear power plant machinery.
- MoU for tractor manufacturing with Russian company Chetra
- Discussions with M/s Vitkovice and TS PIzn (Czech companies) for modernisation of their facilities.

With BHEL, ARAI, AYCL and HEC; Discussions with Fraunhofer Institute, Germany for technology acquisition.

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